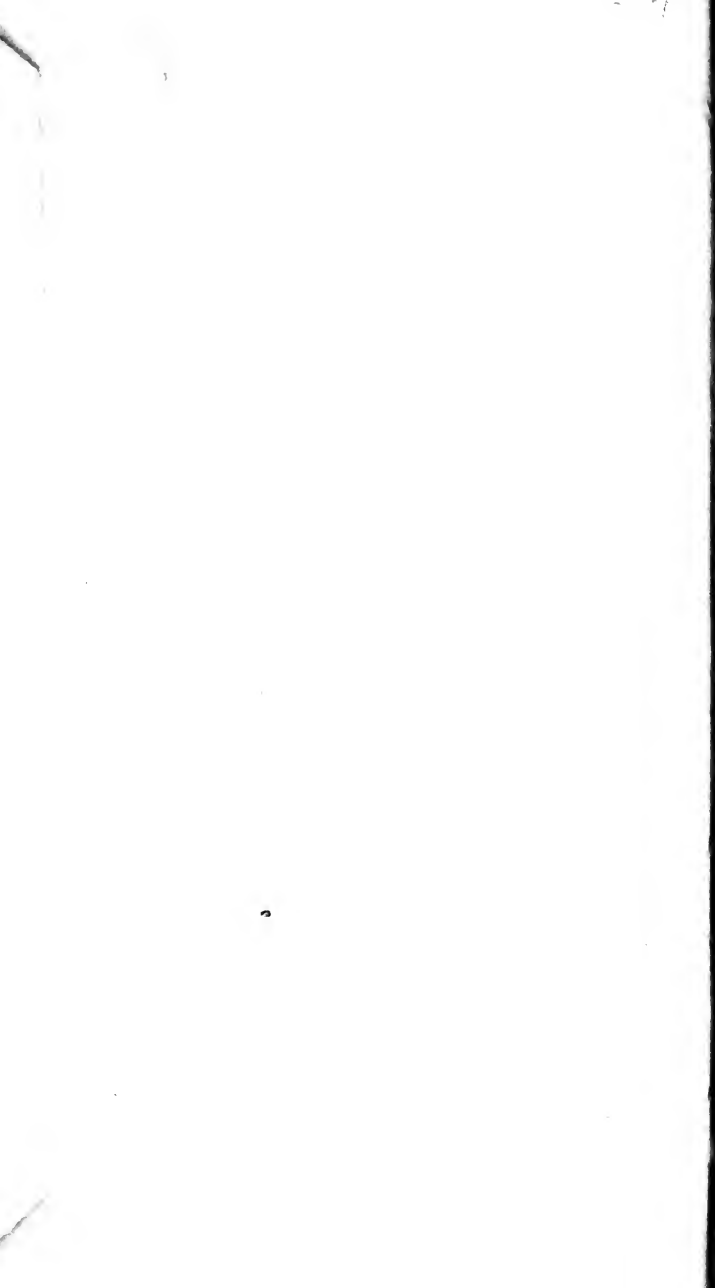
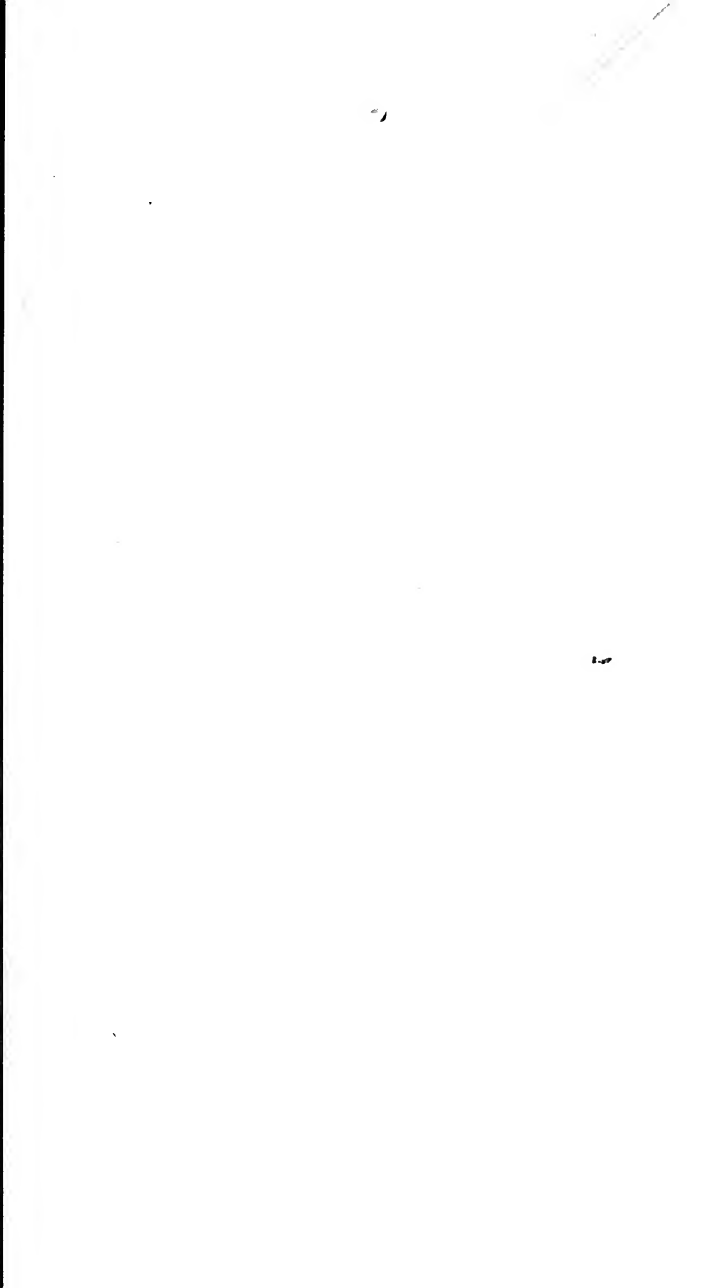




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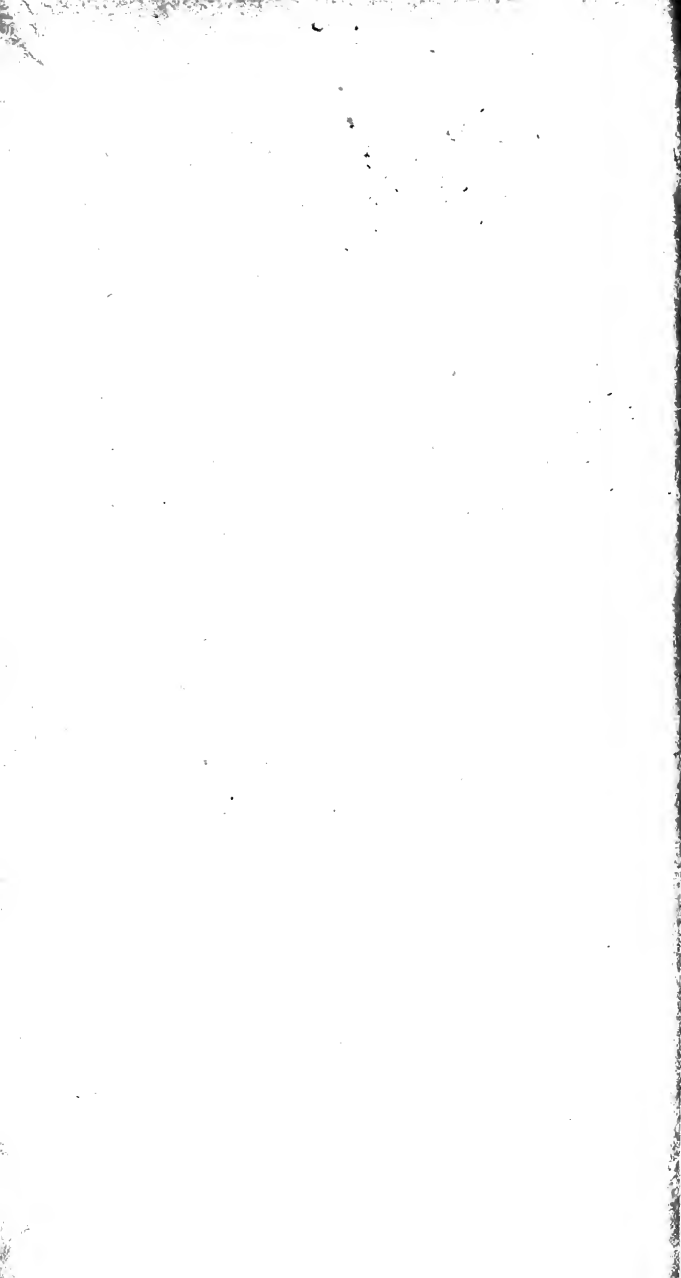




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**GREGORY'S CONSPECTUS.**



# GREGORY'S CONSPECTUS.

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A

LITERAL INTERLINEAL TRANSLATION

OF THE

FIRST TWENTY-THREE CHAPTERS

OF

GREGORY'S

CONSPECTUS MEDICINÆ THEORETICÆ;

BEING THE FIRST PART, AND

COMPREHENDING THE

FUNDAMENTAL PRINCIPLES AND GENERAL DOCTRINES

OF

PHYSIOLOGY AND PATHOLOGY:

WITH ORDO VERBORUM, AND THE TEXT UNDERNEATH.

TO WHICH ARE ADDED,

RULES FOR CONSTRUING AND ARRANGING THE WORDS  
OF LATIN SENTENCES

IN LEGITIMATE ORDER FOR TRANSLATION:

ILLUSTRATED BY EXAMPLES FROM THE MORE DIFFICULT PASSAGES  
OF GREGORY AND CELSUS.

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“ Quid tristes querimoniae  
Si non supplicio culpa reciditur.”—HOR.

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# INTRODUCTION.

## RULES FOR CONSTRUING, &c.

LANGUAGE is the medium by which men convey their ideas, wishes, commands, &c. to each other. It consists of sentences: sentences of words; words of syllables; and syllables of letters. Words, then, are considered by grammarians as forming what are termed parts of speech. Of these, some are declinable,—that is, they admit of certain inflections, terminations, &c., by which the signification is considerably modified or altered: others admit of little or no variation, and are therefore named indeclinable. The parts of speech in the Latin language are eight; of which, four are declinable, four indeclinable.

*Declinable.*

Noun,  
Pronoun,  
Verb,  
Participle.

*Indeclinable.*

Adverb,\*  
Preposition,  
Conjunction,  
Interjection.

The construction of a language is the arrangement of the words, with the proper inflections of those which are declinable, so as to convey the meaning of the speaker to the hearer. The arrangement and inflection of words in every language is regulated by rules or principles, named the grammar of such language, and which therefore has been defined “the art of speaking and writing a language correctly.” It consists of four parts: Orthography, which is the proper selection and arrangement of letters, so as to form syllables or words; Prosody, the giving to syllables their due sound or intonation, and quantity; Etymology, which teaches the derivation of words from their primitives and radicals, and also the inflections of which they are capable; lastly, Syntax, which comprises the rules for the government of words, by which their mutual relations and dependencies are shewn or inferred.

A word is the expression of an idea, or, as defined by Locke, “the sensible sign of the idea of the speaker.” However, we have not a separate and distinct word for every idea. This would render language so extensive as to be not only burthensome, but absolutely useless: there are, therefore, certain primitive or radical significations attached to certain words; but these words are also used to express other ideas,—deductions, as it were, from the original. Hence the significations of words may be reduced to three heads: the primary or radical, the elliptical, and the metaphorical. The varied significations will probably be illustrated by the great variety of meanings conveyed by the Latin word *ratio*; which is used to denote the operation of the reasoning faculty,—to denote the cause, the manner, instrument, &c., the state, condition, and a great variety of

\* This frequently admits of comparison.

others, which will readily appear in the various applications of it in this work.

Sentences may be considered of two kinds: 1st, simple; 2d, compound. A simple sentence is that which contains one simple proposition, whether affirmative, negative, or descriptive: it must, therefore, contain a nominative case and a verb, at least. A compound sentence is that which contains several, and they are called clauses, which are united by what are termed couples. Couples are of four kinds: 1. the relative *qui*; 2. certain comparative words,—*tantus*, *quantus*, *talis*, *qualis*, *tam*, *quam*, &c.; 3. indefinites; 4. conjunctions. The art of construing them consists in so arranging the different clauses of a sentence, and the words of each clause, as that they shall express and convey the meaning of the author in equivalent terms and parallel modes of expression: for this purpose, the following rules will be found serviceable.

**RULE I.** “In every sentence, first seek the *nominative* case, which, with its adjuncts, *adjectives*, *participles*, &c., if there be any, should be construed first; next take the verb; then the word governed by the verb; lastly, the prepositions, followed by the words which they govern.”

Paragraph 9 illustrates this rule: in which *functiones*, the nominative, is taken first, and the verb *vocantur* immediately after. Par. 6 illustrates the taking nominative *machina*, with its adjuncts, *animalis*, &c. (for whether the adjunct precede or follow its substantive depends upon circumstances, to be explained hereafter,) is taken before the verb *defluit*. A similar illustration is also to be found in the beginning of the next paragraph, 7.

In par. 1, we see the nominative *corpus*, with its adjuncts, *humanum* and *fabricatum*, taken first; then follows the verb *fungitur*; after which we take *muneribus*, preceded by its adjuncts, *multis* and *miris*, because it is governed by the verb. The next clause, *quorum alia pertinent ad externas res*, shews the nominative, followed by the verb; to which succeed the preposition *ad*, and the words governed by it.

**RULE II.** “When a noun governs another word in the genitive, generally the genitive is construed immediately after the word which governs it.”

## ILLUSTRATIONS.\*

## GREGORY.

Sed nusquam alma rerum parens protulit.—Paragraph 7.

Attrito enim corpore parteque humorum absumpta.—P. 8.

Hæc autem Naturæ lex, hoc consilium.—P. 13.

Sed ipse terrarum, et quæ eas incolunt animalium, dominus.—P. 14.

Non secus enim ac vultus corporis constitutiones variant.—P. 15.

## CELSUS.

Qui quoniam adhuc rudem, &c. in Deorum numerum receptus.—Præfatio.

Ex quo apparet has partes medicinæ solas.—Ib.

Morbos tum ad iram Deorum immortalium relatos esse.—Ib.

Primoque medendi scientiæ sapientiæ pars habebatur, ut et morborum curatio et contemplatio rerum naturæ.†—Ib.

**RULE III.** “An infinitive mood, when governed by another verb, is generally to be construed after it.”

\* The words in Italics are those which exemplify the applications of the rules, and therefore the text only will be given. A reference to the translation will explain any thing further that may be required.

† In this last, *contemplatio* governs *naturæ*, and *naturæ*, again governs *rerum* in the genitive, which consequently is construed immediately the governing word.



Ad alterum genus *referrī solent* actiones cunctæ.—P. 4.

— ne quidem per exiguum tempus *suspendi* aut *interrumpi queant*.—P. 5.

— sed quæ paulisper facile, et sine periculo *suspendi possunt*.—P. 9.

— eadem *gaudet exercere munera*.—P. 14.

**RULE IV.** "An adjective or participle, when *no other word depends* upon it, must be construed *before* its substantive."

Ad alterum genus referuntur *omnis sensus* sive animi *ex voluntarius*.—P. 2.

— quibus quantumvis *simplicibus viribus*.—Ib.

Hæ *functiones animales* apud medicos dicuntur.—Ib.

— *longâ* enim aut *validâ* sive corporis sive animi *exercitatione*.—P. 3.

— et tandem *dulci necessitate cogimur*.—Ib.

— et ad *omnia vitæ munera* aptissimi.—Ib.

**RULE V.** "But, if the adjective or participle govern a word, or have an immediate relation to some other word, then the adjective or participle must be construed after its substantive. This rule also applies when the English of the participle may be preceded by the words *being, when, while*, without being *ablatives absolute*."

*Corpus humanæ arte* prorsus *divina fabricatum*.—P. 1.

— quarum ope *corpus* vivit, *exhaustumque* reficitur, *corruptumque* purgatur.—P. 4.

*Machina* vero animalis sic *constituta* statim defluit.—P. 6.

Hæ vocantur *functiones naturales*, ad *vitam* quidem *necessariæ*.—P. 9.

Primo statim aspectu, talis *machina*, nisi forte, ab aliquâ causâ *externâ, corrupta* vel *læsa*, &c.—P. 12.

**RULE VI.** "In an ablative absolute,\* construe the adjective or participle after the substantive with which it agrees."

*Attrito* enim *corpore*.—P. 8.

— *partequè* humorum *absumptâ*.—Ib.

— *labentibus annis*, et ipse dilabitur.—P. 12.

— tandem, *ingravescentibus annis* communem sortem subiturus.—P. 14.

— aut si *salvâ* omnino singularum partium *fabricâ*.—P. 25.

— veluti si propriis *amissis* vel *corruptis* dotibus.—Ib.

*Aucta adhesionē* seu *firmitate* partis *cujusvis* solidæ.—P. 81.

*Eodemque quoque auctore* *disci potest*.—Præf.

— donec majore studio *literarum disciplina* *agitari, cæpit*.—Ib.

Quamvis ne hæc quidem sic *præteriri debent*.—Ib.

*Incidere* autem *vivorum corpora* et *crudèle* et *supervacuum est*.—Ib.

Ut *alimenta sanis corporibus* *Agricultura*.—Præf.

— siquidem etiam *imperitissimæ gentes* herbas, &c.—Ib.

Qui, quoniam adhuc *rudem* et *vulgarem* hanc *scientiam* paulo subtilius excolunt.—Ib.

— neque in *variis generibus* morborum aliquid attallisse auxilii.—Ib.

— qui corporum suorum *roborâ in quietâ cogitatione nocturnâque vigiliâ* minuerant.—Ib.

Idoque *multiplex ista medicina*, neque *olim* neque apud *alias gentes* *necessaria*.—Præf.

— obscurarum vero *causarum* et *naturalium actionum* *quæstionem* ideo *supervacuum* esse contendunt.—Ib.

— quoniam non *comprehensibilis natura* sit.—Ib.

— tentaturumque *remedia* *similia* illis, quæ vicino malo sæpe succurrerint.—Ib.

— *magnâ siti antecedente*, frigida aqua copiose præstanda est.—Lib. iii. cap. vii. 22.

— biduo proximo se abstinere, *frictione servatâ*.—Ib. cap. xv.

— que tertio, *calidâ aquâ* tantummodo *assumptâ* si est sitis.—Ib.

— nisi interdum *horrore* jam *discusso*.—Ibid.

— at *Asclepiades* tanquam *tenebris* *ipsis terrentibus* in lumine habendos eos dixit.—Ib.

\* The sign of this ablative is, *being, having, having been*, or *while*, as sole oriente, while the sun is rising; deponents, as they have not a passive signification, are Englished *having*.

**RULE VII.** "If two adjectives or two participles agree with the same substantive, they must be taken either *both before* or *both after* their substantive: not the one before and the other after."

Thus, in par. 8, Gregory, *putrescentes* and *corrupti* are both taken before their substantive *humores*; and, in 10, *vitalibus* and *naturalibus* before *functionibus*; also, *omne* and *humanum*, in the same paragraph, are taken both before *ingenium*: in which examples, it will be seen that the adjectives could not properly be separated by placing the substantives between them. But a substantive may be placed between an adjective and participle, both agreeing with it, as, *Humanum corpus fabricatum*; in which, *corpus*, the substantive, is placed between *humanum*, its adjective, and *fabricatum*, its participle, because *fabricatum* governs *arte divinâ*, as the means, &c., and therefore the relation is too immediate to admit of separation.

**RULE VIII.** "The relative, with its clause, should be construed as soon as possible after its antecedent."

Contra non modo his malis quæ semper et ubique necem minitantur et, &c.—P. 7.

Sed ipse terrarum dominus, et quæ eas incolunt animalium.—P. 14.

— tamen ad certa capita non inepte referri solent, quæ temperamenta κατ' ἐξοχήν dicuntur.—P. 15.

Harum rerum, quæ omnes ad sanum corpus pertinent.—P. 20.

Igitur ii, qui rationalem medicinam profitentur; hæc necessaria esse proponunt.—Præf.

— eum quærendum esse, qui facillime teri possit.

— considerarintque ea quæ natura ante clausisset.—Præf.

Sanus homo, qui et bene valet, &c.—Lib. i. cap. i.

**RULE IX.** "Certain adverbs and conjunctions are to be construed before the nominative case and verb; that is to say, they are to be construed first in their own clause: likewise the relative and the interrogatives, *quis*, *quantus*, *quicumque*, and such like, with their accompaniments, whatever case they may be in."

Hæc autem Naturæ lex.—P. 13.

Denique status aëris.—P. 37.

Postremo vitæ genus ad eundem effectum nonnihil confert.—P. 38.

Verum, salva omnino compositione chemica solidarum partium, harum conditio.—P. 39.

Quantum hic valeat compressio mechanica.—P. 90.

Quandocunque status partis cujusvis generis nervosi, &c.

Veruntamen apud Græcos aliquanto magis, quam in cæteris nationibus exculta est.

Si quidem hæc duo corpora.

Ideoque multiplex ista medicina.

— ut vera sit illa transfusio.

Interest enim fatigatio morbum fecerit.

Quamvis ne hæc quidem sic præteriri debent.—Præf.

**RULE X.** "In interrogative sentences, construe the nominative case (unless the interrogation be made by one of the interrogatives, *quis*, *quæ*, *quid*, *quod*, *quotus*, *quantus*, *uter*, &c., with their adjuncts,) after the verb, or between the English verb and the auxiliary,\* putting the auxiliary first."

We have examples of this rule in Celsus. *Cur enim potius aliquis Hippocrati credat quam Herophilo*: For *why should any one believe*. *Cur huic potius quam Asclepiadi*.

The interrogatives, *quis*, *quantus*, *quotus*, &c. are to be construed, by Rule v., before the verb.

\* These auxiliaries are, *is*, *are*, *has*, *have*, *may*, *can*, *might*, *would*, *could*, *should*, *does*, *do*, &c.

**RULE XI.** "After the verb *sum*, a verb passive or neuter, a nominative is sometimes supplied or repeated. Examples of this kind are so frequent in *brackets* in the translation, that particular illustrations seem to be unnecessary."

**RULE XII.** "An adverb should not be joined with a substantive, but rather with a verb, participle, or adjective."

— *arte prorsus divina.*—P. 1.

— *utræque sponte putrescunt.*—P. 6.

— *brevi ipse sibi homo acerrimum venenum compararet.*—Ib.

*Sed nusquam alma rerum parens prolem deserit.*—P. 7.

— *quæ semper et ubique necem minitantur.*—Ib.

— *ut mente quamvis sagace:—toties exploratum:—non capiatur.*—P. 10.

*Proprie quædam ad eum pertinent.*—Lib. 1.

— *interdum valetudinis causa recte fieri, experimentis credo.*

*Quibus juvenibus fluxit alvus plerumque in senectute contrahitur.*

*Quibus in adolescentia fuit adstricta, sæpe in senectute solvitur.*

*Æstate vero et potione et cibo sæpius corpus eget.*

**RULE XIII.** After prepositions, look for the cases which they govern; which are mostly accusatives, ablatives, and occasionally genitives.

*Ad tertium genus signorum morborum.*—P. 35.

— *res omnes in ægro præter naturam observandæ.*—Ib.

— *neque ad alia genera pertinentes.*—Ib.

— *de quibus nostris sensibus.*—Ib.

*Alii demum ad ætherem universalem potius confugerunt.*—P. 121.

*Altera vero res quæ vulgo sub nomine sensus comprehenditur.*—P. 131.

*Sive ista mutatio ab externâ causâ sive ab internâ facta sit.*—P. 133.

— *tum propter lentem flavescentem instar electri factum.*—P. 263.

— *que fere post longam sitim, &c.*

— *per quem ingens sudor effunditur.*

— *sed in iis tamen in quibus præter ardorem.*

*Hæc ad omnes circuitus febrium pertinent.*

— *ante accessionem sorbere.*

— *ut moveatur ex eo statu, quo detinetur.*

— *nisi a sano quoque aliquamdiu timetur.*

*Incipiam ab insania.*

Observe that, in most of the foregoing examples, the prepositions, with the words governed by them, follow some finite verb;\* but, if the verb be passive, or even in other cases, the preposition, with its adjuncts, may be construed first, as, *Ad alterum genus referuntur*: To the one kind are referred, &c.

The last example, P. 263, is one of a preposition, *instar*, governing *electri* in the genitive.

**RULE XIV.** "The governed word should be construed after, generally immediately after, the word which governs it, (except the words specified in Rule IX., and which must follow prepositions). Infinitives, governed of finite verbs, should be rendered as soon after the finite verb as possible."

*Secunda igitur valetudo nullis est definienda verbis.*

— *cui mens sana, optimum Dei donum, data est.*—P. 18.

*Sic etiam a tactu, voluptas aut dolor oriri possunt.*—P. 176.

*Lævorem mollitiem, &c. cum voluptate contemplari solemus.*—Ib.

— *neque multa pinguedine grave.*

— *et amplo imprimis thorace latisque humeris instructum.*

*In hoc genere morborum etiam misisse sanguinem concussisse corpus habuisse in lumine, imperasse famem sitim, &c. prodest.*—Lib. iii. cap. vi.

\* A finite verb is one which is in one of the finite moods, indicative, subjunctive, &c., to distinguish it from the infinitive, which has not a finite signification.

**RULE XV.** "When in a sentence there is no finite mood, but that the verb is in the infinitive mood, the nominative being either expressed or understood, the infinitive is to be construed as the indicative or some other finite mood, the nominative being construed in its proper place."

There is but little exemplification of this Rule. The occasions are confined principally to the poets and historians, who, in fact, would elevate their descriptions to the sublimity and rapidity of the actions they describe, by the use of infinitives, in preference to finite moods. The only instance is in Gregory's quotation from Ovid:

Nam modo te juvenem, modo te leonem *videre*,

which is put for *videbant*. There are, however, many instances in poets, and in Sallust.

*Ego illud sedulo*

*Negare factum.* (*Negare* for *negabam*.) TERENT.

*Hinc semper Ulysses*

*Criminibus terrere novis: hinc spargere voces*

*In vulgum ambiguas; et quærere conscius arma.*

(For *Terrebat*, *spargebat*, and *quærebat*.) VIRG.

*Tum pius Æneas humeris abscindere vestem*

*Auxiliaque vocare Deos et tendere palmas.*

(For *abscindit*, *vocat*, and *tendit*.) IBID.

*Igitur reges populique finitimi bello tenture* (pro *tentabant*) *pauci ex amicis auxilio esse* (pro *erant*). SALLUST. *Bel. Cat.*

At *Romani domi militiæque intenti festinare* (*festinabant*) *parare* (*parabant*) *alium* (*alium*) *hortari* (*hortabatur*) *hostibus obviam ire* (*ibat*) *libertatem patriam parentesque armis tegere* (*tegebat*). IBID.

The imperfect tense appears to be the proper tense for such infinitives; but our language often prefers the present.

**RULE XVI.** "When an infinitive mood has an accusative case before it, and which is not governed by any other word, such accusative, with its adjuncts, is to be translated as a nominative; the English for *ut* or *quod* to be supplied, and precede the nominative, and the verb rendered finitely, as if in the subjunctive mood."

This construction is very frequent, especially in Celsus, for it was considered an elegant mode of expression. It is particularly suitable to the recital of the assertions made by others; hence it occurs in almost every page of the Preface to the first book of Celsus.

*Sunt qui credunt musculos a nervis oriri et formari et ex eadem materia constare.* GREG. p. 113.

*That the muscles arise and are formed and consist, &c.\**

*Sive omnes eodem tempore, sive alias post alias certo ordine produci credamus.* IBID. 114.

*Interea tamen non dissimulandum est, partes quasdam musculosas perquam mature in fætu conspici.* P. 114.

— et insignem vim et robur jam adeptas esse. P. 114.

— earumque actionem ad hujus functionem et augmen requiri. P. 114.

— et musculos semper partibus vere nervosis multo firmiores esse et vim propriam, irritabilem nimirum, habere. P. 114.

— tum facile patebit multam substantiam nervosam cum musculosas semper miseri. P. 115.

\* The reader is referred to the translation for the method of rendering the succeeding illustrations.

— et experientia his mille annorum satis superque demonstravit *sapientissimos etiam hominum*, Naturæ arcana conjectando rarissime *detegere*. P. 117.

— vel saltem credibile factum fuerit talibus conjecturis *nodum solutum iri*. P. 122.

Here the student must recollect that *solutum iri* is the future of the infinitive passive.

Post quos Serapion primus omnium nihil *hanc rationalem disciplinam pertinere ad medicinam professus*. CELSUS.

— quod alii sibi *experimentorum tantummodo notitiam necessariam esse* contendunt. IB.

— *hæc necessaria esse* proponunt. IB.

Neque enim credunt *posse eum scire*. IB.

Neque *esse dubium* quin alia curatione opus sit. IB.

*Eum vero recte curaturum* (esse). IB.

Neque vero incipientur *experimenta quoque esse necessaria*. IB.

Non enim quilibet *antiquiores viros ægris inculcasse sed cogitasse* quid maxime conveniret, et id usu *explorasse*, &c. IB.

Neque *interesse* an nunc jam pleraque explorata sint. IB.

It will be observed that this infinitive, like the subjunctive with *quod* or *ut*, for which it is an elegant substitute, and by which it may be resolved, depends upon some other verb, expressed, implied, or understood. In many of the examples the verb is expressed,—for instance, *credunt, proponunt, ferunt, &c.* In some it is implied or understood, as in *Neque esse dubium, Neque interesse*. In the last, any of the verbs may be supplied, as *contendunt*, and the construction resolved by the subjunctive with *quod* or *ut*,—as *contendunt quod neque dubium sit:—quod neque intersit, &c.* This Preface always proves a source of difficulty and perplexity to the student; but these may be readily surmounted, by recollecting that the statements are not those of Celsus himself, but of the different sects, whose arguments he is merely setting forth. Therefore, by practising the resolving these constructions by *quod* or *ut*, the student will soon become acquainted with their nature and import.

The student should attentively observe that the *times* of this *Infinitive* depend upon and vary with the *times* of the *antecedent finite verb*: for instance, *hæc esse necessaria proponunt*, and *proposuerunt*, infer very different times of *esse*. In the first example the time of *esse* is present, as, they *assert* that the following *are* necessary: in the second *esse* is past, as, they *asserted* that the following *were* necessary. In par. 120, *quos fieri et necessarios esse contendebant*, the reader will find on referring to the translation, that *fieri* and *esse* are put in the past, in consequence of the time of *contendebant*; and the same applies also to *inesse, moveri, and possidere*, depending entirely for *their time* upon *that* of the *antecedent verb* *fingebant*. The reader will observe similar examples in the infinitives in the next par. 121.

RULE XVII. “Words in the same case by apposition are to be construed, as nearly as possible, together.”

Words are said to be in apposition when they denote the same thing; for instance—

Nam modo *te juvenem* modo *te leonem* videre.

— magis perspicua ratio redditur *sensuum* qui dicuntur *interni memoriæ scilicet imaginationis et judicii*. GREG. p. 124.

Ex quavis externa *causa* nimirum *impulsu*. P. 143.

Varias *qualitates* corporum tactus percipit *duritiam mollitiem asperitatem levitatem calorem frigus figuram distantiam pressuram pondus*. P. 171.

Deficit in parte *singulare* vel a *vitio ejus nervi, compressione obstructione vulnere*. P. 174.

Hujus deinde duo filii Podalrius et Machaon bello Trojano duces Agamemnonem secuti.

In all these examples, the first word is governed by a special rule of syntax, but the other words are placed in the same case by apposition: thus *duces* is governed in the *accusative* by the deponent participle *secuti*, and *Agamemnonem* is placed in the same case, by apposition as it is called. The construction, however, is probably elliptical, and may be supplied by the obsolete particle *ens*.

RULE XVIII. "All correspondent words must be construed as near to one another as possible."

The words comprehended under this rule are,—*talis-qualis*, *ita-ut*, *eo-quod*, *usque-ad*, *eo-usque*, *prius-quam*, *potius-quam*, *secus-ac*, *perinde-ac*, *adeo-ut*, &c.

Although such words may, in the Latin arrangement, be placed far apart from each other, yet in construing they should be brought together, or as nearly so as possible.

— *Medici prius disputaverint, quam vel observando, &c.* GREG. p. 122.

— *neque fere tales ante extitisse sciamus quam eas amiserimus.* P. 158.

— *Quod si tales motus ad internorum æque ac externorum.* P. 125.

*Asclepiades perinde esse dixit, his sanguinem mitti ac si trucidentur.* CELS. lib. iii. c. 18.

It is unnecessary to multiply examples; they will be frequently met with in the text, and a reference to the interlineary part will show how they are to be associated.

RULE XIX. "Generally construe every word in any clause entered upon after the nominative case, before proceeding to another clause; beginning each clause, as you pass from one to another, with the nominative case; then the verb and words governed by it, if such there be; and finish agreeably to the instructions in Rule 1."

By clause is to be understood the several portions of a sentence contained between stops. The termination of a sentence is marked by the full stop, or period (.); or, in other words, sentences are always included between periods, and the clauses are the intermediate portions. When, therefore, you commence a clause, always finish it before you proceed to another. Examples are unnecessary; the reader is referred to the translation.

RULE XX. "An oblique case, unless it be an adjunct to the nominative, should be construed after the verb; and when more obliques\* than one depend on the same word, construe accusatives before datives, datives before ablatives, and genitives immediately after the words which govern them."

*Corpus humanum, arte prorsus divina fabricatum multis et miris fungitur muneribus.* GREG. p. 1.

— *quibus quantumvis simplicibus viribus mundum cognoscimus, terrarum potimur.* P. 2.

*Sed nusquam alma rerum parens prolem deserit.*† P. 7.

— *nutrimento et potu egemus; cibum itaque potumque appetimus sumimus concouimus.* P. 10.

Accusatives before Datives and Ablatives.

— *nimirum quæ suam vitam aliorum malo tolerant.* P. 64.

\* All cases are called oblique, except the nominative, which is named by Grammarians the right case.

† In this example we have an instance of an oblique case, "*rerum*," because it is an adjunct to the nominative construed before the verb, while "*prolem*" is to be construed after.

- non mediocrem opem commilitonibus suis attulerunt. CELS.
- qui corporum suorum robora inquietâ cogitatione, nocturnâque vigiliâ minuerant.\* IB.

Sometimes, however, we must begin even a sentence by an ablative: as— longa enim aut valida sive animi sive corporis exercitatione utriusque vires insitæ exhauriuntur, (p. 3.) It would not be possible otherwise to preserve the true relation of “*exercitatione*” to “*animi*” and “*corporis*,” nor of utriusque to the two last words. See par. 60, *Desidiâ*, &c.

**RULE XXI.** “When *sum* is used for *habeo* the English nominative is expressed by the Latin dative, and the accusative by the Latin nominative: in such a construction, construe the Latin dative as a nominative, and the inflection of the verb *sum* by the parallel mood and tense of *habeo*, and the Latin nominative is to be rendered as an accusative.”

- cui ossa grandiora sunt. GREG. p. 19.— as if (qui ossa grandiora habet.)
- Inest enim corpori vivo principium aliquod mutationis, P. 47,
- is a construction of the kind comprehended in the Rule.
- Ergo si nimium alicui fatigato pene febris est. CELS. lib. i. c. 3.
- Cui caput infirmum est. IB. lib. i. cap. 4.
- Ratione vero opus est ipsi medicinæ. CELS. Præfat.
- itaque is, cui hoc infirmum est. IB.
- Si vero continens ei somnus est, utique excitandus est. Lib. iii. c. 20.
- promptius his succurritur quam quibus inutilis libertas est. Ib. 21. [Those who have a liberty injurious to them.]

At si id vitium est, cui λευχοφλεγματια nomen est. Ib. 21.

When the Latin *nominative* is put into the *accusative*, and the verb *sum* into the *infinitive*, *quod* or *ut* being suppressed, we must supply the English for *ut*, and prefix it to the Latin dative; as—

- ita a vino ad aquam, ab hac ad vinum eo, qui supra positus est modo transitus ei esse. CEL. lib. i. c. 10. [That he have changes, &c.]

The construction depends upon a preceding verb, and may be resolved by *ut* and the subjunctive: *ut* transitus is *habeat*.

The verb *sum* has some other constructions, which it may not be amiss to notice: thus when it signifies possession, property, part, or duty, it governs a genitive; as—

- Sani denique hominis est. GREG.
- Medici vero est. Ib. P. 72.
- Ob quam causam periti medici est. CEL.

The construction, however, is elliptical; for *Proprium*, *officium*, *munus*, or some such word, is understood, upon which this genitive depends. *Sum* is also frequently and elegantly used for *affero*, to bring, and it then requires a double dative; *one* of the person, the *other* of the thing.

- Ipsæ animalium dominus hujusmodi animantibus prædæ est et domicilio. GREG. p. 64.
- ita ut quod aliis maximæ voluptati est. P. 104.
- incipit jam tempus ipsum esse præsidio (sc. ægro). [Lib. iii. c. 19, is also an instance of the same construction.]

**RULE XXII.** “By a very common ellipsis the verb *sum*, in any of its moods or tenses, may be understood, and in construing, the English equivalent must be supplied, as the sense requires.

- Unde vero (*sunt*) morbi, &c. GREG. p. 48:
- Ubique igitur sensus est ibi nervi (*sunt*). P. 111.†

\* The ablatives in this example may be known by the marks upon the *d*.

† For examples the reader is referred to the translation, in which they will be found in brackets.

**RULE XXIII.** "By a very elegant ellipsis any finite verb may be understood and inferred, by reflection from another verb of similar import, expressed within the period."

— qui tamen ægri conditionem, quod (*pertinet,*) ad vires vitæ. P. 35.

Ut sanus (*gignit*) sanam prolem. P. 49.

Hæc omnia (*imminent*) extrinsecus. P. 58.

— et varii et graves morbi (*nascantur*). P. 64.

— ut una esset quæ victu (*mederetur*) altera quæ medicamentis (*mederetur*;) tertia quæ manu *mederetur*. CELS. PRÆF.

In this example it is absolutely impossible to render the two first clauses without the verb *mederetur*, and therefore the English equivalent must be supplied in each clause.

Et interdum non febris (*subsequitur*) non cibus (*subsequitur*) non somnus *subsequitur* sicut assuevit. **IB.**

Not only *subsequitur*, but the verb *assuevit* also, may be considered as inferred by reflection in the different clauses.

Ubi expectatus est aliquis paulum intermittere, (*debet.*) **IB.**

Longis diebus meridiari potius ante cibum (*debet*); sin minus post eum (*meridiari debet*): per hiemem potissimum totis noctibus conquiescere (*debet*).

In this sentence, not only is *meridiari* inferred by reflection in the second clause, but the *debet* in all the clauses by reflection from the preceding sentence.

Ut concoctio autem omnibus vitilis *occurrit* sic rursus aliis frigus (*occurrit*) aliis calor (*occurrit*). **IB.**

**RULE XXIV.** "Adjectives are often elegantly used as *adverbs*; and are then joined with verbs in the construction, and rendered adverbially."

— *frequentissimi* morborum comites et signa *observantur*. GREG. P. 34.

In this instance *frequentissimi* may be joined with *observantur*, and may be rendered as if *frequentissime*,—they are very *frequently* observed, &c.

— et a sanguine quem *multum continent*: quæ bene *multæ* musculos *subeunt*. P. 113. [which they *abundantly* contain: which very *numerously* supply.\*]

— qui *toti* mollissimi *existant*. P. 120.

In his nimirum exemplis ad sensum *solum attendimus*.

Porro inter mandendum saliva *copiosior affluit*. P. 208.

— quod qui *diversa* de his *senserint*. CELS. PRÆFAT.

Ut sæpius autem cibo *utendum sic exiguo est*. **IB.** lib. i. cap. 3.

Neque vero his *solis*, quos capitis imbecillitas torquet, usus aquæ frigidæ *prodest*. **IB.** cap. 5.

— qui tamen semel die tum *commodius assumitur*: insuper etiam *modicus*. **IB.** c. 10.

Nam ubi sine intermissionibus accessiones et dolores *graves urgent*; [*oppress severely.*] **Lib.** iii. cap. 2.

— dum *graviore* dolores accessionesque *veniunt*: [*come on more severely.*] **IB.**

— sed his non *omnia credere*: [*trust entirely.*] **IB.** c. 6.

— hic *solus* idoneus *cibus est*: quod quidam *solum præcipiunt*. **IB.**

— per alvum *infundere copiosam* aquam calidam; [*to inject plentifully:*] — qua per aliquot dies *frequens humor feratur*. **IB.** c. 21.

*Of rendering Gerunds.* The gerunds are those in *dum* of the nominative, in *di* of the genitive, *do* of the dative, *dum* accusative, and *do* of the ablative.

The gerund in *dum* of the nominative, with *est* set impersonally, denotes

\* The adjectives have not been rendered adverbially in the translation, lest it might mislead the student as to the true construction.



a necessity, moral or imperative, and governs a dative of the person, &c. upon whom the necessity lies. As—

Qui cum disputant quemadmodum sanis hominibus agendum sit. CEL.

The dative is often suppressed; as—

Videndum etiam (est), morbus an Increscat. Lib. iii. cap. 2,

in which (nobis) is understood. The word to be supplied is to be inferred from the sense; as

— indicandum est (sup. mihi) quæ maxime ex utraque parte dicantur. IB. Præf.

[I must show what, &c.]

When this gerund follows a verb in the same clause, it is put into the accusative with esse, the infinitive of sum, as—

Nisi persuadere nobis volunt, sanis quidem considerandum esse. IB. Præf.

Quod ita præcipio, ut tamen fatear, ne ex hac quidem causa sudanti adhuc frigidum bibendum esse. Lib. i. c. 3.

— et ideo monent probe esse distinguendum, inter duas res ad sensum pertinentes. GREG. p. 129.

It may be resolved by quod or ut and the subjunctive of sum, as, quod probe distinguendum sit.

The student must be careful to distinguish the gerund from the participle in dus, for the former is active in its signification, and governs the same case as the verb from which it comes, whereas the latter is passive, and requires an ablative of the agent or doer. For instance, Huic tempus aliquod servandum curationi corporis sui est, he must allot some time; for tempus is the accusative, governed by servandum, and therefore cannot be rendered passively,—some time is to be allotted, an error into which students are apt to betray themselves.

On the other hand we must be equally careful not to make a gerund of the neuter participle in dus, as—Alternis diebus modo aqua modo vinum bibendum est, (CEL. lib. i. c. 10.); in which bibendum is evidently passive, although vinum might be either the nominative to bibendum or the accusative governed of it. But, were the latter the true construction, we should have had it aquam in the accusative, instead of aqua in the nominative, as in the present instance. Therefore, it is evident that bibendum is the neuter of the participle passive bibendus, agreeing in gender, number, and case, with vinum, the nearest substantive.

The gerund in di is governed by substantives and adjectives; such are amor, causa, ratio, facultas, locus, &c.

Ex his enim similibusque sæpe curandi nova ratio ducenda est. CEL.

Medendi autem causa caput radendum. IB.

— cur ad conditionem et læsiones facultatis movendi semper sit respiciendum. GREG. P. 29.

Nondum vero ratio ulla proposita est rem per experimenta explorandi. P. 117.

Alibi locus erit decendi.

t should be construed after the governing substantive.

The gerund in dum of the accusative is governed by prepositions; as

Sunt qui strenue contendunt hominem inter sentiendum unicum tantum sensum, &c. P. 141.

The gerund in do of the ablative is governed by prepositions, expressed or understood; for examples the reader is referred to the translation. These gerunds are often elegantly converted into the gerundives, or participles in dus, agreeing with the substantive.

— et conatus demum ad musculos vel artus movendos. P. 126.

The gerunds, however, in some cases seem to have a passive signifi-

cation, as:—*diversa ipsorum radiorum ad refringendum facilitas compensatur, (to be refracted.)*

There are two supines, the first in *um*, active, the latter in *u*, which admits either an active or passive, but mostly a passive translation. The first follows verbs of motion, as *decubitum iturus*; the latter is put after adjectives, as *Difficilimum profecto explanatu videtur:—multo autem difficilium explanatu est.* GREG. p. 151.

When the reader meets with such expressions as—*facile incitandi; facile distinguendum; difficillimè delendi*, haud ita *facile imitanda*, &c.—he is not to suppose the rule violated; for *facile*, *difficillimè*, &c. are in these constructions adverbs, and must not be rendered as adjectives.

It often occurs that there is no nominative, or that a whole clause, sentence, or an infinitive mood, may be the nominative to a finite verb, and in such cases the adjective is in the neuter gender, and the verb in the third person:

*Incidere autem vivorum corpora et crudele et supervacuum est; discentibus necessarium.* CEL.

The subjunctive with *ut* may often be rendered infinitively:—*medici cura esse debet ut morbum mutet, to change.* For the use of *ne nihil nisi*, &c. the reader is referred to my Introduction to Celsus.

The participle of the future in *rus* admits of various modes of rendering; it denotes futurity, but not so much positive as contingent futurity. It is frequently best rendered infinitively, examples of which will be found in the translation.

*Oportet*, with the succeeding verb in the subjunctive *ut* being suppressed, may be rendered by *must*, as *oportet fiat, it must be done.*

Certain adverbs of place, of time, and of circumstance, govern a genitive, as *ibi loci*, in *that place*; *tunc temporis*, at *that time*; *quæ ut animo præcipue omnium*, especially of all things.

And now a word upon the subject of this translation.

There are many who condemn translations in toto, as mere incentives to idleness and ignorance; but I think this is arguing against the utility from the *abuse*, rather than the legitimate use of the subjects. A tutor or preceptor might as well be condemned, for the idle will never profit by their own exertions. A translation properly executed, is, in my opinion, calculated rather to assist the industrious, while it is difficult to conceive how it can make the idle what they previously were.

I have made it as literal as possible, while at the same time I have endeavoured not only to arrange the words conformably with the rules of translation, but at the same time so as to admit of purity of expression. The rules of construing may not be observed on every occasion, but the cause of deviation, where it occurs, will readily appear. Such as it is, however, I now offer it to those for whose advantage it was first undertaken, and I hope it will serve, in some degree at least, to lessen their difficulties.

ROBERT VENABLES

17, ELY PLACE; Oct. 1, 1835.

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\* \* A Translation of Celsus de Medicina, on the same principle, will be ready in due time for those who will be affected by the REGULATIONS that will come into operation on the 1st of October, 1836.

CONSPECTUS  
A VIEW  
THEORETICÆ MEDICINÆ.  
OF THEORETICAL MEDICINE.

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CAP I.  
CHAP I.

*Quædam generalia præfanda de functionibus vivi*  
 Certain general things to be prefaced concerning the functions of the living  
*corporis; de naturâ que causis morborum, de viribus insitis*  
 body; of the nature and causes of diseases, of the powers placed in (inherent)  
*corpori quæ tuentur sanitatem que depellunt morbos; nec non de*  
 in the body which preserve the health and repel diseases; also of  
*naturâ, viribus, et effectibus remediorum.*  
 the nature, powers, and effects of remedies.

1. *Humanum corpus, fabricatum arte prorsus divinâ, fungitur multis*  
*The human body, constructed by art altogether divine, performs many*  
*et miris muneribus; alia (scil. munera) quorum (sc. munerum) pertinent*  
*and wonderful functions; some of which relate*  
 ad externas res, alia tantum ad seipsum (sc. corpus.)  
 to external things, others only to itself.

2. *Ad alterum genus omnis sensus que voluntarius motus referuntur;*  
*To the one kind all sensation and voluntary motion are referred;*  
*quibus, quantumvis simplicibus, viribus, cognoscimus mundum, potimur*  
*by which, though simple, powers, we know the world, we enjoy*  
*terrarum. Hæ (scil. functiones) dicuntur animales functiones apud*  
*the earth. These are called the animal functions among (by)*  
 medicos.  
 physicians.

3. *Verò minimè valemus ad has functiones omni tempore: enim*  
*But by no means are we equal to these functions at all times: for*  
*longâ aut validâ exercitatione sive animi sive corporis, insitæ*  
*by long or powerful exercise whether of mind or of body, the innate*

CAP. I.—*Generalia quædam præfanda de functionibus corporis vivi; de natura causisque morborum; de viribus corpori insitis, quæ sanitatem tuentur morbosque depellunt; nec non de remediorum natura, viribus, et effectibus.*

1. *CORPUS humanum, arte prorsus divina fabricatum, multis et miris fungitur muneribus; quorum alia ad res externas, alia ad seipsum tantum, pertinent.*

2. *Ad alterum genus referuntur sensus omnis motusque voluntarius; quibus, quantumvis simplicibus, viribus, mundum cognoscimus, terrarum potimur. Hæ functiones animales apud medicos dicuntur.*

3. *Minime vero omni tempore ad has functiones valemus: longâ enim aut validâ sive animi sive corporis exercitatione utriusque vires insitæ exhauriuntur. In hoc autem statu brevi mone-*

vires utriusque exhauriuntur. Autem in hoc statu monemur  
*powers of both are exhausted. But in this condition we are reminded*  
 brevi (sc. tempore), et cogimur tandem dulci necessitate  
*in a short time, and we are compelled at length by a sweet necessity*  
 intermittere pariter omnes labores et voluptates, que deponere curas,  
*to discontinue alike all labours and pleasures, and to lay aside cares,*  
 et committere nosmetipsos defessos et hebescentes amplexibus somni,  
*and to commit ourselves wearied and growing dull to the embraces of sleep,*  
 gremio cuius, foti et relecti, resurgamus denuò vegeti et  
*in the bosom of which, cherished and refreshed, we rise again lively and*  
 alacres et aptissimi ad omnia munera vitæ.  
*brisk and very fitted for all the duties of life.*

4. Ad alterum genus solent referri cunctæ actiones ope  
*To the other kind are accustomed to be referred all actions by means*  
 quarum corpus vivit, que exhaustum reficitur, que corruptum purgatur.  
*of which the body lives, and exhausted is refreshed, and corrupted is cleansed.*  
 Vero hæ sunt vel vitales vel naturales (sc. functiones.)  
*But these are either vital or natural.*

5. Illæ functiones dicuntur vitales, quæ sunt adeo necessariæ ad  
*Those functions are called vital, which are so necessary to*  
 vitam, ut sine discrimine vitæ, ne queant suspendi aut interrumpi  
*life, that without the hazard of life, they cannot be suspended or interrupted*  
 quidem per exiguum tempus; nimirum, actio cerebri que  
*even for a short time; that is to say, the action of the brain and*  
 nervorum, circuitus, sanguinis, et respiratio,  
*of the nerves, the circulation of the blood, and respiration.*

6. Verò animalis machina sic constituta statim defluit, etiam  
*But the animal machine so constructed presently decays, even*  
 cito periret: nam omni motu solidæ partes teruntur, fluidæ  
*quickly would perish: for by every motion the solid parts are worn, the fluid*  
 (sc. partes) dissipantur, relicturæ corpus debile, macrum, que exhaustum;  
*are dissipated, (about) to leave the body weak, lean, and exhausted;*  
 quineatiam utræque putrescunt sponte et corrumpuntur; sic etiam  
*moreover both putrefy spontaneously and are corrupted; thus even*  
 brevi homo ipse compararet sibi acerrimum venenum.  
*in a short time man himself would prepare for himself a very acrid poison.*

7. Sed alma parens rerum nusquam deserit prolem. Contrà  
*But the kind parent of Nature nowhere deserts her offspring. On the contrary*  
 suggerit remedium, non modò his malis, quæ semper et ubique  
*she supplies the remedy, not only for those evils, which always and everywhere*  
 minitantur necem, et sine dubio inferrent inopi (sc. homini)  
*threaten death, and without doubt would bring it on the helpless (i. e. man)*

mur, et tandem dulci necessitate cogimur, labores omnes et voluptates pariter intermittere curasque deponere, et nosmetipsos defessos et hebescentes somni amplexibus committere; cuius gremio foti et relecti, resurgamus denuò vegeti et alacres, et ad omnia vitæ munera aptissimi.

4. Ad alterum genus referri solent actiones cunctæ, quarum ope corpus vivit, exhaustumque reficitur, corruptumque purgatur. Hæ vero sunt vel vitales vel naturales.

5. Vitales dicuntur functiones illæ quæ ad vitam adeo necessariæ sunt, ut sine vitæ discrimine, ne quidem per exiguum tempus, sus-

pendi aut interrumpi queant; cerebri, nimirum, nervorumque actio, sanguinis circuitus, et respiratio.

6. Machina vero animalis sic constituta statim defluit, cito etiam periret: nam omni motu partes solidæ teruntur, fluidæ dissipantur, corpus, debile, macrum exhaustumque relicturæ; quineatiam utræque sponte putrescunt et corrumpuntur; sic etiam brevi ipsæ sibi homo acerrimum venenum compararet.

7. Sed nusquam alma rerum parens prolem deserit. Contra, non modo his malis, quæ semper et ubique necem minitantur et inopi sine dubio inferrent, remedium suggerit, verum in-

verum insuper mirabili artificio efficit, ut homo ferat  
*but moreover by a wonderful contrivance effects, that man should acquire*  
 novum et perennem vigorem ex hâc ipsâ necessitudine.  
*a new and perennial vigour from this very necessity.*

8. Enim corpore attrito, que parte humorum absumptâ,  
*For the body being worn away, and part of the humours being wasted,*  
 egemus nutrimento et potu; itaque appetimus, sumimus, concoquimus  
*we need food and drink; therefore we desire, we take, we digest*  
 cibum que potum; uterque concoctus diffunditur per totum  
*food and drink; both (being) digested is diffused throughout the whole*  
 corpus, apponitur quâ est opus; quod superest utriusque  
*body, is placed where there is need; what is superfluous of both*  
 ejicitur. Quoque putrescentes vel aliter corrupti humores, secreti  
*is thrown out. Also the putrescent or otherwise corrupted humours, separated*  
 à reliquis, excernuntur e corpore idoneâ viâ. Denique  
*from the rest, are purged off from the body by a proper channel. Lastly*  
 plurimi succi assidue secernuntur a generali massâ, diversi  
*many juices (are) continually secreted from the general mass, differing*  
 ab illâ, et diversi inter se, que accommodati variis usibus  
*from it, and differing from each other, and fitted to various uses*  
 intra corpus.  
*within the body.*

9. Hæ functiones vocantur naturales, necessariae quidem ad vitam, sed quæ  
*Those functions are called natural, necessary indeed to life, but which*  
 possunt facile et sine periculo suspendi paulisper: scilicet  
*can easily and without danger be suspended for a little: that is to say*  
 concoctio, secretio, et excretio.  
*concoction, secretion, and excretion.*

10. Igitur vitalibus et naturalibus functionibus, homo vivit, viget,  
*Therefore by the vital and natural functions, man lives, thrives,*  
 reficitur, purgatur; evadit idoneus ad exercendas animales (functiones):  
*is refreshed, is cleansed; becomes fitted to exercise the animal ones:*  
 nobile opus, excogitandum nec nisi Uni; certe excedens omne humanum  
*a noble work, to be thought of only by One; truly exceeding all human*  
 ingenium tantum ut toties exploratum, non capiatur  
*understanding so much that (though) so often explored, it cannot be comprehended*  
 mente quamvis sagace; neque functiones singularum  
*by the mind however sagacious; nor (can) the functions of the individual*  
 partium, neque nexus universarum (sc. partium) neque fons et  
*parts, nor the connexion of the whole; nor the fountain and*  
 origo virium quibus machina movetur, hactenus detegantur.  
*origin of the powers by which the machine is moved, hitherto be detected.*

super mirabili artificio efficit, ut ex hac ipsa  
 homo necessitudine novum ferat et perennem  
 vigorem.

8. Attrito enim corpore parteque humorum  
 absumpta, nutrimento et potu egemus; cibum  
 itaque potumque appetimus, sumimus, conco-  
 quimus: concoctus uterque per totum corpus  
 diffunditur, qua opus est apponitur; quod su-  
 perest utriusque ejicitur. Putrescentes quoque  
 vel aliter corrupti humores, a reliquis secreti,  
 idonea via e corpore excernuntur. Plurimi de-  
 nique a massa generali succi, diversi ab illa et  
 diversi inter se, variisque intra corpus usibus  
 accommodati, assidue secernuntur.

9. Hæ vocantur functiones naturales, ad vitam  
 quidem necessariae, sed quæ paulisper facile, et  
 sine periculo, suspendi possunt: concoctio, sci-  
 licet, secretio et excretio.

10. Vitalibus, igitur, et naturalibus functio-  
 nibus homo vivit, viget, reficitur, purgatur, ad  
 animales exercendas idoneus evadit: nobile o-  
 pus, nec nisi Uni excogitandum; certe omne  
 humanum ingenium tantum excedens, ut mente  
 quamvis sagace, toties exploratum, non capia-  
 tur; neque singularum partium functiones, ne-  
 que universarum nexus, neque fons et origo  
 virium quibus machina movetur, hactenus dete-  
 gantur.

11. Enim nulla machina præter animalem cietur proprio motu ;  
*For no machine besides the animal one is moved by its own motion ;*  
 nulla alia summovet suâ sponte pericula imminencia sibi met, nec  
*no other removes of its own accord the dangers hanging over itself, nor*  
 ministrat sibi res quibus eget.  
*supplies to itself the things which it wants.*

12. Statim primo aspectû, talis machina, nisi forte corrupta  
*Immediately at first sight, such a machine, unless by chance corrupted*  
 vel læsa aliquâ externâ causâ, videtur durabilis in omne ævum ;  
*or injured by some external cause, seems durable through every age ;*  
 et quidem docemur contrarium experienciâ solâ. Enim homo,  
*and indeed we are taught the contrary by experience alone. For man,*  
 quamvis sanus, et robustus, et vegetus, annis labentibus, ipse  
*however healthy, and robust, and sound, the years gliding on, he himself*  
 et dilabatur, senescit, moritur, solvitur in pristina elementa, futurus  
*also decays, grows old, dies, is resolved into his original elements, to become*  
 pabulum aliis animantibus.  
*food for other animated beings.*

13. Autem hæc lex Naturæ, hoc consilium ; ut singuli homines  
*But this the law of Nature, this the design ; that individual men*  
 pereant, humana gens floreat. Hinc sexus, hinc generatio  
*should perish, the human race should flourish. Hence sexes, hence generation*  
 et proles, et quicquid suavis, quicquid amari alma Venus habet.  
*and offspring, and whatever of sweet, whatever of bitter beautiful Venus has.*

14. Sed dominus ipse terrarum, et animalium quæ incolunt eas,  
*But the lord himself of the earth, and of the animals which inhabit it,*  
 nascitur parvus, debilis, fatuus, inops omnium rerum ; conservatur, fovetur,  
*is born small, weak, fatuous, needy of all things : is preserved, is cherished,*  
 alitur diu solâ curâ parentum : crescit paulatim,  
*is nourished for a long time by the sole care of his parents : grows gradually,*  
 pubescit, adolescit, sapit ; æquat parentes  
*arrives at puberty, becomes a young man, grows wise ; equals his parents*  
 forma, viribus, et animi et corporis ; gaudet exercere  
*in the form, in the powers, both of mind and of body ; rejoices to exercise*  
 eadem munera ; tandem, annis ingravescentibus, subiturus  
*the same functions ; at length, the years weighing on, (about) to undergo*  
 communia sortem.  
*the common lot.*

15. Omnia hæc communia universo generi ; nec desunt  
*All these things (are) common to the whole race ; nor are there wanting*  
 multa propria singulis hominibus. Enim non secus ac  
*many things peculiar to individual men. For no otherwise than as*

11. Nulla enim præter animalem machinam proprio motu cietur ; nulla alia, pericula sibi met imminencia sua sponte summovet, nec res quibus eget sibi ministrat.

12. Primo statim aspectu, talis machina, nisi forte causa aliqua externa corrupta vel læsa, in omni ævo durabilis videtur : et quidem sola experientia contrarium docemur. Homo enim, quamvis sanus et robustus et vegetus, labentibus annis, et ipse dilabatur, senescit, moritur, in pristina elementa solvitur, aliis animantibus pabulum futurus.

13. Hæc autem Naturæ lex, hoc consilium ; ut singuli pereant homines, gens humana floreat. Hinc sexus, hinc generatio et proles, et

quicquid suavis, quicquid amari, alma Venus habet.

14. Sed ipse terrarum et quæ eas incolunt animalium dominus, parvus, debilis, fatuus, omnium rerum inops, nascitur : certa parentum cura diu conservatur, fovetur, alitur : paulatim crescit, pubescit, adolescit, sapit : forma et animi et corporis viribus parentes æquat ; eadem gaudet exercere munera ; tandem, ingravescentibus annis, communem sortem subiturus.

15. Hæc omnia universo generi communia ; nec desunt multa singulis hominibus propria. Non secus enim ac vultus, corporis constitutiones variant. Hæc quidem varietates nullo modo exequendæ sunt, tamen ad certa capita non in-

vultus constitutiones corporis variant; quidem hæ  
*(just as) the countenance do the constitutions of the body vary; indeed these*  
 varietates sunt exequendæ nullo modo, tamen solent  
*varieties are to be traced in no manner, nevertheless they are accustomed*  
 referri non inepte ad certa capita, quæ dicuntur κατ' ἐξοχήν  
*to be referred not improperly to certain heads, which are called par excellence*  
 (kat exochen) temperamenta, scientia quorum proderit haud  
*(by way of excellence) temperaments, the knowledge of which will benefit not*  
 parvum medico.  
*a little the physician.*

16. Varietates hujusmodi, non modo corporis, verum et animi quoque,  
*Varieties of this kind, not only of the body, but even of the mind also,*  
 observantur, plerumque congenitæ, nonnunquam hereditariæ. Hoc  
*are observed, for the most part congenital, sometimes hereditary. In this*  
 modo parentes sæpe reviviscunt in prole; certe liberi sunt  
*manner parents often revive in their offspring; at least children are*  
 similes parentibus, non modo (secundum) vultum et formam  
*like to their parents, not only (as to) the countenance and form*  
 corporis sed indolem animi, et virtutes et vitia.  
*of the body but the disposition of the mind, and the virtues and vices.*

Imperiosa Claudia gens floruit diu Romæ, impigra] (scil.  
*The imperious Claudian race flourished for a long time at Rome, active,*  
 Claud. gens), ferox, superba; eadem (gens Claud.) produxit illachrymabilem  
*fierce, proud: the same produced the tearless*

Tiberium, tristissimum tyrannum: desitura tandem in immanem Caligulam, et  
*Tiberius, a most cruel tyrant; to cease at length in the cruel Caligula, and*  
 Claudium, et Agrippinam, que demum, post sexcentos annos, Neronem ipsum.  
*Claudius, and Agrippina, and finally, after six hundred years, Nero himself.*

17. Quin humanum corpus subit multas et graves mutationes ab  
*But the human body undergoes many and severe changes from*  
 aliis causes, et, valetudine adhuc firmâ; et imprimis  
*other causes, also, the health being still firm; and in the first place*  
 a genere vitæ, et victû quo utimur, ab ipso cælo  
*from the kind of life, and the food which we use, from the very climate*  
 quo degimus, et ab immensâ vi consuetudinis. Oportet  
*in which we live, and from the immense force of custom. It behoves*  
 medicum novisse hæc quoque.  
*the physician to know these things also.*

18. Igitur secunda valetudo est definienda nullis verbis, neque  
*Therefore good health is to be defined by no words, nor*  
 profecto facile describenda; quippe quam Natura ipsa, non  
*truly easily to be described; as being that which Nature herself, not*

epte referri solent, quæ temperamenta κατ' ἐξοχήν  
 dicuntur; quorum scientia medico haud par-  
 rum proderit.

16. Hujusmodi varietates non corporis modo,  
 verum et animi quoque, plerumque congenitæ,  
 nonnunquam hereditariæ, observantur. Hoc  
 modo parentes sæpe in prole reviviscunt; certe  
 parentibus liberi similes sunt, non vultum modo  
 et corporis formam, sed animi indolem, et vir-  
 tutes, et vitia.—Imperiosa gens Claudia diu  
 Romæ floruit, impigra, ferox, superba; eadem  
 illachrymabilem Tiberium, tristissimum tyran-  
 nam, produxit; tandem in immanem Caligulam,

et Claudium, et Agrippinam, ipsumque demum  
 Neronem, post sexcentos annos, desitura.

17. Quin et ab aliis causis, firma adhuc vale-  
 tudine, corpus humanum multas et graves subit  
 mutationes; et imprimis a vitæ genere et victu  
 quo utimur, ab ipso sub quo degimus cælo, et ab  
 immensa vi consuetudinis. Hæc quoque medi-  
 cum oportet novisse.

18. Secunda, igitur, valetudo nullis est defini-  
 enda verbis, neque profecto facile describenda;  
 quippe quam Natura ipsa, non sine sapiente con-  
 silio, variam fecerit. Scire tamen juvabit, per-

sine sapiente consilio, fecerit variam. Tamen juvabit  
*without a wise design, has rendered variable. Nevertheless it will benefit*  
 scire, perfectissimam sanitatem, contingere homini florentis,  
*to know, that the most perfect health, befalls man of flourishing (in the*  
 ætatis, cui sana mens, optimum donum Dei, est  
*prime of) age, to whom a sound mind, the best gift of God, has been*  
 data, qualis sufficiat, non modo ad solita munera vitæ, vero  
*given, such as may suffice, not only for the usual duties of life, but*  
 quoque accommodet se facile variis casibus, et studiis, et  
*also can accommodate itself easily to the various accidents, and desires, and*  
 negotiis; quæ sentiens probe et perspicax et tenax, et percipit,  
*pursuits; which feeling well and perceptive and tenacious, both perceives,*  
 et intelligit et retinet, ut decet (eam;) quæ, firma et  
*and understands and retains, as becomes it (as it ought:) which, firm and*  
 serena, sive fuerit gravior sive hilarior, semper compos  
*serene, whether it (shall) be more grave or more cheerful, always possessed*  
 sui, est ludibrio neque suis inordinatis motibus,  
*of itself (in self-possession), is the sport neither to its own inordinate passions,*  
 neque externis casibus; sed imperat, non paret, propriis affectibus,  
*nor to external chances; but governs, does not obey, its own affections,*  
 que fruitur modeste rebus-secundis, tolerat fortiter adversas (sc. res),  
*and enjoys moderately prosperity, bears with fortitude adversity,*  
 et excitatur, non convellitur, gravioribus casibus, siqui (casus)  
*and is excited, not borne down, by more severe misfortunes, if any*  
 acciderint. Hæc quidem sunt signa et indicia non modo  
*should happen. These, indeed, are the signs and indications not only*  
 sanæ mentis, sed quoque sani corporis; et profecto conferunt  
*of a sound mind, but also of a healthy body; and truly conduce*  
 haud parum ad sanitatem hujus (corporis): scilicet, donec inclusa est  
*not a little to the health of the latter: that is to say, whilst it is shut up*  
 in suâ corporeâ compage, mens et afficit corpus multum, et  
*in its corporeal frame, the mind both affects the body much, and*  
 vicissim afficitur ab eo (sc. corpore).  
*in turn is affected by it.*

19. Vero quod attinet ad hoc (scil. corpus) validissimum et ferè  
*But as relates to the latter, the strongest, and commonly*  
 sanissimum corpus est justæ magnitudinis, et benè formatum, neque  
*the most healthy, body is of a due size, and well formed, neither*  
 nimis procerum, neque breve, neque macrum, neque grave multâ  
*too tall, nor short, nor lean, nor heavy with much*  
 pinguedine, sed quadratum potius quam gracile, et imprimis instructum  
*fat, but square rather than slender, and in the first place furnished*

fectissimam florentis ætatis homini contingere  
 sanitatem, cui mens sana, optimum Dei donum,  
 data est; qualis non modo ad solita vitæ munera  
 sufficiat, sed variis quoque casibus et studiis et  
 negotiis facile se accommodet; quæ probe senti-  
 ens, et perspicax, et tenax, et percipit, et intelli-  
 git, et retinet, ut decet; quæ firma et serena,  
 sive gravior fuerit sive hilarior, suique semper  
 compos, neque suis inordinatis motibus neque  
 externis casibus ludibrio est; sed propriis affecti-  
 bus imperat, non paret, rebusque secundis  
 modeste fruitur, adversas fortiter tolerat, et gra-  
 vioribus, siqui acciderint, casibus, excitatur, non  
 convellitur. Hæc, quidem, non modo sunt signa  
 et indicia sanæ mentis, sed sani corporis quo-  
 que; et profecto ad hujus sanitatem haud parum  
 conferunt: scilicet donec in compage sua cor-  
 poreâ inclusa est, mens et corpus multum afficit  
 et ab eo afficitur vicissim.  
 19. Quod ad hoc vero attinet, validissimum  
 et ferè sanissimum est corpus justæ magni-  
 tudinis et bene formatum, neque procerum  
 nimis, neque breve, neque macrum, neque  
 multum pinguedine grave; sed quadratum potius  
 quam gracile, et amplo imprimis thorace  
 latisque humeris instructum; cui ossa gran-



amplo thorace, que latis humeris; cui sunt ossa grandiora,  
*with a large chest, and broad shoulders; which has the bones larger,*  
 et musculi torosi, bene expressi, et firmi, et fortes, nunquam  
*and the muscles brawny, well developed, and firm, and strong, never*  
 tremuli; et cutis mollis quasi humida, nunquam arida; et color,  
*tremulous; and the skin soft as it were moist, never dry; and the colour,*  
 præsertim vultus, bonus et constans, sive is (color) fuerit  
*especially of the countenance, good and constant, whether it shall be*  
 pulchrior sive fuscior, dummodo vergat neque ad flavum neque  
*more fair or more brown, provided it verges neither to yellow nor*  
 pallidum (sc. colorem); et vultus vegetus et hilaris, et oculi  
*pale; and the countenance fresh and cheerful, and the eyes*  
 nitentes et vividi; et dentes integri et fortes; et gressus firmus,  
*shining and vivid; and the teeth sound and strong; and the walk firm,*  
 artubus bene sustentibus corpus; et incessus erectus, et omnis  
*the limbs well supporting the body; and the gait erect, and all*  
 exercitatio facilis et labor tolerabilis, quamvis diuturnus et gravis;  
*exercise easy and labour tolerable, although long-continued and sincere;*  
 et omnia organa externorum sensuum probe valentia ad sua munera,  
*and all the organs of the external senses well availing to their functions,*  
 neque torpida, neque sententia nimis acriter, et somni leves et  
*neither torpid, nor feeling too acutely, and sleep light and*  
 diuturni, haud faciles ruptu, qui (sc. somni) reficiunt corpus  
*long continued, not easy to be broken, which refresh the body*  
 multum, et vel prorsus carent somniis, vel saltem horrificis; et  
*much, and either altogether want dreams, or at least horrible ones; and*  
 vel penitus sopiunt placidâ quiete, et jucundis obliivis vitæ,  
*either entirely lull in placid rest, and the pleasant obliivions of life,*  
 vel suaviter recreant animum gratis imaginibus.— Porro temperatus  
*or sweetly refresh the mind with pleasing notions.— Moreover a temperate*  
 motus sanguinis, et pulsus arteriarum validi, pleni, molles,  
*motion of the blood, and the pulsations of the arteries strong, full, soft,*  
 æquales, neque nimis frequentes, neque tardi, neque facile incitandi  
*equal, neither too frequent, nor slow, nor easily to be excited*  
 præter, solitum, sunt indicia sani corporis; et respiratio  
*beyond, the usual bounds, are signs of a healthy body; also the respiration*  
 plena, facilis, lenta, parum perspecta, neque multum accelerata ab quivis  
*full, easy, slow, little observed, nor much accelerated by any*  
 exercitatione, et vox fortis et sonora, et in viris gravis, haud  
*exertion, and the voice strong and sonorous, and in men grave, not*  
 facile facta rauca; et halitus oris gratus saltem carens  
*easily rendered hoarse; and the vapour of the mouth pleasant at least wanting*

diora sunt, et musculi torosi, bene expressi, et firmi, et fortes, nunquam tremuli; et cutis mollis quasi humida, nunquam arida; et color, præsertim vultus, bonus et constans, sive is pulchrior fuerit, sive fuscior, dummodo neque ad flavum neque pallidum vergat; et vultus vegetus et hilaris, et oculi nitentes et vividi; et dentes integri et fortes; et gressus firmus, artubus corpore bene sustentibus; et incessus erectus, et exercitatio omnis facilis, et labor tolerabilis, quamvis diuturnus et gravis; et omnia sensuum externorum organa ad sua munera probe valentia, neque torpida neque nimis acriter sententia; et somni leves et diu-  
 turni, haud faciles ruptu, qui corpus multum reficiunt, et somniis vel prorsus carent vel saltem horrificis; et vel placida quiete et jucundis vitæ obliivis penitus sopiunt, vel gratis imaginibus animum suaviter recreant. Sani porro corporis indicia sunt, sanguinis motus temperatus, et pulsus arteriarum validi, pleni, molles, æquales, neque nimis frequentes, neque tardi, neque facile præter solitum incitandi; et respiratio plena, facilis, lenta, parum perspecta, et vox fortis et sonora, et in viris gravis, haud facile rauca facta; et halitus oris gratus, saltem omni fœtore carens, et os hu-

omni fœtore, et so humidum et lingua nitida, vero non nimis  
*all fetor, and the mouth moist and the tongue clean, but not too*  
 rubra, et appetitus cibi magnus, egens nullâ ope condimentorum,  
*red, and the appetite for food good, wanting no aid of condiments,*  
 et sitis modica, et concoctio omnis escæ facilis et bona,  
*and the thirst moderate, and the digestion of every kind of food easy and good,*  
 sine ructu, aut ventriculo gravato ullo modo, et excretio  
*without belching, or the stomach being oppressed in any manner, and the excretion*  
 per alvum naturalis, quotidiana, et urina facile retenta justum  
*through the belly, natural, daily, and the urine easily retained a due*  
 tempus, et cum demum tempus est facile reddita; et  
*time, and when at length the time is (arrives) easily voided; and*  
 quamvis varii coloris, et crassitudinis, et copię (pro  
*although of various colour, and thickness, and quantity (according*  
 ratione cibi que potus) deponens idoneum sedimentum suo  
*to the nature of food and drink) depositing the proper sediment in its own*  
 tempore; quo tardius, fere eo melius; et exhalatio per  
*time; the slower, commonly the better; and the exhalation by*  
 cutem libera et constans, vero citra sudorem nisi validæ causæ  
*the skin free and constant, but on this side sweat unless powerful causes*  
 concurrant et internæ secretiones pariter constantes et liberæ,  
*concur, and the internal secretions alike constant and free,*  
 neque nimię neque nimis parcæ. Denique est (subaud. proprium)  
*neither too much nor too scanty. Finally it is the part*  
 sani hominis appetere venerem, et valere ad eam, et  
*of a healthy man to desire venery, and to be able for it, and*  
 procreare sobolem, Vero quædam sanitas est singularis et propria  
*to procreate an offspring. But a certain health is peculiar and proper*  
 fœminis quippe (eæ) quæ habeant quasdam partes, que fungantur  
*to women as being those who have certain parts, and perform*  
 muneribus diversis multum a virilibus (muneribus.) Igitur oportet  
*functions differing very much from those of men. Therefore it behoves*  
 notare inter indicia sanitatis harum (fœminarum) æquabilem et  
*to note amongst the signs of health of these the uniform and*  
 liberum fluxum mensium, neque nimium neque nimis parcum; et  
*free flow of the menses, neither too profuse nor too scanty; and*  
 felicem graviditatem et facilem partum, et tempore quo  
*an easy pregnancy and a favorable delivery, and at the time in which*  
 decet, copiosam secretionem boni lactis. Præterea, est (proprium)  
*it becometh, a copious secretion of good milk. Moreover, it is the part*  
 sani et validi corporis utriusque sexûs probe functum esse, non  
*of a healthy and strong body of both sex properly to have discharged, not*

midum, et lingua nitida, non vero nimis rubra; et cibi appetitus magnus, nulla condimentorum ope egens, et sitis modica, et concoctio omnis escæ facilis et bona, sine ructu aut ventriculo ullo modo gravato; et excretio per alvum naturalis, quotidiana, et urina justum tempus facile retenta, et cum demum sit, facile reddita; et quamvis varii coloris et crassitudinis et copię (pro ratione cibi potusque) sedimentum idoneum suo tempore deponens; quo tardius, eo fere melius; et exhalatio per cutem libera et constans, citra vero sudorem nisi validæ causæ concurrant; et secretiones internæ pariter constantes et liberæ, neque

nimis neque nimis parcæ.—Sani denique hominis est venerem appetere, et ad eam valere et sobolem procreare.—Fœminis vero sanitas quædam singularis et propria est, quippe quæ partes quasdam habeant, muneribusque fungantur a virilibus multum diversis. Harum, igitur, inter sanitatis signa notare oportet æquabilem et liberum mensium fluxum, neque nimium neque nimis parcum; et graviditatem felicem, et partum facilem, et quo decet tempore, copiosam boni lactis secretionem.—Præterea, sani et validi corporis utriusque sexûs est, non modo suis, nihil impediens, profectum esse muneribus, sed, tenacis prosperis

modo suis muneribus, nihil impediēte, sed tenacis (corporis)  
*only their own duties, nothing hindering, but tenacious*  
 suæ prosperæ valetudinis, accommodasse esse multis varietatibus  
*of its own good health, to have accommodated itself to the many varieties*  
 cœli, victus, generis vitæ, et sic tolerasse impunè plurimas  
*of climate, of diet, of kind of life, and thus to have borne with impunity the many*  
 causas morborum, quales vel prorsus fregissent minus  
*causes of diseases, such as either (would have) entirely broken down a less*  
 firmum aut sanum corpus, vel saltem perduxissent in grave  
*strong or healthy body, or at least would have brought it into great*  
 discrimen valetudinis. Postremo, sanitas est non prorsus eadem  
*danger of disease. Finally, health is not altogether (precisely) the same*  
 eidem homini quamvis semper sanissimo. Enim plurimæ et  
*to the same man although always very healthy. For very many and*  
 gravissimæ varietates corporis pendent omnino ab ætate: nec  
*very weighty changes of body depend altogether upon the age: nor*  
 quisquam hominum differt tantum ab aliis (hominibus) ejusdem  
*does any one of men differ so much from others of the same*  
 ætatis, quantum discrepat a seipso variis temporibus vitæ;  
*age, as he differs from himself at the various periods of life;*  
 sive spectemus formam, sive vires corporis, sive dotes  
*whether we look to the figure, or the strength of the body, or the endowments*  
 animi, sive demum perscrutemur intima penetralia corporis que  
*of the mind, or lastly we search into the inmost recesses of the body and*  
 munera pendentia ab iis; quo fit ut valetudo perfectissima  
*the functions depending upon them; whence it happens that health the most perfect*  
 quam, quæ perduxit corpus primo parvum et tenerum ad suum  
*possible, which brought the body at first small and tender to its own*  
 vigorem et perfectionem, et sustinuit diu in hoc statu,  
*vigour and perfection, and supported it a long time in this state,*  
 paulatim minuat idem (corpus,) et tandem perducit ad finem;  
*by degrees reduces the same and at length brings it to an end;*  
 nam "Nascentes morimur, que finis pendet ab origine."  
*for Born we die, and the end depends upon the beginning.*  
 20. Cognitio, harum rerum, quæ omnes pertinent ad sanum  
*The knowledge of these things, which all belong to the healthy*  
 corpus, vocatur Physiologia humani corporis.  
*body, is called the Physiology of the human body.*  
 21. Verum enimvero homo nascitur, crescit, viget, senescit, moritur, non  
*But truly man is born, grows, flourishes, grows old, dies, not*  
 modo certo tempore, secundum leges Naturæ, sed quoque  
*only at a certain time, according to the laws of Nature, but also*

que valetudinis, multis, cœli, victus, vitæ ge-  
 neris, varietatibus semet accommodasse, et sic  
 plurimas morborum causas impune tolerasse,  
 quales minus firmum aut sanum corpus vel  
 prorsus fregissent, vel saltem in grave valetu-  
 dinis discrimen perduxissent. — Postremo,  
 sanitas eidem homini quamvis semper sanissimo  
 non prorsus eadem est. Plurimæ enim et gra-  
 vissimæ varietates corporis ab ætate omnino  
 pendent: nec quisquam hominum ab aliis  
 ejusdem ætatis tantum differt, quantum variis  
 vitæ temporibus a se ipso discrepat; sive for-  
 mam spectemus, sive corporis vires, sive animi  
 dotes, sive demum intima corporis penetralia

muneraque ab iis pendentia perscrutemur. Quo  
 fit, ut valetudo quam perfectissima, quæ corpus  
 parvum et tenerum ad suum vigorem et perfec-  
 tionem primo perduxit, et diu in hoc statu sus-  
 tinuit, idem paulatim minuat, et tandem ad  
 finem perducit; nam  
 "Nascentes morimur, finisque ab origine pendet."  
 20. Harum rerum, quæ omnes ad sanum  
 corpus pertinent, cognitio, Physiologia corporis  
 humani vocatur.  
 21. Verum enimvero, homo, non modo certo,  
 secundum Naturæ leges, tempore nascitur,  
 crescit, viget, senescit, moritur; sed variis

fit obnoxius variis prope innumeris morbis; qui corruptant  
*becomes liable to various, almost innumerable diseases; which corrupt*  
 formam quamvis pulchram, frangant vires, impediunt singulas  
*the form however beautiful, break down the strength, hinder the individual*  
 actiones corporis, sæpe excrucient corpus gravibus doloribus; neque  
*actions of the body, often torture the body with severe pains; nor*  
 ipsi pepererint "particulæ Divinæ auræ."  
*will they spare "the particle of Divine air."*

22. Alii (morbi) horum (morborum) adoriuntur infantem fere nascentem,  
*Some of these attack the infant just born,*  
 nec-raro extinguunt; alii invadunt potius juvenem fidem  
*not unfrequently destroy it; others seize rather the youth trusting*  
 viribus, nunc rapiunt citâ morte, nunc consumunt  
*to his strength, one time hurry him off, by a quick death, at another consume him*  
 lentâ tabe; dum alii magis obsident semitam labentis ætatis,  
*by slow wasting; whilst others rather beset the path of declining age,*  
 quâ (ætate) facilius opprimant corpus debile, exhaustum,  
*in which they more easily oppress the body weak, exhausted,*  
 impar prælio, vel si non statim oppresserint, macerent  
*unequal to the combat, or if they should not immediately (have) crush it, waste it*  
 longâ valetudine, donec vita tandem prorsus inops et miseranda,  
*by long disease, until life at length altogether helpless and wretched,*  
 commutetur cum optandâ morte.  
*is exchanged with wished-for death.*

23. Oportet causas tot, que tam variorum que gravius  
*It behoves that the causes of so many, and of such various and severe*  
 morborum esse multas: scientia naturæ, et sedis, et effectuum  
*diseases be many; the knowledge of the nature, and seat, and effects*  
 quarum (causarum) et modi quò afficiant humanum corpus  
*of which and of the manner in which they affect the human body*  
 vocatur Pathologia. Vero hæc est vel generalis vel specialis; principia  
*is called Pathology. But this is either general or special; the principle*  
 prioris quarum tantum traduntur hic.  
*of the former of which only are treated of here.*

24. Morbus adest, quum corpus deflexerit tantum a sano  
*Disease is present, when the body has deviated so far from the health*  
 statu, ut solitæ actiones vel impediuntur prorsus, ut  
*state, that the usual actions either are impeded altogether, or*  
 perficiantur ægre aut cum dolore. Tunc homo dicitur ægrotare  
*are performed difficultly or with pain. Then a man is said to be sick*  
 Sua vitia possunt accidere unicuique parti corporis, tam  
*Their own disorders may happen to every part of the body, as we*

quoque, prope innumeris, morbis obnoxius fit, qui formam quamvis pulchram corruptant, vires frangant, singulas corporis actiones impediunt, corpus sæpe gravibus doloribus excrucient, neque ipsi pepererint "Divinæ particulæ auræ."

22. Horum alii infantem, fere nascentem, adoriuntur, nec raro extinguunt. Alii juvenem viribus fidem potius invadunt, nunc citâ morte rapiunt, nunc lentâ tabe consumunt; dum alii labentis ætatis semitam magis obsident, quâ debile, exhaustum, prælio impar, facilius opprimunt, vel, si non statim oppresserint, longâ valetudine macerent, donec

tandem vita prorsus inops et miseranda cum optandâ morte commutetur.

23. Tot tanque variorum graviumque morborum multas oportet esse causas; quarum naturæ et sedis et effectuum, et modi quo corpus humanum afficiant, scientia, Pathologia vocatur. Hæc vero est vel generalis vel specialis; quarum prioris tantum hic traduntur principia.

24. Morbus adest, quum corpus tantum a sano deflexerit, ut solitæ actiones vel prorsus impediuntur vel ægre aut cum dolore perficiantur. Tunc dicitur homo ægrotare. — Unicuique corporis parti, tam fluidæ quam solidæ unicuique functioni, sua accidere possunt vitia

fluidæ quam solidæ, unicuique functioni. Vero hæc occurrunt vel singula, *fluid as solid, to every function. But these occur either single,* (sc. vitia) vel plura juncta simul. Hinc simplices vel compositi morbi. *or several joined together. Hence simple or compound diseases.*

25. Exemplum simplicissimi (sc. morbi) erit si quælibet partes *An example of the most simple will be, if any parts*

corporis, ruptæ, vel læsæ quivis alio modo factæ fuerint *of the body, broken, or injured in any other manner shall have become*

minus idoneæ propriis muneribus: aut si, fabricâ singularum *less fitted for their proper functions: or if, the structure of the individual*

artium omnino salvâ, ipsæ, (sc. partes,) sive solidæ sive *parts being entirely sound, they themselves, whether solid or*

fluidæ, aberraverint a sano statu: veluti si, propriis *fluid, (shall) have deviated from the healthy condition: as if, their own*

dotibus amissis vel corruptis, adeptæ sint sibi *qualities being lost or corrupted, they (should) have acquired to themselves*

alias, et fortasse noxias (sc. dotes); vel denique si moventes vires *others, and perhaps noxious ones; or lastly if the moving powers*

fuerint vel nimix, vel nimis parvæ, aut directæ contra normam *would be either too great, or too small, or directed against the law*

Naturæ.

*Nature.*

26. Vero rarissime spectamus morbos hujusmodi, fere *But very seldom do we see diseases of this kind, for the most part*

attingimus acie solâ mentis: quippe nimirum etiam *we comprehend them by the capacity alone of the mind: for doubtless even*

simplicissimi gignant alios, sive morbos, sive indicia seu symp- *the most simple engender others, whether diseases, or the signs or symp-*

tomata morborum, et dignoscantur his solis. Symptomata vel *ptoms of diseases, and are distinguished by these alone. The symptoms or*

indicia morbi sunt singulæ res quæ observantur præter *signs of disease are the particular things which are observed beyond*

naturam in ægro; vero præcipua, evidentissima, constantissima *nature (unnatural) in the sick; but the chief, most evident, most constant*

eorum faciunt, definiunt, morbum, alia producentia alia, prima *them constitute, define, the disease, some producing others, the first*

provenientia ab causâ ipsâ morbi. *proceeding from the cause itself of the disease.*

27. Profecto varia et prope innumera signa morborum *Truly various and almost innumerable signs of diseases*

observantur in ægris, notitia quorum (sc. signorum) erit *observed in the sick, the knowledge of which will be*

ægro vero vel singula occurrunt vel plura simul  
facta. Hinc morbi simplices vel compositi.  
25. Smplicissimi exemplum erit, si quælibet  
partes ruptæ, vel quivis alio modo  
læsæ, propriis muneribus minus idoneæ factæ  
fuerint: aut si, salva omnino singularum par-  
tem fabrica, ipsæ, sive solidæ sive fluidæ, a  
sano aberraverint: veluti si, propriis  
dotibus vel corruptis dotibus, alias et fortasse  
noxias sibi adeptæ sint; vel denique si vires  
moventes, aut nimix, aut nimis parvæ fuerint,  
et contra Naturæ normam directæ.

26. Hujusmodi vero morbos rarissime specta-  
mus, fere sola mentis acie attingimus; quippe  
nimirum simplicissimi etiam, alios sive morbos,  
sive morborum indicia seu symptomata gignant,  
et his solis dignoscantur. Symptomata vel  
morbi indicia sunt singulæ quæ in ægro præter  
naturam observantur res; illorum vero præ-  
cipua, evidentissima, constantissima, morbum  
faciunt, definiunt; alia alia producentia, prima  
ab ipsa morbi causa provenienteia.

27. Varia profecto et prope innumera in ægris  
observantur morborum signa, quorum notitia,

imprimis utilis facientibus medicinam, tum ad cognoscendos, tum  
*especially useful to those practising medicine, as well to know, as*  
 quoque ad sanandos vel levandos morbos. Vero immensa varietas  
*also to cure or relieve diseases. But the immense variety*  
 talium signorum solet referri, haud ineptè, ad tria genera  
*of such symptoms is accustomed to be referred, not inaptly, to three kinds*  
 seu capita; scilicet, (suband. ad) impeditas functiones, sensus, sive  
*or heads; that is to say, impeded functions, sensations, or*  
 molestas perceptiones, et specimen que alias manifestas qualitates  
*troublesome perceptions, and the appearance and other manifest qualities*  
 corporis, vel quæ percipiuntur sensibus, mutatas aut vitiatas.  
*of the body, or which are perceived by the senses, being changed or vitiated.*  
 Nimirum omnis morbus consistit in aliquâ læsâ functione: vero fere  
*Doubtless every disease consists in some injured function: but commonly*  
 nulla (functio) harum potest lædi vel impediri, quin brevi  
*no one of these can be injured or impeded, but that quickly*  
 facessat quandam molestiam ægro, quâ (sc. molestia) sciat  
*it causes some trouble to the sick, by which he may know*  
 se habere (se) male. Nec fere potest quisquam  
*that he finds himself badly, (ill.) Nor generally can any one*  
 ægrotare diu quin species et forma corporis, et  
*be sick a long time but that the appearance and form of the body, and*  
 decens color vultûs, quæ solent contingere prosperæ  
*the becoming colour of the countenance, which are accustomed to belong to good*  
 valetudini, que depingere eandem (sc. valetudinem) tam pulchrè,  
*health, and to depict the same so beautifully,*  
 corrumpantur plus ve minus.  
*are corrupted more or less.*

28. Igitur inter indicia adversæ valetudinis, signa  
*Therefore amongst the indications of bad health, the signa*  
 læsarum animalium functionum sunt notanda imprimis  
*of the injured animal functions are to be noted in the first place*  
 medico; scilicet, indicia sensûs, que voluntarij  
*by the physician; that is to say, the symptoms of sensation, and of voluntary*  
 motûs, habentium se malè. Enim singuli externi sensu  
*motion, having themselves ill. For the individual external sense*  
 possunt vitari variis modis, et revera sæpe vitantur;  
*may be vitiated in various ways, and truly often are vitiated*  
 nempe aut deficiunt et torpent, aut fiunt nimis acuti, ne  
*for example either they fail and grow torpid, or they become too acute, no*  
 exercendi sine molestiâ, aut fiunt abnormes et depravantur  
*to be exercised without trouble, or they become irregular and are depraved*

tum ad cognoscendos, tum quoque ad sanandos vel levandos morbos, medicinam facientibus imprimis utilis erit. Immensa vero talium signorum varietas haud inepte ad tria genera seu capita referri solet; functiones, scilicet, impeditas; sensus sive perceptiones molestas; et speciem aliasque corporis qualitates manifestas, vel quæ sensibus percipiuntur, mutatas aut vitiatas. Omnis nimirum morbus in læsa aliqua functione maxime consistit (24); harum vero nulla fere lædi vel impediri potest, quin brevi molestiam quandam ægro facessat, qua sciat se male habere. Nec quisquam fere diu

ægrotare potest, quin species et forma corporis et vultus color decens, quæ prosperæ valetudini contingere solent, eandemque tam pulchrè depingere (19) plus minusve corrumpantur.

28. Medico, igitur, inter adversæ valetudinis indicia imprimis notanda sunt læsarum functionum animalium signa; sensus, scilicet motusque voluntarii male se habentium indicia. Singuli enim sensus externi variis possunt vitari modis, et revera sæpe vitantur; nempe aut deficiunt et torpent, aut nimis acuti fiunt nec sine molestia exercendi, aut abnormes fiunt et depravantur. Sensus porro interni sæpe

Porro interni sensus sæpe afficiuntur a morbis: vero affectiones  
*Moreover the internal senses often are affected by diseases: but affections*  
 omnium sensuum hujusmodi vindicant sibi optimo jure  
*of all of the senses of this kind claim to themselves by the best right*  
 attentionem medici, non modo quatenus ipsæ, (scil. affectiones,)  
*the attention of the physician, not only inasmuch as they themselves*

interdum fiant morbi haud levis momenti, sed quantum  
*sometimes become diseases of no slight moment, but so far as*  
 sæpe ostendant quam optime naturam et augmentum vel  
*they often shew in the best possible way the nature and increase or*  
 remissionem aliorum que graviorum morborum.  
*remission of other and more severe diseases.*

29. Ratio est par cur semper respiciendum sit ad  
*The reason is equal why we always ought to look to*  
 conditionem, et læsiones facultatis movendi; sive illa defecerit  
*the condition, and lesions of the power of moving; whether it shall have failed*  
 ut solet in fere omnibus morbis, quod vocatur debilitas,  
*as is accustomed in almost all diseases, which is called debility,*  
 vel fuerit perdita, ut in paralyssi; vel intensa præter  
*or (shall) have been destroyed, as in paralysis; or stretched beyond*  
 naturam, quod nonnunquam accidit in quibusdam affectionibus cerebri;  
*nature, which sometimes happens in certain affections of the brain;*  
 sive demum fuerit abnormis, veluti in convulsionibus que aliis  
*or finally it shall be irregular, as in convulsions and other*  
 similibus morbis.  
*similar diseases.*

30. Neque sane debet conditio ægri quod ad somnum (pertinet)  
*Nor truly ought the condition of the sick, as to sleep*  
 negligi: qui, sive ipse (somnus) sit habendus pro functione  
*to be neglected: which, whether itself is to be considered as a function*  
 corporis sive tantum pro vacatione ab aliis functionibus,  
*of the body or only as an intermission from the other functions,*  
 habet suum naturalem modum et consentaneum legibus sanitatis,  
*has its own natural mode and agreeable to the laws of health,*  
 qui modus solet turbari haud parum in plerisque  
*which mode is accustomed to be disturbed not a little in most*  
 morbis; ita ut sit vel nullus, vel nimius somnus, vel  
*diseases; so that there is either none, or too much sleep, or*  
 interruptus, vel terrificus diris somniis; neque somnus,  
*interrupted, or frightful with terrible dreams; nor does the sleep,*  
 qui fuerit, recreet ægrum ut decet.  
*which has been, refresh the sick as it ought.*

morbis afficiuntur. Hujusmodi vero omnium sensuum affectiones medici attentionem optimo jure sibi vindicant, quatenus non modo ipsæ haud levis momenti morbi interdum fiant, sed quantum naturam et augmentum vel remissionem aliorum graviorumque morborum sæpe quam optime ostendant.

29. Par ratio est cur ad conditionem et læsiones facultatis movendi semper sit respiciendum; sive illa defecerit, ut in omnibus fere morbis solet, quod debilitas vocatur; vel perdita fuerit, ut in paralyssi; vel præter naturam intensa, quod in quibusdam cerebri

affectionibus nonnunquam accidit; sive demum abnormis fuerit, veluti in convulsionibus aliisque similibus morbis.

30. Neque sane ægri conditio quod ad somnum negligi debet: qui, sive ipse pro functione corporis, sive tantum pro vacatione ab aliis functionibus habendus sit, modum suum naturalem et sanitatis legibus consentaneum habet, qui modus in plerisque morbis haud parum turbari solet; ita ut somnus vel nullus sit, vel nimius, vel interruptus, vel diris somniis terrificus; neque somnus qui fuerit ægrum ut decet recreet.

31. Autem signa vitalium functionum læsarum vel habentium  
*But the signs of the vital functions being injured or having*  
 se male sunt adhuc majoris momenti; scilicet quæ non  
*themselves ill are still of greater moment; to wit which not*  
 modo bene ostendant naturam morbi, et statum ægri,  
*only clearly shew the nature of the disease, and state of the sick,*  
 sed non careant suo periculo quoque, saltem si fuerint  
*but do not want their own danger also, at least if they should be*  
 vehementiora. Hujusmodi sunt omnes varietates pulsuum (sc. venarum)  
*more violent. Of this kind are all varieties of the pulsations*  
 quæ nimirum ostendant aut motum sanguinis deficere, aut  
*which doubtless shew either that the motion of the blood is failing, or*  
 esse nimium, aut abnormem, veluti in febris, inflammationibus,  
*is too much, or irregular, as in fevers, inflammations,*  
 defectionibus animi.  
*faintings.*

32. Morbidæ affectiones spiritûs tenent, non immerito, proximum  
*The morbid affections of the breath hold, not undeservedly, the next*  
 locum his, veluti omnis velocitas aut insolita tarditas  
*place to these, as every velocity or unaccustomed slowness*  
 spirandi, aut quævis difficultas, aut tussis, sternutatio, suspirium, et  
*of breathing, or any difficulty, or cough, sneezing, sighing, and*  
 similia; quibus fortasse licet (sc. nobis) adjicere varias affectiones  
*the like; to which perhaps we may add the various affections*  
 vocis, quamvis hæc profecto pertineant potius ad primum genus.  
*of the voice, although these truly belong rather to the first kind.*

33. Porro signa læsarum naturalium actionum sunt sedulo  
*Moreover the signs of the injured natural actions are carefully*  
 observanda; scilicet, defectus, excessus, depravatio, quævis insolita  
*to be observed; that is to say, defect, excess, depravation, any unusual*  
 conditio famis aut sitis; varia vitia actionis mandendi,  
*condition of hunger or thirst; the various disorders of the action of chewing,*  
 et devorandi, et concoctionis; et status alvi, vel astrictæ  
*and of swallowing, and of digestion; and the state of the belly, either bound*  
 præter naturam, vel nimis solutæ: excessus, defectus,  
*beyond nature (unnaturally), or too relaxed: excess, deficiency,*  
 difficultas, depravatio et secretionum, et, quæ cadunt magis sub  
*difficulty, depravation both of the secretions, and, which fall more under*  
 nostris sensibus, excretionum, præsertim urinæ et sudoris. Neque  
*our senses, of the excretions, especially of the urine and sweat. Nor*

31. Signa autem læsarum vel male se habentium functionum vitalium majoris adhuc momenti sunt; scilicet quæ non modo morbi naturam et ægri statum bene ostendant, sed suo quoque periculo, vehementiora saltem si fuerint, non careant. Hujusmodi sunt omnes pulsuum varietates, nimirum quæ ostendunt aut deficere sanguinis motum, aut nimium, aut abnormem esse, veluti in febris, inflammationibus, animi defectionibus.

32. Proximum his locum tenent non immerito spiritus affectiones morbidæ, veluti omnis spirandi velocitas aut tarditas insolita, aut difficultas quævis, aut tussis, sternutatio, suspirium et similia; quibus fortasse adjicere licet

varias vocis affectiones, quamvis profecto hæc potius ad primum (29) genus pertineant.

33. Porro signa læsarum actionum naturalium (9) sedulo observanda sunt; fumis, scilicet, aut sitis defectus, excessus, depravatio, conditio quævis insolita; actionis mandendi et devorandi et concoctionis varia vitia; et alvi status vel astrictæ præter naturam vel nimis solutæ; et secretionum, et quæ magis sub nostris sensibus cadunt excretionum, præsertim urinæ et sudoris excessus, defectus, difficultas, depravatio.—Neque sane negligendæ sunt læsiones functionum utriusque sexui, muliebri imprimis, propriarum.



sane sunt læsiones functionum propriarum utriusque sexui, imprimis  
*truly are lesions of the functions peculiar to both sex, especially*  
 muliebri, negligendæ.  
*the female, to be neglected.*

34. Quod pertinet ad ingratos vel molestos sensus;  
*What belongs to (as regards) unpleasant or troublesome sensations;*  
 observantur frequentissimi comites et signa morborum; pauci  
*they are observed the most frequent companions and signs of diseases; few*  
 quorum carent saltem aliquâ molestiâ. Enim non aliter ac  
*of which want at least some trouble. For not otherwise than as (just as)*  
 sanus (scil. homo) facile fungitur suis plerisque muneribus, nec  
*a healthy man easily performs his several functions, nor*  
 sine quâdam voluptate; sic æger, his impeditis, dolet,  
*without some pleasure; so the sick, these being impeded, is in pain,*  
 angitur, que afficitur variis molestiis. Igitur ad hoc caput dolor,  
*is grieved, and is affected with various troubles. Therefore to this head pain,*  
 anxietas, pruritus, que sensus lassitudinis, torporis, stuporis, caloris,  
*anxiety, itching, and a sense of lassitude, of torpor, of stupor, of heat,*  
 frigoris, ponderis partinent, et forsitan bene multi alii ingrati  
*of cold, of weight belong, and perhaps very many other unpleasant*  
 sensus, nausea, vertigo, tinnitus, &c. quos placuit medicos  
*sensations, nausea, giddiness, ringing, &c. which it has pleased physicians*  
 relegare alio (capit? adv.?) tanta est vis et molestia omnium  
*to refer to another (head elsewhere): so great is the force and trouble of all*  
 quorum ut sæpe efficiant magnam partem morbi, et miserrime  
*of which that often they form a great part of the disease, and most miserably*  
 agitent, fatigent, torqueant, terreant ægros, tandem evasuri terribiliores  
*agitate, weary, torture, terrify the sick, at length to become more terrible*  
 morte ipsâ: neque profecto tales molesti sensus, qualescunque  
*than death itself: nor truly do such troublesome sensations, whatever*  
 fuerint causæ eorum, semper carent aliquo periculo.  
*have been the causes of them, always want some danger.*

35. Ad tertium genus morbidorum signorum nimirum manifestas  
*To the third kind of morbid signs, namely the manifest*  
 vitiatas qualitates corporis, referuntur omnes res observandæ  
*vitiated qualities of the body, are referred all things to be observed,*  
 præter naturam in ægro, neque pertinentes ad alia genera,  
*beyond nature (unnatural) in the sick, and not belonging to the other kinds,*  
 de quibus firmus certiores nostris sensibus, non dictis  
*about which we become more certain by our own senses, not by the words*  
 aut querelis ægri. Cujusmodi sunt, color corporis,  
*(statements) or complaints of the sick. Of which sort are, the colour of the body,*

34. Quod ad sensus ingratos vel molestos (27) pertinet; frequentissimi morborum comites et signa observantur; quorum pauci aliqui saltem molestia carent. Non aliter enim ac sanus suis facile, nec sine voluptate quadam, plerisque fungitur muneribus; sic æger, his impeditis, dolet, angitur variisque molestiis afficitur. Igitur ad hoc caput pertinent, dolor, anxietas, pruritus, sensusque lassitudinis, torporis, stuporis, caloris, frigoris, ponderis, et alii forsitan bene multi sensus ingrati, nausen, vertigo, tinnitus, &c. quos medicis alio relegare placuit; quorum omnium tanta vis et

molestia est, ut magnam sæpe morbi partem efficiant, et ægros miserrime agitent, fatigent, torqueant, terreant, tandem morte ipsa terribiliores evasuri. Neque profecto periculo aliquo semper carent tales sensus molesti, qualescunque fuerint eorum causæ.

35. Ad tertium genus signorum morbidorum (27), corporis nimirum qualitates manifestas vitiatas, referuntur res omnes in ægro præter naturam observandæ, neque ad alia genera pertinentes, de quibus nostris sensibus, non ægri dictis aut querelis, certiores firmus. Cujusmodi sunt, color corporis et præsertim vultus viti-

et præsertim vultûs, vitiatus, et præter solitum pallidus, ruber, and especially of the countenance, vitiated, and unusually pale, red, flavus, fuscus, lividus, varians; quoque peculiaris aspectus vultûs, yellow, brown, livid, changeable; also a peculiar aspect of countenance, ab actione musculorum aut motu sanguinis et sæpe pendens from the action of the muscles or motion of the blood and often depending a stau animi, que describendus nullis verbis, qui tamen on the state of the mind, and to be described by no words, which notwithstanding depingit mellus et certius omni sermone conditionem pourtrays better and more certainly than all verbal description the condition ægri, quod (sc. pertinet) ad vires vitæ, et levamen aut of the sick, as to the powers of life, and the alleviation or augmentum morbi, nunquam negligendus (scil. pecul. aspectus); the increase of the disease, never ought to be neglected;

imprimis variæ conditiones oculorum, languor et hebetudo aut in the first place the various conditions of the eyes, languor and dullness or rubor, aut splendor, aut insolita ferocitas que præter solitum redness, or brightness, or unaccustomed fierceness and unusual distortio eorum et aliæ morbidæ species, veluti si excavati sunt, distortion of them and other morbid appearances, as if they were excavated, vel alter vel uterque clauditur, vel alter non ita solitus apparet or one or both is shut, or one not so accustomed appears major altero. Quoque conditiones oris et præsertim linguæ, larger than the other. Also the conditions of the mouth and especially of the tongue, rubræ, albidæ, sordidæ, nigricantis, aridæ (singulis "linguæ" subauditur), (being) red, whitish, sordid, becoming blackish, dry, quæ (sc. conditiones linguæ) præsentés demonstrant morbum, decedentes, which present evidently prove disease, going away, aut versæ in melius, sæpe ostendunt eundem (sc. morbum) decedentem. or turned for the better, often shew the same going off.

Quin et varii morbidi odores aliquando detegunt naturam morbi Moreover various morbid odours sometimes detect the nature of the disease et ideo merentur observari: scilicet, insolitus odor sive and on that account deserve to be observed: that is to say, an unusual odour or fætor halitus pulmonis vel cutis, vel singularum excretionum, fetor of the exhalation of the lungs or skin, or of the individual excretions, vel universi corporis, vel cuiusvis partis ejus (corporis) veluti in or of the whole body, or of any part of it as in carcinomate, variola, putridis morbis. Quoque multæ carcinoma (cancer), variola (small-pox), putrid diseases. Also many vitiatæ qualitates corporis, quæ maxime percipiuntur tactu, vitiated qualities of the body, which for the most part are perceived by the touch,

atus, et præter solitum pallidus, ruber, flavus, fuscus, lividus, varians; peculiaris quoque vultus aspectus, ab actione musculorum, aut motu sanguinis, et sæpe a statu animi pendens, nullisque describendus verbis, qui tamen ægri conditionem, quod ad vires vitæ, et morbi levamen aut augmentum, omni sermone melius et certius depingit, nunquam negligendus: Variæ imprimis oculorum conditiones, languor et hebetudo, aut rubor, aut splendor, aut ferocitas insolita, eorumque præter solitum distortio, et aliæ species morbidæ, veluti si excavati sunt, vel alter vel uterque clauditur, vel alter altero major apparet non ita solitus

Sedulo quoque observandæ sunt oris et præsertim linguæ conditiones, rubræ, albidæ, sordidæ, nigricantis, aridæ, quæ præsentés morbum demonstrant; decedentes aut in melius versæ, eundem decedentem sæpe ostendunt. Quin et odores varii morbidi naturam morbi aliquando detegunt, et ideo observari merentur: odor, scilicet, sive fætor insolitus halitus pulmonis vel cutis, vel excretionum singularum, vel universi corporis, vel partis ejus cuiusvis, veluti in carcinomate, variola, morbis putridis. Multæ quoque, quæ tactu maxime percipiuntur, qualitates corporis vitiatæ, calor, frigus, durities, vel rigiditas, mollities, humiditas, sic-

calor, frigus, durities, vel rigiditas, mollities, humiditas, siccitas, crassitudo, heat, cold, hardness, or stiffness, softness, moistness, dryness, thickness, tenuitas, tumor, macies vel universi corporis, vel singularum thinness, tumour, emaciation either of the entire body, or of particular partium, debent observari cum omni cura. Autem eo magis decet parts, ought to be observed with every care. But the more does it become us attendere ad vitia manifestarum qualitatum corporis hujusmodi, quia to attend to derangements of the manifest qualities of the body of this sort, because observantur facile, et sint minime fallacia, neque possit they can be observed easily, and are not at all deceptive, nor can æger celare ea medicum, neque, ut medicus intelligat the sick conceal them from the physician, nor, that the physician may understand rem, sit opus multis interrogationibus, quæ (scilicet interrogationes) the thing, is there need of many interrogations, which sæpe sunt ad modum ingrata. often are very unpleasant.

36. Causa dicitur multifariam apud medicos cum disserunt de Cause is named variously by physicians when they treat of morbis; et profecto sensu aliquantum diverso ab eo quo diseases; and truly in a sense somewhat different from that in which hoc vocabulum solet usurpari vel in scriptis philosophorum, this word is accustomed to be used either in the writings of philosophers, vel in communi sermone hominum: igitur oportet unumquemque or in the common conversation of men: therefore it behoves every one incumbentem studio medicinæ scire varios medicos sensus applying himself to the study of medicine to know the various medical significations vocabuli causæ, vel saltem usitatissimos, (scilicet sensus.) of the word cause, or at least the most common ones.

37. Imprimis medici distinguunt causas morbi in In the first place physicians divide the causes of disease into proximam et remotas; remotas iterum in prædisponentes et occasionales proximate and remote; the remote again into predisposing and occasional vel excitantes vel nocentes potentias. or exciting or noxious powers (agents.)

38. Proxima causa, ut medici scriptores definiunt (eam), est illa The proximate cause, as medical writers define (it), is that quæ præsens facit morbum, sublata tollit, mutata mutat. which present causes the disease, removed removes it, changed changes it.

39. Prædisponens causa est illa quæ reddit corpus tantum The predisposing cause is that which renders the body only

citata, crassitudo, tenuitas, tumor, macies, vel universi corporis vel partium singularum, omni cura observari debent. Ad hujusmodi autem qualitatum manifestarum corporis vitia eo magis attendere decet, quia facile observantur, et minime fallacia sint, neque æger ea medicum celare possit, neque, ut rem intelligat medicus, multis, quæ sæpe admodum ingrata sunt, opus sit interrogationibus.

36. Causa multifariam dicitur apud medicos cum de morbis disserunt; et sensu profecto aliquantum diverso ab eo quo hoc vocabulum usurpari solet, vel in scriptis philosophorum, vel in communi hominum sermone. Varios,

igitur, medicos sensus vocabuli causæ, vel usitatissimos saltem, unumquemque medicinæ studio incumbentem scire oportet.

37. Distinguunt imprimis medici morbi causas in proximam et remotas; remotas iterum in prædisponentes, et occasionales vel excitantes vel potentias nocentes.

38. Causa proxima, ut definiunt scriptores medici, est illa quæ præsens morbum facit, sublata tollit, mutata mutat.

39. Causa prædisponens est illa quæ corpus tantum morbo opportunum reddit; scilicet ut admoda causa excitante in morbum incidat.

opportuno morbo, scilicet, ut excitante causâ admotâ,  
*liable to disease, that is, that an exciting cause being applied,*  
 incidat (corpus) in morbum.  
*it may fall into disease.*

40. Demum occasionalis vel excitans causa est ea quæ excitat morbum  
*Lastly, the occasional or exciting cause is that which excites disease*  
 in corpore jam facto proclivi.  
*in the body already made inclined to it (predisposed).*

41. Igitur conditio corporis quæ facit obnoxium morbo est  
*Therefore the condition of the body which renders it liable to disease is*  
 corrigenda; remotæ causæ quæ excitant morbum evitandæ;  
*to be corrected; the remote causes which excite disease to be avoided;*  
 proxima causa morbi tollenda; et singula indicia  
*the proximate cause of disease to be removed; and the individual signs*  
 ejusdem (causæ proximæ) quæ (indicia) sunt maxime molestia mitiganda.  
*of the same which are most troublesome to be mitigated.*

Sic morbi præventur sanantur, levantur.  
*Thus diseases are guarded against, are cured, are relieved.*

42. Remotior causa, quæ facit tantum proclivitatem ad morbos,  
*The more remote cause, which produces only predisposition to diseases,*  
 semper hæret in corpore ipso, licet sæpe duxerit primam  
*always inheres in the body itself, although often it has drawn its first*  
 originem extrinsecus: vero excitans causa potest esse vel intus  
*origin from without: but the exciting cause may be either within*  
 vel extrinsecus. Utrâque concurrente morbus fit, quem neutra sola  
*or from without. Both concurring disease takes place, which neither alone*  
 potest efficere. Enim neque omnis excitans causa morbi facit  
*can effect. For neither does every exciting cause of disease produce*  
 morbum in omni homine; neque omnes qui sunt jam facti  
*disease in every man; nor do all who are already rendered*  
 proclives ad morbos, nullâ excitante causâ admotâ, incidunt in  
*predisposed to diseases, no exciting cause being applied, fall into*  
 morbos.  
*diseases.*

43. Corpus itaque jam factum opportuno morbo, videtur  
*The body therefore already rendered liable to disease, seems*  
 deflexisse nonnihil a sano et perfectissimo statu, licet  
*to have deviated something from the healthy and most perfect state, although*  
 actiones ejus (scil. corporis) nondum adeo impediuntur, ut verus  
*the actions of it are not yet so far impeded, that true*  
 morbus recte dicatur adesse. Vero nonnunquam talis conditio  
*disease can rightly be said to be present. But sometimes such a condition*

40. Causa demum occasionalis vel excitans est ea quæ in corpore jam proclivi facto (39) morbum excitat.

41. Corrigenda, igitur, est corporis conditio quæ morbo obnoxium facit; evitandæ causæ remotæ quæ morbum excitant; tollenda proxima morbi causa; et mitiganda singula ejusdem indicia quæ maxime molesta sunt. Sic morbi præventur, sanantur, levantur.

42. Causa remotior, quæ proclivitatem tantum ad morbos facit, in ipso corpore semper hæret, licet sæpe extrinsecus primam originem

duxerit: causa vero excitans vel intus vel extrinsecus esse potest. Concurrente utraque fit morbus, quem neutra sola efficere potest. Neque enim in omni homine omnis causa morbi excitans morbum facit; neque omnes qui jam ad morbos proclives facti sunt, nulla admotâ causa excitante, in morbos incidunt.

43. Corpus itaque morbo jam factum opportunum, a statu sano et perfectissimo nonnihil deflexisse videtur, licet nondum actiones ejus adeo impediuntur, ut verus morbus recte dicatur adesse (24.) Nonnunquam vero talis corporis

corporis perstans diu ingravescit eo usque, ut sola, nullâ  
*of the body continuing for a long time increases to that height, that it alone, no*  
 excitante causâ adjectâ, faciat justum et manifestum morbum; vel,  
*exciting cause being added, causes complete and manifest disease; or,*  
 ut quidam amant loqui, fiat excitans causa quoque.—Generalis  
*as some like to speak, becomes an exciting cause also. — General*  
 debilitas solidarum partium, que nimia mobilitas solidarum partium,  
*debility of the solid parts, and too great mobility of the solid parts,*  
 quæ, causâ distinctionis, dicuntur vivæ, plenitudo corporis a  
*which, for the sake of distinction, are called living, fulness of body from*  
 nimia abundantia sanguinis, sunt exempla hujusmodi.  
*too great abundance of blood, are examples of this kind.*

44. Nec habet quisquam hominum tam firmam valetudinem, que  
*Nor has any one of men such strong health, and*  
 tantum robur corporis, quin, quibusdam excitantibus causis  
*so much strength of body, but that, certain exciting causes*  
 admotis, incidat in gravissimos morbos. Variola semel,  
*being applied, he may fall into the most severe diseases. Small-pox once,*  
 lues venerea sæpe, inficiunt etiam sanissimos; venena necant; nimium  
*lues venerea often, infect even the most healthy; poisons kill; too much*  
 caloris vel frigoris nocet multimodis.  
*of heat or of cold hurts in many ways.*

45. Excitans causa quoque, quanquam non statim induxerit  
*The exciting cause also, although it have not immediately induced*  
 morbum, si perstiterit diu, corrumpet paulatim constitutionem  
*disease, if it should continue a long time, will break down gradually the constitution*  
 corporis quamvis validissimam, et reddet obnoxiam variis morbis;  
*of the body although the strongest, and will render it liable to various diseases;*  
 scilicet, gignit alteram remotam causam (nempe quæ facit corpus  
*that is to say, it engenders another remote cause (namely which renders the body*  
 obnoxium morbo) vel convertitur in eam. Igitur eadem res  
*liable to disease) or is changed into it. Therefore eadem res*  
 potest esse nunc excitans causa, nunc rursus remotior causa. —  
*may be now an exciting cause, now again a more remote cause.—*  
 Intemperies cæli, desidia, luxus, sunt exempla hujusmodi.  
*The distemper of the atmosphere, sloth, luxury, are examples of this kind.*

46. Porro de his tribus generibus causarum morbi, juvabit  
*Moreover concerning these three kinds of causes of disease, it will benefit*  
 scire, notionem utriusque generis remotarum causarum esse justam,  
*to know, that the notion of both kind of remote causes is correct,*  
 et magui momenti in medicâ re. Enim quamvis medici sæpe  
*and of great moment in medical practice. For although physicians often*

conditio diu perstans eo usque ingravescit, ut sola, nullâ adjecta causa excitante, justum et manifestum morbum faciat; vel, ut quidam loqui amant, causa quoque excitans fiat. Solidarum partium debilitas generalis, partiumque solidarum, quæ, distinctionis causa, vivæ dicuntur, mobilitas nimia, corporis plenitudo, a nimia sanguinis abundantia, hujusmodi exempla sunt.

44. Nec quisquam hominum tam firmam valetudinem tantumque corporis robur habet, quâ, causis quibusdam excitantibus admotis, in gravissimos morbos incidat. Variola semel, lues venerea sæpe, etiam sanissimos inficiunt;

venena necant; caloris vel frigoris nimium multimodis nocet.

45. Causa quoque excitans, quanquam non statim morbum induxerit, si diu perstiterit, constitutionem corporis, quamvis validissimam, paulatim corrumpet, et variis morbis obnoxiam reddet; scilicet alteram causam remotam, nempe quæ corpus morbo opportunum facit, gignit, vel in eam convertitur. Eadem igitur res nunc causa excitans, nunc rursus causa remotior, esse potest.—Cæli intemperies, desidia, luxus, hujusmodi exempla sunt.

46. De his porro tribus generibus causarum morbi, scire juvabit, notionem causarum re-

erraverint haud parum de remotis causis variorum morborum, *have erred not a little concerning the remote causes of various diseases,* cum ausi sunt statuere temere de iis; tamen generales *when they have dared to conclude rashly concerning them; nevertheless the general* notiones de his quæ versarentur ipsis (sc. medicis) in animo *notions concerning them which they turned over with themselves in their mind* fuerunt sanæ; quæ sane remotæ causæ multorum morborum tam *were sound; and truly the remote causes of many diseases as well* prædisponentes quam excitantes, sunt jam satis cognitæ et exploratæ *predisposing as exciting, are now sufficiently known and explored* vel observando vel experiendo et caute *either by observing (observation) or by proving (experience) and by cautiously* ratiocinando: (hæc omnia gerundia pro substantivis ponuntur) quæ notitia *reasoning: (cautious induction) and the knowledge* earum est utilissima medicis. *of them is very useful to physicians.*

47. Vero quod attinet proximam causam, generalis notio ipsa ejus, *But as regards the proximate cause, the general notion itself of it,* si non prorsus falsa, est saltem admodum confusa, et obscura, et *if not altogether false, is at least very confused, and obscure, and* temere abstracta a rebus. Enim medici quærunt, et non *rashly drawn (deduced) from things. For physicians seek, and not* facile inventientes, fingunt sibi aliquid causæ omnis morbi, *easily finding, imagine to themselves something of a cause of every disease,* unde iste morbus oriatur, fere eodem modo, ac variæ *whence that disease arises, almost in the same manner, as the various* mutationes vel effectus, quæ observantur in inanimatis rebus, proveniunt *changes or effects, which are observed in inanimate matter, proceed* a suis causis. Autem in plerisque affectionum, quas solemus *from their causes. But in most of the affections, which we are accustomed* vocare morbos, nihil istiusmodi videtur existere, neque profecto potest existere; *to call diseases, nothing of this sort seems to exist, nor truly can exist;* et talis notio plane oritur a male intellectâ naturâ, *and such a notion evidently arises from the imperfectly understood nature,* tum corporis ipsius, tum quoque morborum qui fiunt in eo *as well of the body itself, as also of the diseases which take place in it.* (corpore). Enim morbus est non unus et simplex eventus vel mutatio, *For disease is not a single and simple event or change,* qualem solemus contemplari in inanimatis rebus et vocare *such as we are accustomed to observe in inanimate things and to call* effectum; sed series, sæpe longa, talium eventuum vel mutationum; *effect; but a series, often a long one, of such events or changes;*

motarum utriusque generis (37) justum esse, et magni momenti in re medica. Quamvis enim medici haud parum sæpe erraverint de causis remotis variorum morborum, cum temere de iis statuere ausi sunt; tamen notiones generales de his quæ ipsis in animo versarentur sanæ fuerunt: multorumque sane morborum causæ remotæ, tam prædisponentes quam excitantes, vel observando, vel experiendo, et caute ratiocinando, jam satis cognitæ sunt et exploratæ; earumque notitia medicis utilissima est.

47. Causam vero proximam quod attinet, ipsa ejus notio generalis, si non prorsus falsa, saltem confusa admodum est, et obscura, et te-

mere a rebus abstracta. Quærunt enim medici, et, non facile inventientes, sibi aliquid causæ omnis morbi, unde iste morbus oriatur, eodem fere modo ac variæ mutationes vel effectus, quæ in rebus inanimatis observantur, a suis causis proveniunt. In plerisque autem affectionum, quas morbos vocare solemus, nihil istiusmodi existere videtur, neque profecto existere potest; et talis notio plane oritur a male intellecta natura, tum corporis ipsius, tum quoque morborum qui in eo fiunt. Morbus enim non est unus et simplex eventus vel mutatio, qualem in rebus inanimatis contemplari solemus et effectum vocare; sed series

quarum aliæ videntur esse causæ aliis. Potest quidem fieri, ut, *of which some seem to be causes to others. It may even happen, that,* unâ vel alterâ harum sublata, tota series vel abrumpatur *one or other of them being removed, the entire series either may be broken* vel brevi desinat, et sic morbus mutetur in sanitatem: sed *or quickly terminate, and thus disease be changed into health: but* hoc est minime perpetuum, neque in omni morbo, neque in fere *this is by no means constant, neither in every disease, nor in almost* quolibet morbo omni tempore (sc. morbi.) Præterea corpus ipsum habet *any disease at every period of it. Besides the body itself has* se longe aliter ac inanimata res quod (attinet) ad mutationes quæ *itself far differently from inanimate matter as to the changes which* fiunt in eo, (sc. corpore) et causas, sive externas sive internas *take place in it, and the causes, whether external or internal,* unde hæ (sc. mutationes) proveniant. Enim aliquod principium mutationis *whence they proceed. For some principle of change* inest vivo corpori, quodammodo simile illi (sc. principio) quod *exists in the living body, in some degree like to that which* observatur in herbis et longe alienum a naturâ inanimatæ *is observed in plants, and far different from the nature of inanimate* materiæ, ægre definiendum, nondum exploratum eâ diligentia et *matter, hardly to be defined, not yet explored with that diligence and* accurate quæ esset par, nominandum haud inepte vitale *accuracy with which it was just, to be named not inappropriately the vital* principium, cui vix minus quam causis vulgò observatis *principle, to which (scarcely) no less than to the causes commonly observed* sunt tribuendæ plurimæ mutationes, tam morbosæ quam salutares *are to be attributed the many changes, as well diseased as healthy* quæ eveniunt corpori. Quum hæc sunt ita poterit non esse *which happen to the body. Since these things are so it will not be* mirum multa commenta medicorum de proximis *wonderful that the many expositions of physicians concerning the proximate* causis variorum morborum, esse prorsus futilia, et non modo falsa sed *causes of various diseases, are altogether futile, and not only false but* adeo confusa et obscura ut possint vix intelligi, neque *so confused and obscure that they can scarcely be understood, nor* fortassæ unquam fuerint satis intellecta ab auctoribus ipsis *perhaps ever were sufficiently understood by the authors themselves* eorum (sc. commentorum.) *of them.*

48. Vero unde (sunt) morbi, vel causæ morborum? Certe  
 But whence diseases, or the causes of diseases? Truly

æpe longa, talium eventuum vel mutationum ;  
 quarum aliæ aliis causæ videntur esse (26).  
 Fieri quidem potest, ut, sublata una alterave  
 earum, tota series vel abrumpatur, vel brevi  
 desinat ; et sic morbus in sanitatem mutetur.  
 Sed hoc minime perpetuum est, neque in omni  
 morbo, neque in quolibet fere morbo omni tem-  
 pore. Præterea, corpus ipsum longe aliter se  
 habet ac res inanimata, quod ad mutationes  
 in eo fiunt, et causas, sive externas sive in-  
 ternas, unde hæc proveniant. Inest enim cor-  
 pori vivo principium aliquod mutationis, simile  
 quodammodo illi quod in herbis observatur,  
 et longe alienum a natura materiæ inanimatæ,

ægre definiendum, nondum ea qua par esset  
 diligentia et accurate exploratum, Vitale  
 Principium haud inepte nominandum, cui vix  
 minus quam causis vulgò observatis tribuendæ  
 sunt plurimæ mutationes, tam morbosæ quam  
 salutares, quæ corpori eveniunt. Hæc quum  
 ita sint, non mirum esse poterit multa medi-  
 corum commenta de causis proximis variorum  
 morborum prorsus futilia esse, et non modo  
 falsa, sed adeo confusa et obscura, ut vix  
 possint intelligi, neque fortassæ ab ipsis  
 eorum auctoribus unquam satis intellecta fue-  
 rint.  
 48. Unde vero morbi, vel morborum causæ ?

imprimis ab ipsâ constitutione animalis machinæ. Ut  
*in the first place from the very constitution of the animal machine. As*  
 vitrum prodit fragile ex officinâ, sic homines nascuntur debiles  
*glass goes forth brittle from the factory, so men are born weak,*  
 caduci, opportuni morbis. Hinc multi morbi, idoneâ excitante  
*perishable, liable to diseases. Hence many diseases, a proper exciting*  
 causâ modo admotâ, communes omnibus. Sed quidam homines præ cæteris  
*cause only being applied, common to all. But some men before others*  
 plectuntur aliis atque aliis morbis: ratio hujûs rei  
*are attacked by other and other (different) diseases: the reason of this thing*  
 (est) multiplex.  
*is manifold.*

49. Ut sanus homo gignit sanam prolem, sic morbosus (homo gignit)  
*As a healthy man begets a healthy offspring, so a diseased man begets*  
 morbosam (sc. prolem). Hinc hæreditarii morbi (qui) transituri in seros  
*a diseased one. Hence hereditary diseases that will pass into remote*  
 nepotes: hoc modo immeriti sæpe luimus delicta  
*grandchildren: in this manner undeserving often we expiate the faults*  
 majorum. Sunt quidam ex his morbis qui produunt sese  
*of our ancestors. There are some of these diseases which betray themselves*  
 aperte primâ ætate; sunt (ii) qui invadunt pariter omnem  
*openly at the earliest age; there are those which attack alike every*  
 ætatem; nec desunt (ii) qui occulti delitescunt usque ad  
*age; nor are there wanting those which concealed lurk quite to*  
 summam senectutem, neque suspecti, que nacti vires paulatim,  
*the ripest old age, nor suspected, and having acquired strength by degrees,*  
 erumpunt gravius, quisque demum suo tempore.  
*break out more severely, each one at length at its own time.*

50. Sunt morbi qui nascuntur cum nobis vel vitia, neque  
*There are diseases which are born with us or defects, nor*  
 tamen congenita: nempe, si, donec fœtus lateret  
*nevertheless congenital: for example, if, whilst the fœtus was lying concealed*  
 in utero, matre forsân incolumi, acceperit aliquid detrimenti  
*in the womb, the mother perhaps being safe, should receive something of hurt*  
 tantum a quovis casu. Sunt forsitan morbi neque nati  
*merely from any accident. There are perhaps diseases neither born*  
 simul neque congeniti, quos infans videatur sxisse  
*at the same time nor congenital, which the infant seems to have sucked in*  
 cum primo lacte nutricis.  
*with the first milk of the nurse.*

51. Porro sunt qui sequuntur et comitantur varios  
*Moreover there are those which pursue and accompany the various*

Certe ab ipsa imprimis machinæ animalis constitutione. Ut vitrum ex officina prodit fragile, sic homines debiles, caduci, morbis opportuni, nascuntur. Hinc multi morbi, causa modo excitante idonea admotâ, omnibus communes. Sed quidam præ cæteris homines aliis atque aliis plectuntur morbis. Hujus rei ratio multiplex.

49. Ut sanus sanam prolem, sic morbosus morbosam gignit. Hinc morbi hæreditarii in seros nepotes transituri. Hoc modo sæpe delicta majorum immeriti luimus. Sunt quidam ex his morbis qui prima ætate sese aperte

produunt; sunt qui omnem ætatem invadunt pariter; nec desunt qui ad summam usque senectutem occulti delitescunt, neque suspecti viresque paulatim nacti, suo quisque demum tempore, gravius erumpunt.

50. Sunt qui nobiscum nascuntur morbi vel vitia, neque tamen congenita: nempe, si, donec in utero lateret, matre forsân incolumi, fœtus tantum a casu quovis aliquid detrimenti acceperit. Sunt forsitan neque simul nati neque congeniti morbi, quos cum prima nutricis lacte infans sxisse videtur.

51. Porro, sunt qui varios ætatis gradus se



gradus ætatis, quisque suum solum; nempe, (ii) qui ducunt  
*periods of age, each one its own alone; for example, those which draw*  
 originem ex iis mutationibus quas (mutationes) corpus subit,  
*their origin from those changes which the body undergoes,*  
 variis ætatibus. Hinc varii morbi infantum, juvenum,  
*at the various ages. Hence the various diseases of infants, of youth,*  
 senum.  
*of old men.*

52. Quin et uterque sexus, præsertim muliebris, (sc. sexus) habet suos  
*But also both sex, especially the female, has its own*  
 morbos, provenientes cum a generali habitu corporis, tum quoque a  
*diseases, proceeding as well from the general habit of body, as also from*  
 speciali fabricâ, et statu, et usu, partium quæ inserviunt  
*the special structure, and state, and use, of the parts which serve for*  
 generationem. Sunt igitur morbi et virorum et fœminarum,  
*generation. There are therefore diseases both of men and of women,*  
 sunt (sc. morbi) virginum, gravidarum, parturientium, lactantium,  
*here are those of virgins, of pregnant, of parturient, of suckling,*  
 vetularum.  
*of old women.*

53. Cælum ipsum sub quo homines degunt, nonnunquam facit  
*The atmosphere itself under which men live, sometimes makes them*  
 ægros (sc. homines). Nimirum unicuique regioni inest suum  
*sick. Doubtless to each particular region there is its own*  
 vitium: sive fuerit calidior justo, sive frigidior, sive varia, que  
*effect: whether it shall be hotter than proper, or colder, or variable, and*  
 obnoxia multis et subitis mutationibus tempestatis.  
*subject to many and sudden changes of weather.*

54. Aer quoque ipse, qui purus alit sacram flammam vitæ, factus  
*The air also itself, which pure feeds the sacred flame of life, become*  
 impurus, potest vel statim extinguere eandem, vel onustus multis  
*impure, can either immediately extinguish the same, or loaded with many*  
 vaporibus, aut corruptus quibusdam nocivis effluviis inducere ingentem cohortem  
*vapours, or corrupted by certain noxious effluvia induce an immense train*  
 morborum.  
*of diseases.*

55. Cibi que potus etiam quibus utimur sæpe corrumpuntur, que  
*The food and drink even which we use often are corrupted, and*  
 interdum inquinantur rebus infestissimis sanitati et vitæ:  
*sometimes are adulterated with things very prejudicial to health and to life:*  
 eodem, (cibi potusque,) quamvis optimi suâ naturâ, sumpti  
*of the same, although the best of their kind, taken*

antur, et suum quisque solum comitantur; nempe, qui ex iis quas corpus, variis ætatibus, mutationibus subit, originem ducunt. Hinc varii infantum, juvenum, senum, morbi.

52. Quin et uterque sexus, præsertim mulieris, suos morbos habet, cum a generali corporis habitu provenientes, tum quoque a fabrica speciali, et statu, et usu, quæ generationem inserviunt partium. Sunt igitur et virorum et fœminarum morbi; sunt virginum, gravidarum, parturientium, lactantium, vetularum.

53. Cælum ipsum, sub quo degunt homines,

nonnunquam ægros facit. Unicuique nimirum regioni suum inest vitium: sive calidior justo, sive frigidior fuerit, sive varia, multisque et subitis tempestatis mutationibus obnoxia.

54. Aer quoque ipse, qui purus sacram vitæ flammam alit, impurus factus, eandem vel statim extinguere potest, vel multis vaporibus onustus, aut nocivis quibusdam effluviis corruptus, ingentem morborum cohortem inducere.

55. Cibi etiam potusque quibus utimur sæpe corrumpuntur, rebusque interdum inquinantur sanitati et vitæ infestissimis: eodem vero,

nimiâ copiâ, serius vel ocyus nocebunt corpori.  
*in too great plenty, later or sooner will hurt the body.*

56. Porro venena existunt, prædita vi adeo lethali, ut  
*Moreover poisons exist, endowed with a power so deadly, that*  
 recepta in corpus vel minimâ quantitate, que vix ac ne  
*received into the body even in the least quantity, and scarcely and not*  
 quidem vix detegenda sensibus, induxerint  
*even scarcely (i. e. scarcely if at all) to be detected by the senses, will bring on*  
 dirissimos morbos, vel fortasse inevitabilem mortem.  
*the most dreadful diseases, or perhaps inevitable death.*

57. Denique homo objicitur innumeris casibus, neque raro  
*Lastly man is exposed to innumerable accidents, nor seldom (often)*  
 maximis periculis, evasurus plerumque quidem incolumis: tamen  
*to the greatest dangers, to escape for the most part indeed safe: nevertheless*  
 sæpe infelix succumbit; sæpe evadit ægre, saucius, contusus,  
*often unfortunate he fails; often he escapes difficultly, wounded, contused,*  
 fractus aut luxatus (secundum) membra; nonnunquam prorsus insanabilis.  
*broken or dislocated as to his limbs; sometimes wholly incurable.*  
 Que casus hujusmodi, quanquam trahant primam originem  
*And accidents of this kind, although they should draw their first origin*  
 a externâ causâ, haud raro desinunt in internos morbos.  
*from an external cause, not seldom (often) terminate in internal diseases.*

58. Omnia hæc extrinsecus, nec minora pericula imminet  
*All these things from without, nor do less dangers hang over him*  
 intus.  
*from within.*

59. Dum homo spirat, fundit venenum lethale sibi que  
*Whilst man breathes, he pours forth a poison deadly to himself and*  
 aliis spirantibus (animalibus.) Neque halitus solus pulmonis  
*other breathing animals. Nor does the exhalation alone of the lungs*  
 adeo nocet; manat et ab omni foramine cutis subtilissima  
*so hurt; there flows also from every pore of the skin a very subtle*  
 materia, venenata fortasse putrescens, quæ collecta diu neque  
*matter, poisonous perhaps putrefying, which collected for a long time, nor*  
 diffusa per auras, et admota denuo corpori, aut iterum  
*diffused through the air, and applied again to the body, or a second time*  
 recepta in id ipsum (sc. corpus), inficit (sc. corpus) gravissimis  
*received into it itself, afflicts it with the severest*  
 morbis; nec sistit gradum, sed nacta vires veluti  
*diseases; nor does it stay its progress, but having acquired strength as it were*  
 per pabulum, grassatur, longe que late per populos.  
*by the pasturage, spreads, far and widely through the people.*

quamvis sua natura optimi, nimia copia sumpti, serius vel ocyus corpori nocebunt.

56. Existunt porro venena vi adeo lethali prædita ut vel minima quantitate, sensibusque vix ac ne vix quidem detegenda, in corpus recepta, dirissimos morbos, vel fortasse iuevitabilem mortem, induxerint.

57. Denique, innumeris casibus, nec raro maximis periculis, homo objicitur, plerumque quidem incolumis evasurus: sæpe tamen infelix succumbit; sæpe saucius, contusus, membra fractus aut luxatus, ægre evadit; nonnunquam prorsus insanabilis. Casusque hujusmodi, quanquam primam a causa externa

originem trahant, haud raro in internos morbo desinunt.

58. Hæc omnia extrinsecus; nec minora intus pericula imminet.

59. Dum spirat homo lethale sibi aliisque spirantibus venenum fundit. Neque solus pulmonis halitus adeo nocet: manat et ab omni foramine materia subtilissima, venenata fortasse putrescens, quæ diu collecta, neque per auras diffusa, et corpori denuo admota, aut iterum in id ipsum recepta, gravissimis morbis inficit; nec sistit gradum, sed veluti vires per pabulum nacta, longe lateque per populos grassatur.

60. Animales functiones quoque, quas regimus nostro arbitrio, *The animal functions also, which we govern by our own will,*  
 sæpe aut negliguntur aut exercentur nimis. Ex utroque (est) *often either are neglected or are exercised too much. From both there is*  
 periculum. Desidiâ, sive animi sive corporis, vires utriusque *danger. By sloth, whether of mind or of body, the powers of both*  
 languescunt: nimiâ exercitatione, læduntur haud minus. *grow languid: by too much exercise, they are injured no less.*  
 Enim provida Parens rerum statuit, ut vires singularum *For the provident Parent of things has resolved, that the strength of the individual*  
 partium, et universi corporis, que animi, roborentur et *parts, and of the entire body, and of the mind, should be strengthened and*  
 acuantur usu; et huic iterum posuit certos fines: ita ut usus *whetted by use; and to this again has placed certain limits: so that the use*  
 quem natura voluit neque ommittatur impune, neque *which nature intended neither can be omitted with impunity, nor*  
 intendatur ultra modum. Hinc athletæ, et otiosi et desides, *be increased beyond due bounds. Hence wrestlers, and the idle and slothful,*  
 pariter (sunt) obnoxii morbis, sed singuli suis (sc. morbis): hinc quoque *alike are subject to diseases, but each to their own: hence also*  
 damnum à nullâ aut nimiâ exercitatione mentis: hinc quoque *harm from no or too great exercise of the mind: hence also*  
 multi morbi, quibus variis artifices sunt obnoxii, fere morbosi *the many diseases, to which the various artisans are liable, commonly diseased*  
 et degeneres homines: scilicet, qui occupati semper eâdem arte, *and degenerate men: that is to say, who occupied always with the same art,*  
 que ipsâ forsitan parum salubri, exercent quasdam partes corporis plurimum, *and itself perhaps not healthy, exercise certain parts of the body a great deal,*  
 sæpe nimis, dum utuntur multis aliis partibus parum; vel fortasse *often too much, whilst they use many other parts little; or perhaps*  
 pravo situ corporis, aut malo genere vitæ, multum impediunt *by a crooked position of the body, or by a bad kind of life, greatly impede*  
 functiones earundem (sc. partium); et sic dum adipiscuntur mirum *the functions of the same; and thus whilst they acquire a wonderful*  
 usum et robur quarandum partium, male perdunt generalem vigorem *use and strength of certain parts, badly destroy the general vigour*  
 corporis, et, quæ (sc. valetudo) pendet ab illo (sc. vigore corporis), *of the body, and, what depends upon it,*  
 prosperam valetudinem. *good health.*

61. Cæterum et ab iis functionibus, tam animi quam corporis, *But also from those functions, as well of the mind as of the body,*

60. Functiones quoque animales, quas nostro arbitrio regimus, sæpe aut negliguntur, aut nimis exercentur. Ex utroque periculum. Desidia, sive animi sive corporis, utriusque vires languescunt: nimia exercitatione, haud minus læduntur. Statuit enim provida rerum Parens, ut singularum partium, et universi corporis animique vires usu roborentur et acuantur; et huic iterum certos fines posuit: ita ut neque quem voluit natura usus impune ommittatur, neque ultra modum intendatur. Hinc athletæ, et otiosi et desides, pariter morbis, sed singuli suis, obnoxii: hinc quoque

damnum a nulla aut nimia mentis exercitatione: hinc quoque multi morbi, quibus variis obnoxii sunt artifices, morbosi fere et degeneres homines; scilicet qui eadem semper arte, ipsaque forsitan parum salubri, occupati, partes quasdam corporis plurimum, sæpe nimis, exercent, dum multis aliis partibus parum utuntur; vel fortasse pravo corporis situ, aut malo vitæ genere, earundem functiones multum impediunt; et sic, dum mirum quarundam partium adipiscuntur usum et robur, generale corporis vigorem, et, quæ ab illo pendet, prosperam valetudinem male perdunt.

quas regimus nullo arbitrio nostro, potest esse non leve  
*which we govern by no will of our own, there may be no slight*  
 discrimen valetudinis. Imprimis affectus animi qui modici  
*danger of disease. In the first place affections of the mind which moderate*  
 grate excitant, vehementes, aut graves et diuturni, frangunt  
*gratefully excite, violent, or severe and long continued, break down*  
 vires pariter hujus (sc. animi) ac corporis; interdum statim  
*the strength alike of this and of the body; sometimes immediately*  
 extinguunt hominem, sæpius macerant longâ valetudine. Etiam  
*destroy the man, more often waste him by long disease. Also*  
 excessus vel defectus somni, quo egemus ad reficiendas exhaustas  
*excess or deficiency of sleep, which we require to recruit the exhausted*  
 vires, nocent et anjmo et corpori.  
*powers, hurt both the mind and the body.*

62. Sunt multa (sc. negotia) semper excernenda e corpore in  
*There are many things always to be excreted from the body in*  
 sanissimo statu: si hæc retinentur, est malum: si plus justo  
*the most healthy state: if these are retained, there is mischief: if more than proper*  
 excernitur, malum quoque: si retinenda naturâ excernuntur  
*is excreted, bad also: if things to be retained by nature (naturally) are excreted*  
 sponte, vel casu, vel arte, malum iterum. Ex his quoque  
*spontaneously, or by accident, or by art, mischief again. From these also*  
 intelligitur facillime, gravissimum periculum posse sæpe oriri ab  
*it will be understood very easily, that the greatest danger may often arise from*  
 inepto aut intempestivo usu remediorum: quippe quæ aut  
*the unsuitable or untimely use of remedies: as being things which either*  
 excitent et intendant præter naturam varias funciones, proprias  
*can excite and increase beyond nature (unnaturally) the various functions, peculiar*  
 et necessarias corpori, aut sopiant et reprimant, que demum sæpe  
*and necessary to the body, or can lull and repress them, and indeed often*  
 minuant secretiones et excretiones, sæpe augeant ultra  
*can diminish the secretions and excretions, often can increase them beyond*  
 modum, vel denique efficiant novas excretiones et detractiones humorum,  
*due bounds, or lastly effect new excretions and detractions of humours,*  
 quales natura neque unquam instituerat in sano statu, neque potest  
*such as nature neither ever had instituted in the healthy state, nor can*  
 ferre sine damno.  
*bear without injury.*

63. Ut solidæ partes interdum flaccescunt, molliuntur, fere solvuntur,  
*As the solid parts sometimes grow flaccid, are softened, almost are dissolved,*  
 factæ impares propriis muneribus; sic fluidæ (partes) nonnunquam  
*rendered unequal to their proper functions; so the fluid sometimes*

61. Cæterum et ab iis quas nullo nostro arbitrio regimus, tam animi quam corporis functionibus, valetudinis discrimen non leve esse potest. Animi imprimis affectus, qui modici grate excitant, vehementes, aut graves et diuturni, hujus pariter ac corporis vires frangunt; hominem interdum statim extinguunt, sæpius longa valetudine macerant. Somni etiam, quo ad exhaustas vires reficiendas egemus, excessus vel defectus, et animo et corpori nocent.

62. Sunt multa in statu sanissimo e corpore semper excernenda. Hæc si retinentur, malum est: si plus justo excernitur, malum quoque: si natura retinenda, sponte, vel casu, vel arte

excernuntur, malum iterum. Ex his quoque (61, 62) facillime intelligitur, gravissimum sæpe oriri posse periculum ab inepto aut intempestivo remediorum usu: quippe quæ varias funciones, corpori proprias et necessarias, aut excitent et intendant præter naturam, aut sopiant et reprimant, secretionesque demum et excretiones sæpe minuant, sæpe ultra modum augeant, vel denique novas efficiant excretiones et detractiones humorum, quales natura neque instituerat unquam in statu sano, neque sine damno ferre potest.

63. Ut solidæ partes interdum flaccescunt molliuntur, fere solvuntur, propriis muneribus

spissantur, et formantur in solidas massas, etiam durissimas: unde are thickened, and are formed into solid masses, even the hardest: whence impeditæ actiones organorum, insignis dolor, et varii et graves impeded actions of the organs, remarkable pain, and various and severe morbi (sc. nascantur.) diseases.

64. Postremo, quædam animantia sunt recensenda inter  
*Lastly, certain animated beings are to be enumerated amongst*  
 causas morborum: nimirum (ea) quæ tolerant suam vitam malo  
*the causes of diseases: namely, which maintain their own life by the evil*  
 aliorum. Dominus ipse animalium est prædæ et domicilio animantibus  
*of others. The lord himself of animals is a prey and habitation to animals*  
 hujusmodi, quæ vel invadunt extrinsecus, vel habitant intus,  
*of this description, which either attack him from without, or inhabit him within,*  
 et rodunt viscera (ejus) adhuc vivi, sæpe cum insigni malo, et  
*and gnaw the bowels of him yet alive, often with remarkable evil, and*  
 discrimine vitæ, nec raro jacturâ ipsius.  
*danger of life, nor unfrequently the loss of it.*

65. Verum neque homo objicitur inermis tot que  
*But neither is man exposed unarmed (unprotected) to so many and*  
 tantis periculis; neque simul ac morbus invaserit nulla spes  
*so great dangers; nor as soon as disease has seized him is there no hope*  
 salutis superest. Enim vis prorsus mirabilis inest corpori,  
*of safety remaining. For a power altogether wonderful exists in the body,*  
 quâ tueatur se contra morbos; arceat multos, solvat,  
*by which it can defend itself against diseases; can ward off many, can resolve,*  
 quam optime et citissime, multos jam inchoatos; que perducit  
*in the best and quickest way possible, many already begun; and can bring*  
 alios lentius, suo modo, ad felicem exitum:  
*others more slowly, in its own way, to a happy termination.*

66. Hæc vocatur Autocrateia, seu Vis Medicatrix Naturæ,  
*This is called Autocratela, or Vis Medicatrix Naturæ, (the healing influence*  
 notissima medicis atque philosophis, et multum,  
*of Nature,) very well known to physicians and philosophers, and very much,*  
 neque immerito, celebrata. Hæc sola sufficit ad sanandos multos  
*nor undeservedly, celebrated. It alone suffices to cure many*  
 morbos; fere juvat in omnibus: quin et medicamenta optima  
*diseases; for the most part, it assists in all: but also medicines the very best*  
 suâ naturâ valent solummodo tantum quantum excitent, dirigant,  
*in their nature avail only so far as they excite, direct,*  
 gubernent insitas vires hujus. Enim medicina neque prodest cadaveri,  
*govern the innate powers of it. For medicine neither benefits the dead body,*

mpares factæ; sic fluidæ nonnunquam spissantur, et in massas solidas etiam durissimas formantur: unde organorum actiones impeditæ, dolor insignis, et varii et graves morbi.

64. Postremo, animantia quædam inter morborum causas recensenda sunt: nimirum quæ suam vitam aliorum malo tolerant. Ipse animalium dominus hujusmodi animantibus prædæ est et domicilio, quæ vel extrinsecus invadunt, vel intus habitant, et viscera adhuc vivi rodunt, sæpe cum insigni malo et vitæ discrimine, nec raro ipsius jactura.

65. Verum neque tot tantisque periculis homo inermis objicitur: neque, simul ac morbus in-

vaserit, nulla superest salutis spes. Inest enim corpori vis prorsus mirabilis, qua contra morbos se tueatur, multos arceat, multos jam inchoatos quam optime et citissime solvat, aliosque suo modo, ad felicem exitum lentius perducit.

66. Hæc Autocrateia seu Vis Naturæ medicatrix vocatur; medicis atque philosophis notissima, et multum neque immerito celebrata. Hæc sola ad multos morbos sanandos sufficit, in omnibus fere juvat: quin et medicamenta sua natura optima tantum solummodo valent, quantum hujus vires insitas excitent, dirigant, gubernent. Medicina enim neque prodest cu-

neque, naturâ repugnante, proficit (sc. medicina) quicquam.—Hic plane est *nor, nature resisting, does it avail any thing.—Here plainly there is* aliquid similis et communis inter salutare vires remediorum, *something of similar and common between the salutary powers of remedies,* et nocentes (vires) causarum morborum de quibus dictum est jam. *and the noxious ones of the causes of diseases of which it has been spoken already.*

67. His viribus naturæ, vulnera sanantur, fluxus sanguinis compescitur, *By these powers of nature, wounds are healed. the flow of blood is stopped,* diffracta ossa coalescunt, multa noxia ejiciuntur e *broken bones grow together (reunite), many noxious things are thrown out from* corpore; et sic, mala, quæ nulla ars potuisset attingere, evanescent sua *the body; and thus, evils, which no art could have reached, vanish of their own* sponte sine externâ ope. *accord, without external aid.*

68. Igitur medici merito confidunt his viribus, que conantur *Therefore physicians deservedly trust to these powers, and endeavour* excitare eas languentes, aut si defecerint plane tum *to rouse them when languid, or, if they have failed altogether, then* imitari solitas actiones earum arte. Tamen, non semper *to imitate the accustomed actions of them by art. However, we must not always* fidendum (sup. nobis) est iis solis; quippe quæ in quibusdam *trust to them alone; as being things which in some* morbis sunt nullæ in multis vero nimæ, et adeo vehementes, *diseases are none (i. e. useless) in many truly too much, and so violent,* ut sint metuendæ, magis quam morbus ipse. *that they are to be feared more than the disease itself.*

69. Leviores morbi relinquuntur satis tuto viribus Naturæ; *The slighter diseases are left sufficiently safely to the powers of nature;* sed nemo sanus commiserit hydropem, vel tuem *but no one in his senses would commit (trust the cure of) dropsy, or lues* veneream, vel inflammationem cujusvis visceris iisdem; quippe quæ *venerea, or inflammation of any viscus to the same; as being things which* in illis morbis sint nullæ; autem in his vehementissimæ, verum *in the former diseases are none; but in the latter very violent, but yet* ineptæ, et valde periculosæ, et (quæ) effecturæ (sint) gangrænam, vel *unfit, also very dangerous, and would bring on gangrene, or* suppurationem, fere haud minus exitialem. *suppuration, almost no less destructive.*

70. Igitur oportet cavere (sc. nosmet) a duplici errore; neque *Therefore it behoves to guard ourselves from the double error; neither* spernere vires Naturæ, neque colere (sc. vires) nimis religiose. Enim *to despise the powers of nature, nor to worship them too religiously. For*

daveri, neque repugnante natura quicquam proficit.—Hic plane est aliquid similis et communis inter salutare vires remediorum, et nocentes causarum morborum, de quibus jam (67) dictum est.

67. His naturæ viribus vulnera sanantur, sanguinis fluxus compescitur, ossa diffracta coalescunt, multa noxia e corpore ejiciuntur, et sic, quæ nulla ars attingere potuisset mala, sine ope externa sua sponte evanescent.

68. Merito igitur his viribus medici confidunt, easque conantur languentes excitare, aut si plane defecerint, tum solitas earum actiones arte imitari. Non tamen iis solis semper

fidendum est; quippe quæ in quibusdam morbis nullæ sint, in multis vero nimæ, et adeo vehementes, ut sicut quam ipse morbus magis metuendæ.

69. Leviores morbi Naturæ viribus satis tuto relinquuntur; sed nemo sanus, hydropem, vel lues veneream, vel visceris cujusvis inflammationem, iisdem commiserit: scilicet quæ in illis morbis nullæ sint; in his autem vehementissimæ, verum ineptæ, et valde periculosæ, et gangrænam, vel suppurationem fere haud minus exitialem, effecturæ.

70. A duplici errore igitur cavere oportet;—neque vires Naturæ spernere, neque nimis reli

tantum abest ut conveniat premere  
*so much is it from that it suits (so far is it from being proper) to tread in*  
 vestigia illius, ut sit sæpe necesse tenere prorsus contrarium  
*the footsteps of her, that it may be often necessary to pursue an entirely contrary*  
 iter, que niti summâ ope contra conatus ejus.  
*course, and to strive with the utmost might against the efforts of her.*

71. Neque Natura ipsa docet (sc. nos) officium medici  
*Nor does Nature herself teach us that the duty of the physician*  
 cohiberi tam arcto limite: enim prodiga (sc. Natura) suggerit innumera  
*is confined to so narrow a limit: for bountiful she supplies innumerable*  
 remedia quæ pollent maxlmis viribus in humano corpore, et  
*remedies which act with very great powers in the human body, and*  
 valent efficere in eo (sc. corpore) varias et saluberrimas mutationes.  
*are able to effect in it various and very healthy changes.*

Hoc modo etiam plurimæ causæ morborum queant  
*In this manner (upon this principle) even many causes of diseases can*  
 converti a solerte medico in præstantissima auxilia; scilicet,  
*be converted by the skilful physician into very excellent aids; that is to say,*  
 quicquid vehementer afficit corpus potest esse nunc neci nunc iterum  
*whatever violently affects the body can bring now death, now again*  
 remedio eidem (sc. corpori vel fortasse morbo).  
*a cure to the same.*

72. Vero est (sc. officium) medici, naturâ et causâ  
*But it is the duty of the physician, the nature and cause*  
 morbi cognitâ, judicare quid mutationis requiratur ut morbus  
*of the disease being known, to judge what (of) change is required that the disease*  
 mutetur in sanitatem. Hæc medicina quidem est rationalis sive *Dogmatica*  
*be changed into health. This medicine indeed is the rational or Dogmatic.*  
 (sc. medicina). Est et altera, nimirum *Empirica*, quæ, ambagibus  
*There is also another, namely the Empirical, which, intricacies*  
 hujusmodi missis, quærit et profert sola remedia prædita  
*of this sort being dismissed, seeks and sets forth solitary remedies endowed with a*  
 certâ et definitâ vi ad delendos certos morbos.  
*certain and definite power to destroy certain diseases.*

73. Omnis circumforaneus medicus jactat remedia hujusmodi, omnis  
*Every mountebank physician boasts remedies of this kind, every*  
 anus credit se possidere; que populus, qui fere mavult  
*old woman believes that she possesses them; and the public, who generally would rather*  
 decipi quam sapere, semper fidit talibus remediis: neque profecto,  
*be deceived than be wise, always believes in such remedies: nor truly,*  
 postquam amiserit (sc. populus) sanitatem cum re, sinit facile  
*after they have lost their health with their money, do they permit easily*

glose colere. Tantum enim abest ut semper  
 illius vestigia premere conveniat, ut sæpe ne-  
 cesse sit contrarium prorsus iter tenere,  
 contraque ejus conatus summa ope niti.

71. Neque medici officium tam arcto limite  
 cohiberi ipsa Natura docet: suggerit enim  
 prodiga innumera remedia, quæ maximis viri-  
 bus in corpore humano pollent; et varias et  
 saluberrimas mutationes in eo efficere valent.  
 Hoc modo etiam plurimæ morborum causæ a  
 solerte medico in præstantissima auxilia con-  
 verti queant; scilicet, quicquid corpus vehe-  
 nenter afficit, eidem nunc neci (53, 62), nunc  
 iterum remedio, esse potest.

72. Medici vero est, cognita natura et causa  
 morbi, judicare quid mutationis requiratur, ut  
 morbus in sanitatem mutetur. Hæc quidem est  
 medicina rationalis sive *Dogmatica*. Est et  
 altera, *Empirica* nimirum, quæ, missis hujus-  
 modi ambagibus, sola remedia quærit et pro-  
 fert certâ et definitâ vi prædita ad certos mor-  
 bos delendos.

73. Hujusmodi remedia omnis circumfora-  
 neus medicus jactat, omnis anus se credit  
 possidere; populusque, qui fere decipi quam  
 sapere mavult, talibus remediis semper fidit;  
 neque profecto, postquam sanitatem cum re  
 amiserit, facile sinit gratissimum menti erro-

gratissimum errorem eripi menti; scilicet quem  
*the very grateful error to be taken away from the mind; as being one which*  
 nolit (populus) intueri, adeo blanda est cuique dulcedo  
*they are unwilling to observe, so agreeable is to each person the pleasure*  
 sperandi pro se. Vero quam pauca remedia istiusmodi fuerint adhuc  
*of hoping for himself. But how few remedies of this sort have been as yet*  
 reperta peritissimi medici fatentur et dolent. Quod si  
*discovered the most skilful physicians confess and lament. But if*  
 fuerint quædam remedia quæ pollent in humano corpore  
*there should be some remedies which act in the human body*  
 vi nondum exploratâ aut intellectâ, id minime mirum;  
*with a power not yet certainly known or understood, that is not at all wonderful;*  
 quippe quia tot morbi existant, natura et causæ quorum prorsus  
*inasmuch as so many diseases exist, the nature and causes of which entirely*  
 lateant. Cæterum quo perfectior medica scientia fuerit, eo facilius  
*lie hid. But the more perfect medical science shall become, the more easy*  
 erit reddere rationem virium medicamentorum, et modi  
*it will be to give an explanation of the powers of medicines, and of the manner*  
 quo afficiunt corpus, que prosint in variis morbis.  
*in which they affect the body, and do good in various diseases.*

74. Igitur remedia solent ordinari secundum manifestos  
*Therefore remedies are accustomed to be classed according to the manifest*  
 effectus quos præstant in humano corpore. Afficiunt vel solidas  
*effects which they produce in the human body. They affect either the solid*  
 vel fluidas partes. Illas (sc. solidas?) alunt, consumunt, firman-  
*or the fluid parts. The former they nourish, waste, strengthen,*  
 laxant, excitant, sopiunt. Has (sc. fluidas) vitiatas vel quantitate vel  
*relax, excite, lull. The latter vitiated either in quantity or*  
 qualitate corrigunt, atque evacuant; que id vel naturalibus viis,  
*quality they correct, and evacuate; and that either by the natural passages,*  
 vel aliis insolitis et factis arte. Nec desunt auxilia  
*or by others unusual and made by art. Nor are there wanting aids*  
 adversus concretiones formatas intra corpus, aut animalia hospitantia  
*against concretions formed within the body, or animals boarding and lodging*  
 in eodem (sc. corpore). Vero scientia effectuum medicamentorum, et  
*in the same. But the knowledge of the effects of medicines, and*  
 modi quo afficiunt corpus, vocatur Therapeia.  
*of the manner in which they affect the body, is called Therapeutics.*

rem eripi; scilicet quem nolit intueri, adeo blanda est sperandi pro se cuique dulcedo. Quam pauca vero istiusmodi remedia adhuc reperta fuerint, peritissimi medici fatentur et dolent. Quod si remedia quædam fuerint quæ vi nondum explorata aut intellecta in corpore humano pollent, id minime mirum; quippe quia tot existant morbi quorum natura et causæ prorsus lateant. Cæterum, quo perfectior fuerit scientia medica, eo facilius erit medicamentorum virium, et modi quo corpus afficiunt, variisque in morbis prosint, rationem reddere.

74. Remedia igitur ordinari solent, secundum effectus manifestos quos in corpore humano præstant.—Afficiunt vel partes solidas vel fluidas. Illas alunt, consumunt, firman-  
 ant, excitant, sopiunt. Has vel quantitate vel qualitate vitiatas, corrigunt, atque evacuant idque vel viis naturalibus, vel aliis insolitis et arte factis.—Nec desunt auxilia adversus concretionem intra corpus formatam, aut animalia in eodem hospitantia (63, 64).—Medicamentorum vero effectuum et modi quo corpus afficiunt, scientia, Therapeia vocatur.



CAP. II.

CHAP. II.

De solidâ materiâ ex quâ corpora animalium fiunt, que  
Of the solid matter of which the bodies of animals are made, and  
variis dotibus, tum chemicis tum mechanicis, ejûs, (sc. materiæ:)  
the various properties, as well chemical as mechanical, of it:

de conjecturis circâ ultimam et minutissimam fabricam ejûs:  
of the conjectures about the ultimate and most minute structure of it:

de reticulatâ telâ; necnon de origine, naturâ, et usû adipis.  
of the cellular tissue; also of the origin, nature, and use of fat.

75. Humanum corpus constat ex solidis et fluidis partibus, mutuâ  
The human body consists of solid and fluid parts, by the mutual  
actione quarum, (sc. partium,) functiones vivi hominis (quatenus sunt  
action of which, the functions of the living man (so far as they are  
corporeæ) peraguntur. Utræque (sc. partes) mutantur et  
corporeal) are performed. Both are (being) changed, and  
renovantur assidue; verò solidæ (partes) lentiùs: igitur  
are renewed incessantly; but the solid (parts) more slowly: therefore  
incipiendum est (sup. nobis) ab his; quippe quæ dent  
we must begin from (with) them; as being things which give  
formam et firmitatem universo corpori.  
form and firmness to the whole body.

76. Vocamus solidam materiam, ex quâ corpora animalium  
We call the solid material, of which the bodies of animals  
constant, causâ brevitatis, animale solidum. Autem hoc (sol. animale)  
consist, for the sake of brevity, the animal solid. But this  
habet varias dotes, chemicas, mechanicas, vitales, nulla  
has various properties, chemical, mechanical, vital, none  
quarum (dotum) non meretur attentionem medici.  
of which does not deserve (all of which claim) the attention of the physician.

77. Exquisita chemia hujus ævi detexit diversas substantias  
The exquisite chemistry of this age has detected different substances  
sive principia, ut dicuntur, in variis solidis partibus  
or principles, as they are called, in the various solid parts  
humani corporis; que docuit nos exhibere eas substantias  
of the human body; and has taught us to exhibit these substances  
seorsim. Imprimis ostendit plurimam terram, præcipue in  
apart. In the first place it shews a great deal (of) earth, especially in  
ossibus; nimirum calcem, non quidem puram, sed conjunctam  
the bones; namely lime, not indeed pure, but combined

CAP. II.—De solida materia ex qua corpora animalium fiunt, variisque ejus dotibus, tum chemicis tum mechanicis: de conjecturis circa ejus ultimam et minutissimam fabricam; de tela reticulata; necnon de adipis origine, natura, et usu.

75. CORPUS humanum constat ex partibus solidis et fluidis; quarum mutua actione functiones vivi hominis (quatenus corporeæ sunt) peraguntur. Utræque assidue mutantur et renovantur; solidæ vero lentiùs. Ab his igitur incipiendum est; quippe quæ universo corpori formam et firmitatem dent.

76. Solidam materiam ex qua corpora animalium constant, solidum animale, brevitatis causa, vocamus. Hoc autem varias habet dotes, chemicas, mechanicas, vitales; quarum nulla non medici attentionem meretur.

77. Exquisita hujus ævi Chemia diversas substantias, sive principia ut dicuntur, in variis solidis partibus humani corporis detexit; easque substantias seorsim exhibere docuit. Ostendit imprimis, in ossibus præcipue, plurimam terram; calcem nimirum, non quidem puram, sed cum acidis quibusdam, phosphorico præsertim,

cum quibusdam acidis, præsertim phosphorico. Hic phosphas calcis, with certain acids, especially the phosphoric. This phosphate of lime, cum pauxillo carbonatis calcis dat firmitatem ossibus; et cum with a little (of) carbonate of lime gives firmness to the bones; and with cartilagine et multâ gelatinâ et crasso oleo efficit fere tota cartilage and much gelatine and thick oil forms almost the entire ossa. Quoque plurima gelatina et pro parte ratâ parum bones. Also very much gelatine and in reference to the part considered little terræ in est cellulosæ telæ, et cuti, que aliis (of) earth is in (exists in) the cellular tissue, and skin, and the other membranis quæ fiunt ex eâ telâ, et demum musculis. membranes which are made (formed) of that tissue, and lastly the muscles. Vero in his (sc. musculis) alia animalis substantia reperitur; scilicet But in them another animal substance is found; that is to say plurima fibrina. Albumen quoque detectum est plane neque parcè very much fibrine. Albumen also has been detected evidently nor sparingly in quibusdam solidis partibus humani corporis; maxime in cartilaginibus in some solid parts of the human body; especially in the cartilages et tendinibus et ligamentis. Præter hæc, multum crassum oleum and tendons and ligaments. Besides these, much thick oil reperitur in fere omnibus animalibus solidis, et quidam sales, tam is found in almost all the animal solids, and some salts, as well acidi quam alcalini; et interdum, ut videtur, quædam aliæ substantiæ acid as alkaline; and sometimes, as it seems, some other substances minoris momenti, sed multo parcîus. Sed nondum satis of less moment, but much more sparingly. But it has not yet been sufficiently constitit de his; quæ scilicet neque semper reperiuntur, established concerning these; which truly neither always are found, nec unquam adsunt tantâ copiâ ut explorentur facile. nor ever are present in so great plenty that they can be examined easily.

78. Solidæ partes humani corporis ulterius exploratæ chemicâ The solid parts of the human body further examined by chemical arte, resolvuntur facile in pauca elementa vel putredine art, are resolved easily into a few elements either by the putrefaction quam subeunt sponte, modico calore, cum humore et which they undergo spontaneously, at a moderate heat, with moisture and aere admisso; vel magno calore qualis air being admitted; or at a great heat (at a high temperature) such as destruat priores compositiones elementorum, efficiat novas (sc. com- destroys the former combinations of the elements, effects new ones positiones) ipsorum; duriores (resolvuntur) in Calcem et Phosphorum; of them; the harder (are resolved) into Lime and Phosphorus;

conjunctam. Hic Phosphas Calcis, cum pauxillo Carbonatis Calcis, firmitatem dat ossibus; et cum Cartilagine, et multa Gelatina, et oleo crasso, ossa fere tota efficit. Plurima quoque Gelatina, et pro rata parte parum terræ, inest telæ cellulosæ, et cuti, aliisque membranis quæ ex ea tela fiunt, et demum musculis. In his vero alia reperitur substantia animalis; plurima scilicet Fibrina. Albumen quoque in quibusdam partibus solidis corporis humani plane neque parcè detectum est; maxime in cartilaginibus et tendinibus, et ligamentis. Præter hæc multum oleum crassum in omnibus fere solidis animalibus re-

peritur; et sales quidam tam acidi quam alcalini; et interdum, ut videtur, sed multo parcîus, aliæ quædam minoris momenti substantiæ. Sed de his nondum satis constitit; quæ scilicet neque semper reperiuntur, nec unquam tanta copia adsunt ut facile explorentur.

78. Ulterius arte chemicâ exploratæ partes solidæ humani corporis, vel putredine, quam sponte subeunt modico calore, cum humore, et admisso aere; vel magno calore, qualis priores elementorum compositiones destruat, novas ipsorum efficiat, facile in pauca elementa resolvuntur; duriores in Calcem et Phosphorum;

vero molliores in Carbonem, Nitrogenium (vel Azotium), Hydrogenium, et  
*but the softer into Carbon, Nitrogen (or Azote), Hydrogen, and*  
 Oxygenium: quæ igitur creduntur esse simplicissima elementa  
*Oxygen: which therefore are believed to be the most simple elements*  
 animalis solidi; siquid dicatur recte simplex in severiore  
*of the animal solid; if any thing can be called rightly simple in the stricter*  
 Chemiâ. Vero hæc elementa separata et conjuncta aliter atque  
*Chemistry. But these elements separated and combined otherwise and*  
 aliter vel igne vel putredine, interim  
*otherwise (in divers ways) either by fire or by putrefaction, in the mean time*  
 efficiunt nova substantias, quales sunt Ammonia, Carbonicum Acidum,  
*produce new substances, such are Ammonia, Carbonic Acid,*  
 empyreumaticum oleum, et multi foetidi vapores, quæ nequeunt  
*empyreumatic oil, and many foetid vapours, which cannot*  
 detegi in recente et integro animali solido, autem observantur  
*be detected in the recent and entire animal solid, but are observed*  
 facile et fere semper dum hoc (sc. solidum) resolvitur in sua  
*easily and almost always whilst this is resolved into its*  
 elementa.  
*elements.*

79. *Mechanicæ* dotes, quibus animale solidum aptatur ad  
*The mechanical properties, by which the animal solid is fitted for*  
 usus vitæ, sunt tres; scilicet, satis magna adhesio,  
*the uses of life, are three; namely, sufficiently strong adhesion,*  
 quædam flexilis mollities, et insignis vis resiliendi.  
*a certain flexible softness, and a remarkable power of rebounding (elasticity).*  
 Pleraque numera vitæ consistunt in variis motibus; validissimi  
*Most (of the) functions of life consist in various motions; very powerful*  
 motus requiruntur ad multa eorum. Igitur est opus tantâ  
*motions are required for many of them. Therefore there is need of so much*  
 adhæsione partium ut hi (sc. motus) perficiantur sine  
*adhesion (cohesion) of the parts that they can be performed without*  
 periculo lacerationis: oportet quoque, ob eandem causam, (ut) solidæ  
*danger of laceration: it behoves also, for the same reason, that the solid*  
 partes sinant se flecti, aliæ magis aliæ minus: denique est  
*parts permit themselves to be bent, some more some less: finally it is*  
 necesse ut partes ita flexæ, vel dimotæ loco recuperent  
*necessary that the parts so bent, or removed from their place should recover*  
 suâ sponte figuram et pristinum situm quam primum  
*of their own accord their figure and former situation as soon as*  
 dimovens vis fuerit sublata.  
*the removing force shall be taken away:*

molliores vero in Carbonem, Nitrogenium (vel Azotium), Hydrogenium, et Oxygenium: quæ igitur creduntur esse solidi animalis simplicissima elementa; siquid in severiore Chemia recte simplex dicatur. Hæc vero elementa, vel igne, vel putredine, aliter atque aliter separata et conjuncta, novas interim efficiunt substantias, quales sunt Ammonia, Acidum carbonicum, oleum empyreumaticum, et multi vapores foetidi, quæ in recente et integro solido animali detegi nequeunt, facile autem et fere semper observantur dum hoc in sua elementa resolvitur.

79. *Dotes mechanicæ, quibus solidum animale ad vitæ usus aptatur, sunt tres; adhesio scilicet satis magna, mollities quædam flexilis, et insignis vis resiliendi.—Munera vitæ in variis motibus pleraque consistunt: ad multa eorum validissimi motus requiruntur. Tanta igitur adhæsione partium opus est, ut hi sine lacerationis periculo perficiantur: oportet quoque, ob eandem causam, partes solidæ, aliæ magis aliæ minus, se flecti sinant; denique, necesse est, ut partes ita flexæ, vel loco dimotæ, figuram et situm pristinum sua sponte recuperent, quamprimum vis dimovens sublata fuerit.*

80. Hæ dotes variant multum, non modo variis partibus, *These properties differ much, not only in the various parts,* sed et iisdem partibus in variis hominibus, et sæpe in *but also in the same parts in different men, and often in* eodem homine diversis temporibus. Varietates, hujusmodi, quamvis *the same man at different times. Differences, of this kind, although* insignes satis, sæpe afficiunt valetudinem parum. Vero nonnunquam *remarkable enough, often affect the health little. But sometimes* transeuntes limites sanitatis, faciunt manifestos et sane haud leves *passing the bounds of health, cause manifest and truly no slight* morbos. *diseases.*

81. Omnis solida pars, quod (pertinet) ad mechanicas dotes, potest *Every solid part, as (relates) to its mechanical properties, can* variari aut vitari duplici modo; scilicet, aut nimiam *be changed or vitiated in a twofold manner; that is to say, either by too much* aut nimis parvam adhesionem, aut mollitiem aut vi resiliendi. Adhesionem *or too little adhesion, or softness or elasticity. The adhesion* seu firmitatem cujusvis solidæ partis auctam, vis resiliendi ejus *or firmness of any solid part being increased, the elasticity of it* plerumque augetur; autem mollities necessario minuitur: *for the most part is increased; but its softness necessarily is diminished:* vero adhesionem imminutam, mollities fit major, et *but the adhesion being diminished, the softness becomes greater, and* vicissim vis resiliendi minor. *in turn the elasticity less.*

82. Causæ horum effectuum certe sunt multiplices: tamen possunt *The causes of these effects truly are manifold: nevertheless they can* reduci ad certa capita. Aut chemica compositio ipsa materiae *be reduced to certain heads. Either the chemical constitution itself of the matter* vitatur, aut compositione omnino salva particulae disponuntur *is vitiated, or the composition being entirely safe (perfect,) the particles are disposed* ita ut attrahant semet invicem plus ve minus *so that they attract (so as to attract) themselves in turn (mutually) more or less* fortiter. Quod attinet ejus chemicam compositionem, fortasse omnia *strongly. What (as) regards its chemical constitution, perhaps all* elementa possunt inesse, variam quantitatem, animali solido, et quodque *the elements may exist, in various quantity, in the animal solid, and each* (sc. elementum) efficere suum peculiare vitium. Sed de multis *produce its own peculiar disorder. But concerning many* horum novimus nihil certi: vero constat satis, humidam *of these we know nothing certain: but it is agreed on sufficiently, that the moist*

80. Variant multum hæ dotes, non modo variis partibus, sed et iisdem partibus in variis hominibus, et sæpe in eodem homine diversis temporibus. Hujusmodi varietates, quamvis insignes satis, valetudinem sæpe parum afficiunt. Nonnunquam vero, sanitatis limites transeuntes, manifestos et sane haud leves morbos faciunt.

81. Duplice modo variari aut vitari potest, quod ad dotes mechanicas, omnis pars solida; scilicet, aut nimiam aut nimis parvam adhesionem, aut mollitiem, aut vi resiliendi. Aucta adhesionem seu firmitatem partis cujusvis solidæ, au-

getur plerumque ejus resiliendi vis; mollities autem necessario minuitur. Imminuta vero adhesionem, mollities major fit et vicissim vis resiliendi minor.

82. Causæ horum effectuum certe multiplices sunt: tamen ad certa capita reduci possunt. Aut ipsa materiae compositio chemica vitatur, aut, salva omnino compositione, particulae ita disponuntur, ut plus minusve fortiter semet invicem attrahant. Quod compositionem ejus chemicam attinet, omnia fortasse elementa (77, 78), varia quantitate, solido animali inesse possunt, et suum quodque peculiare vitium effi-

materiam, quæ est fere aqua, et siccam (materiam) quæ constat ex  
*matter, which is mostly water, and that the dry, which consists of*  
 diversis elementis, variare multum: quo plus humidæ eo minus adhæisionis  
*different elements, differ much: the more watery the less of adhesion*  
 aut vis resiliendi, vero plus mollitiæ; et omnino contra  
*or elasticity, but the more softness; and altogether the contrary (directly*  
 si fuerit minium siccæ materiæ in compositione.  
*the reverse), if there should be too much of dry matter in the composition.*

83. Variæ sunt remotæ causæ alterutrius materiæ, vel abundantis  
*Various are the remote causes of the one or other material, either abounding*  
 vel deficientis. Imprimis, congenita constitutio ipsa corporis  
*or being deficient. In the first place, the congenital constitution itself of the body*  
 conduces multum huc. Quidam homines præ cæteris, et viri præ  
*conduces much hither (to this). Some men before others, and men before*  
 fœminis in universum, habent duriolem et sicciorem compaginem corporis,  
*women in general, have a harder and dryer frame of body,*  
 vix, ac ne quidem vix, mutandam penitus ullo  
*scarcely, and not even scarcely, (scarcely, if at all,) be changed entirely by any*  
 genere vitæ.  
*kind of life.*

84. Vero ætas facit adhuc majus discrimen; enim, a prima (sc. ætate)  
*But age causes a still greater difference; for, from the first*  
 usque ad ultimam (ætatem), corpus evadit quotidie siccius et durius:  
*as far as to the last, the body becomes daily drier and harder:*  
 nempe, à fluido et crudo fœtû, ad rigidum et exsuccum senem,  
*namely, from the fluid and crude fetus, to the stiff and juiceless old man,*  
 cui vita fere deficit propter hanc ipsam causam.  
*to whom life commonly fails on account of this very cause.*

85. Porro victus quo homines utuntur, prout fuerit plus ve  
*Moreover the food which men use, as it shall be more or*  
 minus aquosa (aquosus?) efficit similem conditionem solidarum partium.  
*less watery, produces a similar condition of the solid parts.*

Hoc, dudum observatum in aliis animalibus, videtur accidere  
*This, long since observed in other animals, seems to happen (to occur),*  
 saltem aliquatenus, in homine quoque. Neque deest gravissima  
*at least to a certain extent, in man also. Nor is there wanting a very weighty*  
 ratio cur credamus non modo conditionem et  
*(convincing) reason why we should believe not only that the condition and*  
 vires corporis, sed et indolem animi pendere  
*the strength of the body, but also that the disposition of the mind depends*  
 quodammodo à genere victûs.  
*in some degree upon the kind of food.*

ere. Sed de multis horum nihil certe novinus: satis vero constat, materiam humidam, quæ fere aqua est, et siccam, quæ ex diversis elementis constat, multum variare: quo plus humidæ, eo minus adhæisionis aut vis resiliendi, plus vero mollitiæ; et contra omnino, si minium siccæ materiæ in compositione fuerit.

83. Variæ sunt causæ remotæ (37 et seq.) alterutrius materiæ vel abundantis vel deficientis. Ipsa imprimis constitutio corporis congenita multum huc confert. Quidam, præ cæteris, homines, et viri præ fœminis in universum, duriolem et sicciorem corporis compaginem habent, vix, ac ne vix quidem, ullo vitæ genere penitus mutandam.

84. Ætas vero majus adhuc discrimen facit; a prima enim ad ultimam usque siccius et durius evadit quotidie corpus: a fluido, nempe, et crudo fœtu, ad rigidum et exsuccum senem, cui vita, propter hanc ipsam causam, fere deficit.

85. Victus porro, quo homines utuntur, prout plus minusve aquosa (-sus?) fuerit, similem solidarum partium conditionem efficit. Hoc, in aliis animalibus dudum observatum, in homine quoque, aliquatenus saltem, accidere videtur. Neque ratio gravissima deest cur credamus, non corporis modo conditionem et vires, sed et animi indolem, a victus genere quodammodo pendere.

86. Multum quoque pendet à bonâ aut pravâ concoctione ejusdem  
*Much also depends upon the good or bad digestion of the same*  
 cibi et ab appositione nutrimenti parati ex eo (sc. cibo).  
*food and upon the apposition of the nutriment prepared from it.*

87. Denique, status aëris, scilicet, quod ad humorem vel  
*Indeed, the state of the air, that is to say, as (relates) to moisture or*  
 siccitatem, afficit corpus haud parum: hinc monticolæ, vel (il)  
*dryness, affects the body not a little: hence mountain inhabitants, or they*  
 qui habitant siccas regiones, multum diversi ab incolis  
*who inhabit dry regions, are very different from the inhabitants*  
 humidarum et paludosarum (sc. regionum).  
*of wet and marshy ones.*

88. Postremo, genus vitæ confert nonnihil ad eundem effectum:  
*Lastly, the kind of life conduces something to the same effect:*  
 exercitatio corporis exprimit atque exhalat quod humoris fuisset  
*exercise of the body presses out and exhales what (of) moisture had been*  
 nimium. Ignavia habet prorsus contrarium effectum, que facit  
*too much (in excess), Idleness has a directly contrary effect, and causes*  
 humidiores partes abundare.  
*the moister parts to abound.*

89. Verum, chemicâ compositione solidarum partium omnino salvâ,  
*But, the chemical constitution of the solid parts being entirely perfect,*  
 conditio harum (sc. partium) potest affici multum ab aliis causis.  
*the condition of them may be affected much by other causes.*  
 Nimirum, densatio particularum, sive à mechanicis causis sive à  
*For example, thickening of the particles, whether from mechanical causes or from*  
 calore et frigore, efficiet variam firmitatem et vim resiliendi cujusvis  
*heat and cold, will cause a different firmness and elasticity of any*  
 partis.  
*part.*

90. Quantum mechanica compressio valeat hic, experimenta  
*How much mechanical compression can avail here, the experiments*  
 Clarissimi Clifton Wintringham luculenter docent. Distentio quoque  
*of the very celebrated Clifton abundantly teach. Distention also*  
 animalis solidi afficit haud parum dotes ejus (sc. solidi) jam  
*of the animal solid affects not a little the properties of it already*  
 memoratas. Quo plus tenditur eo durius, et firmiter, et magis  
*mentioned. The more it is stretched, the harder, and firmer, and more*  
 resiliens evadit, que eo difficillius partitur ulteriorem  
*elastic it becomes, and the more difficultly it endures further*  
 distentionem, donec tandem impatiens distendi amplius, novâ vi  
*distention, until at length not bearing to be distended further, a new force*

86. Multum quoque pendet a bona vel pravâ concoctione, et ab appositione nutrimenti ex eo parati.

87. Denique, status aëris, scilicet, quod ad humorem vel siccitatem, corpus haud parum afficit. Hinc monticolæ vel qui siccas regiones habitant, ab incolis humidarum et paludosarum multum diversi.

88. Postremo vitæ genus ad eundem effectum nonnihil confert. Exercitatio corporis, quod nimium humoris fuisset, exprimit atque exhalat. Ignavia contrarium prorsus effectum habet, partesque humidiores abundare facit.

89. Verum, salva omnino compositione chemicâ solidarum partium, harum conditio ab aliis causis multum affici potest. Densatio nimirum particularum, sive a causis mechanicis, sive a calore et frigore, variam efficit partis cujuslibet firmitatem et vim resiliendi.

90. Quantum mechanica compressio mechanica clar. Clifton Wintringham experimentis luculenter docent. — Distentio quoque solidi animalis dotes ejus jam memoratas haud parum afficit. Quo plus tenditur, eo durius, et firmiter, et magis resiliens evadit, eoque difficillius ulteriorem patitur distentionem, donec tandem, amplius distendi impatiens, novâ

admotâ, distrahitur et dirumpitur, nimirum, adhæsione  
*being applied, it is drawn asunder and is broken, doubtless, the cohesion*  
 particularum superatâ quâ hæc (sc. adhæsio) fuerit debillior. Hinc  
*of the particles being overcome where this was weaker. Hence*  
 ratio, non plene quidem, nam multum pendet à vitali principio que  
*the reason, not fully indeed, for much depends upon the vital principle and*  
 primâ fabricâ corporis, sed aliquatenus saltem, est deducenda  
*the original structure of the body, but, to some extent at least, is to be deduced*  
 multarum rerum quæ sunt summi momenti; incrementi corporis,  
*of many things which are of the highest moment; of the growth of the body,*  
 status, imminutionis, indies crescentis firmitatis, et inevitabilis  
*of its state, of its diminution, of its daily increasing firmness, and of the inevitable*  
 mortis senilis (sc. corporis).  
*death of the old body.*

91. Varia densitas solidarum partium derivatur fortasse ab Naturâ  
*The various density of the solid parts is derived perhaps from Nature*  
 ipsâ: sed magis constat de viribus exercitationis, aut ignaviæ,  
*herself; but it is more agreed concerning the powers of exercise, or of idleness,*  
 in mutando statu earundem (sc. partium), generales effectus quarum (sc.  
*in changing the state of the same, the general effects of which*  
 virium, exercitationis, &c.), igitur, tam boni quam mali, in solidis  
*therefore, as well good as bad, on the solid*  
 partibus, intelligentur facile.  
*parts, will be understood easily.*

92. Porro, diurnâ quiete, quælibet pars Naturâ mobilis,  
*For, by long-continued rest, any part by Nature (naturally) mobile,*  
 veluti junctura artus, paulatim rigescit,  
*(capable of motion,) as the joining of a limb (joints), gradually grows stiff,*  
 recuperatura tarde, fortasse nunquam penitus, pristinam mobilitatem, et,  
*to recover slowly, perhaps never entirely, its former mobility, and,*  
 contra, valido et crebro usu, modo hic (sc. usus) non  
*on the other hand, by strong and frequent use, provided this shall not*  
 fuerit nimius, fere omnes partes corporis sæpe adipiscuntur miram  
*be too great, almost all parts of the body often acquire a wonderful*  
 mobilitatem. Neque profecto melius aut certius remedium datur  
*mobility. Nor truly is a better or more certain remedy given*  
 ad superandam illam rigiditatem artuum quæ solet induci  
*to overcome that stiffness of the limbs which is accustomed to be induced*  
 longâ quiete, quam frequens exercitatio, quæ, primo difficillima,  
*by long rest (inactivity), than frequent exercise, which, at first very difficult,*

admotâ vi, distrahitur et dirumpitur, superata  
 nimirum particularum adhæsione, qua hæc  
 debillior fuerit. Hinc ratio, non plene quidem  
 (nam multum pendet a principio vitali, prima  
 que corporis fabrica) sed aliquatenus saltem  
 deducenda est multarum rerum quæ summi  
 momenti sunt; corporis incrementi, status,  
 imminutionis, firmitatis indies crescentis, et  
 mortis senilis inevitabilis.

91. Varia fortasse solidarum partium densitas  
 ab ipsa Natura derivatur. Sed magis constat  
 de viribus exercitationis, aut ignaviæ, in statu  
 earundem mutando. Quarum igitur effectus

generales, tam boni quam mali, in partibus so-  
 lidis, facile intelligentur.

92. Porro, diurna quiete pars quælibet natu-  
 ra mobilis, veluti junctura artus, paulatim  
 rigescit, pristinam mobilitatem tarde, fortasse  
 nunquam penitus, recuperatura: et contra, va-  
 lido et crebro usu, modo hic non nimius  
 fuerit, omnes fere corporis partes miram sæpe  
 adipiscuntur mobilitatem. Neque profecto  
 melius datur aut certius remedium ad super-  
 andam illam rigiditatem artuum quæ longa  
 quiete induci solet, quam frequens exercitatio,  
 quæ primo difficillima, et diu exigua, fere in-  
 dies facilius, liberius, et perfectior evadit.

et diu exigua, fere indies evadit facilior, liberior, et  
*and for a long time small (limited), generally daily becomes easier, freer, and*  
 perfectior.  
*more perfect.*

93. Calor laxat atque expandit omnia corpora; vero frigus densat et  
*Heat relaxes and expands all bodies; but cold thickens and*  
 durat (ea) (sc. corpora): homines solent experiri probe utrumque  
*hardens (them:) men are accustomed to experience well both*  
 effectum; quamvis corpus fere semper conservet suum calorem,  
*effect; although the body almost always can preserve its own temperature,*  
 nequit fieri quin ejus superficies saltem afficiatur ab externo  
*it cannot happen but that its surface at least be affected by the external*  
 ambiente aëre: neque est vis exigua, quâ calor polleat hoc  
*ambient air: nor is the power small, by which heat can prevail in this*  
 modo in universo corpore. Quam longe aliter  
*way in the whole body (throughout the entire body). How far differently*  
 habet se, qui, fervido Austro spirante, factus hebes et languidus,  
*he has himself, who, the fervid South wind blowing, become sluggish and languid,*  
 trahit sua membra ægre, ac ille, qui, sub frigido Aquilone,  
*drags his limbs with difficulty, and he, who, under the cold North wind,*  
 exercet se glaciali cursu, firmus, mobilis, expeditus (sup. secundum)  
*exercises himself on the icy course, firm, mobile, active (as to)*  
 universum corpus.  
*his whole body.*

94. Variæ causæ quæ singulæ solent afficere,  
*The various causes which each (individually) are accustomed to affect,*  
 tot modis, dotes animalis solidi, conjunctæ præstant adhuc  
*in so many ways, the properties of the animal solid, combined produce still*  
 majores effectus: experimenta instituta (a) Bryan Robinson docent effectus  
*greater effects: the experiments instituted (by) Bryan Robinson teach the effects*  
 calidi balnei docent; quotidiana experientia docet.  
*of the warm bath teach; daily experience teaches.*

95. Variæ partes corporis, aptæ variis muniis, fiunt ex hac  
*The various parts of the body, fitted for various duties, are made of this*  
 materiâ. Nondum constat certa fide  
*matter. It is not yet evident on certain credit (it is not yet certainly determined)*  
 quænam sit ultima et minutissima fabrica animalis solidi: sive  
*what is the ultimate and most minute structure of the animal solid: whether*  
 constat ex fibris, scilicet, longis fills, parum latis,  
*it consists of fibres, that is to say, long threads, not broad (of no breadth),*  
 varie textis inter se, ut Boerhaavius docet; sive ex serpentinis  
*variously woven among themselves, as Boerhaave teaches; or of serpentine*

93. Calor corpora omnia laxat atque expandit: frigus vero densat et durat. Utrumque effectum homines probe experiri solent. Quamvis corpus suum fere semper calorem conservet, fieri nequit quin ejus superficies saltem ab aere ambiente externo afficiatur. Neque exigua vis est, qua calor hoc modo in universo corpore polleat. Quam longe aliter se habet, qui, fervido Austro spirante, hebes et languidus factus, membra sua ægre trahit, ac ille, qui sub frigido Aquilone, cursu glaciali se exercet, universum corpus firmus, mobilis, expeditus.

94. Variæ causæ, quæ singulæ tot modis dotes solidi animalis afficere solent, conjunctæ majores adhuc effectus præstant; docent experimenta Bryan Robinson instituta; docent effectus balnei calidi; docet quotidiana experientia.

95. Ex hac materia variæ corporis partes, variis muniis aptæ, fiunt. Nondum certa fide constat, quænam sit solidi animalis ultima et minutissima fabrica: Sive ex fibris, filis scilicet longis, parum latis, varie inter se textis, constat, ut docet Boerhaavius; sive ex fibris serpentinis, mirum in modum convolutis, ut quædam



fibris convolutis in mirum modum, ut quædam observationes nuper  
*fibres convoluted in a wonderful manner, as certain observations lately*  
 factæ suadent; sive cellulosa tela fiat ex fibris que laminis,  
*made persuade; or whether the cellular tissue is made of fibres and laminæ,*  
 et ex hac (sc. tela) maxima pars omnium partium corporis (fit), ut  
*and of this the greatest portion of all the parts of the body, as*  
 celeberrimus Hallerus conatus est ostendere.  
*the very celebrated Haller has endeavoured to shew.*

96. De fibris que dotibus earum erit locus  
*Of the fibres, and the properties of them, there will be an opportunity*  
 dicendi alibi. Cellulosa tela observatur ubique in  
*of speaking elsewhere. Cellular tissue is observed everywhere in (throughout)*  
 corpore: circumdat et nectit fibras ipsas, quæ apparent  
*the body: it surrounds and connects the fibres themselves, which appear*  
 [satis manifestè in multis partibus, et leviter conjungit varias partes,  
*sufficiently manifestly in many parts, and loosely unites the various parts,*  
 quæ debent habere aliquem motum in vicinas (sc. partes). Eadem  
*which ought to have some motion upon the neighbouring ones. The same*  
 (sc. tela, &c.) probe densata facit firmissimas membranas, et (eas)  
*duly thickened makes (forms) the firmest membranes, and (those)*  
 quæ videntur tenuissimæ: quarum (sc. membranarum) (sup. eæ) quæ  
*which seem the thinnest: of which (those) which*

apparent simplicissimæ, exploratæ accuratius, ostendunt hanc structuram.  
*appear the most simple, examined more accurately, show this structure.*

97. Cellulosa tela sæpe crescit in mirum modum, que partes  
*The cellular tissue often grows in a wonderful manner, and the parts*  
 factæ ex ea, membranæ, vasa, &c., imprimis lentâ distentione;  
*formed of it, membranes, vessels, &c., especially by gradual distention;*  
 autem subita distentio vel rumpit eam vel facit tenuiorem. Nonnunquam  
*but sudden distention either breaks it or renders it thinner. Sometimes*  
 quoque crescit inter vicinas partes, que jungit eas quas Natura  
*also it grows between contiguous parts, and joins those which Nature*  
 fecerat liberas: concretiones præter naturam hujusmodi  
*had made free: growths contrary to nature (unnatural growths) of this sort*

sæpe, observantur, post inflammationem pulmonis vel viscerum abdominis.  
*often are observed, after inflammation of the lung or of the viscera of the abdomen.*

Et istæ novæ membranæ sunt vere cellulosæ.

*And those new membranes are truly cellular.*

98. Concrecit etiam suâ sponte, si fuerit secta, vel  
*It grows together also of its own accord, if it has been cut, or*  
 separata alio modo. Quod, si ingente inflammatione, et  
*separated (divided) in any other way. But, if by great inflammation, and*

observations nuper factæ suadent; sive ex  
 fibris laminisque tela cellulosa fiat, et ex hac  
 maxima pars omnium partium corporis, ut  
 celeb. Hallerus ostendere conatus est.

96. Da fibris earumque dotibus, alibi locus  
 erit dicendi (111 et seq.) Tela cellulosa ubique  
 in corpore observatur; fibras ipsas, quæ in  
 multis partibus satis manifestè apparent, circumdat  
 et nectit, et varias partes, quæ motum  
 aliquem in vicinas habere debent, leviter conjungit.  
 Eadem probe densata, firmissimas, et  
 quæ videntur tenuissimæ, membranas facit:  
 Quarum quæ simplicissimæ apparent, accuratius  
 exploratæ, hanc structuram ostendunt.

97. Crescit sæpe mirum in modum tela cellulosa,  
 partesque ex ea factæ, membranæ, vasa,  
 &c. imprimis lenta distentione; subita autem  
 distentio eam vel rumpit, vel tenuiorem facit.  
 Crescit quoque nonnunquam inter partes vicinas,  
 easque jungit quas Natura liberas fecerat.  
 Hujusmodi concretiones præter naturam sæpe  
 observantur, post inflammationem pulmonis vel  
 viscerum abdominis:—Et novæ istæ membranæ  
 vere cellulosæ sunt.

98. Concrecit etiam sua sponte, si secta vel  
 alio modo separata fuerit. Quod si ingente inflammatione,  
 et suppuratione facta, magna

factâ suppuratione, magna pars cellulosa telæ fuerit destructa, established suppuration, a great portion of the cellular tissue has been destroyed, tunc non renovatur, et fœda cicatrix relinquitur. then it is not renewed, and an unsightly cicatrix is left behind.

99. Quin et pars, ut fertur, vel ejusdem, vel alieni But also (moreover) a part, as it is said, either of the same, or of a different corporis, potest interdum jungi alii concretionem hujusmodi. body, can sometimes be joined to another by a growing together of this sort.

Hoc, si ullo fundamento, ars Taliacotii nitebatur, et alia Upon this, if upon any foundation, the art of Taliacotius depended, and another nupera (ars) multum jactata transponendi dentes. late one, much boasted (highly extolled) of transplanting teeth.

100. Cellulosa tela est reticulata aliis partibus, aliis referta The cellular tissue is reticulated in some parts, in others filled adipe. Scilicet, ubicunque magna moles, aut compressio with fat. That is to say, wheresoever great bulk, or compression

fuisse (pro attulissent ponitur et duplicem dativum regit) periculo aut would have brought danger or

incommodo veluti in capite, pulmone, oculis, palpebris, pene, inconvenience as in the head, lung, eyes, palpebræ, (eyelids,) penis, scroto, &c.: ibi colligit nullum adipem, sed est laxa et pure scrotum, &c.: there it collects no fat, but is loose and purely

reticulata. At, inter musculos corporis et artuum, sub reticulated. But, between the muscles of the body and of the limbs, under

cutem, et in abdomine, imprimis in omento, et circa the skin, and in the abdomen, especially in the omentum, and about

renes, plurimus adeps secernitur et colligitur. the kidneys, very much fat is secreted and is collected.

101. Adeps est purum animale oleum, parum diversus ab crassis Fat is pure animal oil, little differing from the expressed et mitibus oleis herbarum, fluidus in vitâ, sed crassior aut and mild oils of vegetables, fluid during life, but thicker or

tenuior variis partibus. Secernitur a sanguine, resorbetur facile, thinner in various parts. It is secreted from the blood, is reabsorbed easily, et sæpe subito, in ipsum (scilicet sanguinem), quamvis rarissime and often suddenly, into it, although very seldom

sincerrum oleum vel adeps conspiciatur in sanguine. pure oil or fat can be seen in the blood.

102. Est verisimile oleum per digestionem, converti, partim in It is probable that oil during digestion, is converted, partly in

ventriculo et intestinis, partim in pulmone, in fibrinam, gelatinam, the stomach and intestines, partly in the lungs, into fibrine, gelatin,

pars telæ cellulosa destructa fuerit, tunc non renovatur, et fœda cicatrix relinquitur.

99. Quin et pars, vel ejusdem, vel, ut fertur, alieni corporis, alii interdum jungi potest hujusmodi concretionem. Hoc, si ullo, fundamento, nitebatur ars Taliacotii; et alia nupera multum jactata, dentes transponendi.

100. Tela cellulosa est aliis partibus reticulata, aliis adipe referta. Scilicet, ubicunque magna moles, aut compressio, periculo aut incommodo fuisse, veluti in capite, pulmone, oculis, palpebris, pene, scroto, ibi nullum adipem colligit, sed laxa et pure reticulata est. At, inter mus-

culos corporis et artuum, sub cute, et in abdomine, imprimis in omento et circa renes, plurimus adeps secernitur, et colligitur.

101. Adeps purum oleum animale est, ab oleis herbarum crassis et mitibus parum diversus; in vita fluidus: sed variis partibus crassior aut tenuior. A sanguine secernitur, in ipsum facile, et sæpe subito, resorbetur, quamvis rarissime sincerum oleum vel adeps in sanguine conspiciatur.

102. Verisimile est oleum per digestionem, partim in ventriculo et intestinis, partim in pulmone, in fibrinam, gelatinam, et albumen con-

et albumen, et hæc, per secretionem, revertere iterum in oleum.  
*and albumen, and that these, during secretion, return again into oil.*

Profecto nulla secernentia organa adipis ostenduntur: tamen oportet  
*Truly no secreting organs of fat are shewn: nevertheless it behoves*  
 sint (scil. organa) istiusmodi, et quoque specialis fabrica  
*there be (there must be) (organs) of this kind, and also a peculiar mechanism*  
*cellulosæ telæ earum partium, quæ debent habere adipem, ut*  
*of the cellular tissue of those parts, which ought to have fat, that*  
 contineant oleum jam secretum, neque sinant transire ad  
*they may contain the oil already secreted, nor permit it to pass through to*  
 alias (partes.) Nam nunquam aperit viam sibi in partes purè  
*the others. For it never opens a passage for itself into parts purely*  
 reticulatas, quamvis via per cellulosa[m] telam sit facilis aëri  
*reticulated, although the passage through the cellular tissue is easy to air*  
 aut aquæ per totum corpus a capite ad calcem.  
*or water throughout the entire body from the head to the heel.*

103. In tenero fœtu nihil adipis reperitur, in maturo (fœtu)  
*In the tender fœtus nothing of fat is found, in the mature one*  
 parum: vero infantes, modo sint benè aliti, fere solent  
*a little: but infants, provided they be well fed, generally are accustomed*  
 pinguescere, donec incipient ambulare et exercere semet propriis  
*to grow fat, until they begin to walk and to exercise themselves by their own*  
 viribus; tum fiunt graciles, et manent sic usque ad virilem  
*strength: then they become slender, and continue so quite (to) virile*  
 ætatem, quâ (ætate) solent uti minus crebrâ et  
*age (manhood), in which they are accustomed to use less frequent and*  
 validâ exercitatione. Tum fiunt quadrati, et sæpe obesissimi:  
*strong exercise. Then they become square, and often very fat:*  
 maturâ senectute, paulatim marcescunt denuo. Vero puellæ  
*in mature old age, they gradually grow lean again. But girls*  
 quodammodo pinguescunt circa puberem ætatem, unde  
*somehow grow fat about ripe age (the age of puberty,) whence*  
 nitida teres forma adeo amabilis, et apta premi: et, fere  
*the neat round figure so lovely, and fit to be pressed: and, almost*  
 omni ætate, feminae pinguescunt plus quam viri. Viri quoque, laxi  
*at every age, women grow fat more than men. Men also, lax*  
 et flaccidi (secundum) habitum corporis, fiunt obesiores firmioribus  
*and flaccid (as to) their habit of body, become fatter than those firmer*  
 (sec. habit.)  
*(as to their habit, &c.)*

104. Adeps colligitur usu multi oleosi nutrientis cibi, præsertim  
*Fat is collected by the use of much oily nourishing food, especially*

verti; et hæc iterum per secretionem in oleum revertere. Nulla profecto adipis organa secernentia ostenduntur. Oportet tamen istiusmodi sint, et fabrica quoque specialis telæ cellulose earum partium, quæ debent habere adipem, ut oleum jam secretum contineant neque ad alias transire sinant. Nam in partes pure reticulatas viam sibi nunquam aperit, quamvis per telam cellulosa[m] facilis via sit aëri aut aquæ per totum corpus a capite ad calcem.

103. In tenero fœtu nihil adipis, in maturo parum reperitur. Infantes vero, modo bene aliti sint, fere soleat pinguescere, donec ambulare

et propriis viribus semet exercere incipient; tum graciles fiunt, et sic manent ad virilem usque ætatem, qua minus crebra et valida uti soleat exercitatione. Tum quadrati fiunt, et sæpe obesissimi: in maturo senectute, paulatim denuo marcescunt. Puellæ vero quodammodo pinguescunt circa ætatem puberem; unde forma nitida, teres, amabilis adeo, et apta premi: et fere omni ætate, feminae plus quam viri pinguescunt. Viri quoque habitum corporis laxi et flaccidi firmioribus obesiores fiunt.

104. Colligitur adeps usu multi cibi, oleosi, nutrientis, ex carnibus præsertim (modo con-

ex carnibus, modo concoctio sit bona, et validi potûs, imprimis  
*of flesh, provided digestion be good, and of strong drink, especially*  
 cerevisiæ, quiete et tranquillitate et animi et corporis, multo somno  
*porter, by rest and tranquillity both of mind and of body, by much sleep*  
 et torpore, castratione, frigore, repetitâ detractio sanguinis, que  
*and torpor, by castration, by cold, by repeated abstraction of blood, and*  
 multis aliis exinanitionibus: scilicet, quicquid, sanitate salvâ,  
*by many other evacuations; that is to say, whatever, the health being safe,*  
 minuit vitales et animales vires, et imprimis solitas excretiones,  
*diminishes the vital and animal powers, and especially the usual excretions,*  
 favet huic (sc. obesitati.) Vero multum pendet ab habitu corporis  
*favours this. But much depends upon the habit of the body*

ipsius, neque potest homo, ut bos, saginari ad libitum.  
*itself, nor can a man, as an ox, be flattened ad libitum (without limit.)*

105. Certa obesitas, secundum ætatem hominis, est signum et  
*A certain fatness, according to the age of a man, is a sign and*  
 effectus prosperæ valetudinis. Vero nimia est ipsa morbus, et causa  
*effect of good health. But too much is itself a disease, and the cause*  
 aliorum morborum: vero semper et certissimè debellanda, si  
*of other diseases: but always and most certainly to be subdued, if*  
 modo fuerint bona voluntas et vis animi, validâ  
*only there shall be good will and strength of mind (resolution), by strong*  
 exercitatione corporis, brevè somno, parcâ et siccâ diætâ. Ne  
*exercise of the body, by short sleep, sparing and dry diet. Nor*  
 gregarius miles fuerit facile repertus, qui conqueratur de tali  
*will a common soldier be easily found, who can complain of such*  
 morbo.  
*a disease.*

106. Adeps semper facit haud exiguam partem corporis, aliquando  
*Fat always forms no small part of the body, sometimes*  
 maximam (partem.) Igitur est non dubitandum quin habeat suos  
*the greatest. Therefore it is not to be doubted but that it has its own*  
 usus. Reddit motum faciliorem et liberio rem, oblinendo partes  
*uses. It renders motion easier and more free, by oiling the parts*  
 movendas, et sic minuendo frictionem: hoc modo impedit ne  
*to be moved, and thus by diminishing friction: in this manner it hinders that*  
 solidæ partes abradantur, quod aliter fieret; nec sinit  
*the solid parts be abraded, which otherwise would happen; nor does it permit*  
 vicinas partes concrecere, quod aliquando fit, si ulcere,  
*the contiguous parts to grow together, which sometimes happens, if by an ulcer,*

coctio bona sit) et potus validi, cerevisiæ imprimis, et animi et corporis quiete et tranquillitate, multo somno et torpore, castratione, frigore, sanguinis detractio repetita, multisque aliis exinanitionibus; quicquid scilicet, salva sanitate, vires vitales et animales, et imprimis solitas excretiones, minuit, huic favet. Multum vero pendet ab ipsius corporis habitu, neque homo, ut bos, ad libitum saginari potest.

105. Certa, secundum ætatem hominis, obesitas, prosperæ valetudinis signum est et effectus. Nimia vero, ipsa morbus est, et aliorum morborum causa: semper vero et cer-

tissime debellanda, si modo fuerint bona voluntas et vis animi, valida corporis exercitatione, breve somno, parca et sicca diætâ. Nec facile miles gregarius repertus fuerit, qui de tali morbo conqueratur.

106. Adeps semper partem haud exiguam corporis facit, aliquando maximam. Non est igitur dubitandum, quin suos usus habeat. Motum faciliorem et liberio rem reddit, partes movendas oblinendo, et sic frictionem minuendo. Hoc modo, ut abradantur solidæ partes, quod aliter fieret, impedit; nec sinit partes vicinas concrecere, quod aliquando fit, si ul-

vel alio casû, aliqua pars telæ quæ continebat adipem  
 or other accident, some part of the tissue which contained the fat  
 fuerit destructa.  
 has been destroyed.

107. Quin confert haud parum et ad formam et pulchritudinem  
 But it contributes not a little both to the form and beauty  
 corporis, implendo magna interstitia inter musculos quæ  
 of the body, by filling up the large interstices between the muscles which  
 redderent corpus deforme et horrendum. Autem justâ pinguedine,  
 would render the body deformed and horrible. But by a due fatness,  
 hoc (corpus) fit nitidum, teres atque rotundum. Porro, adeps dat  
 this becomes neat, round and plump. Moreover, fat gives  
 candidum, cereum colorem, qui mixtus roseo, efficit colorem  
 a white, waxy colour, which mixed with the rosy, renders the colour  
 oris venustissimum. Hinc fit ut puellæ male metuentes  
 of the countenance very comely. Hence it happens that girls foolishly fearing  
 ne nimis pinguescant, et conantes, medicamentis, diætâ,  
 lest they should grow too fat, and endeavouring, by medicine, by diet,  
 genere vitæ, marcescere, soleant perdere, cum nitido habitu  
 by manner of life, to grow lean, are accustomed to destroy, with their neat habit  
 corporis, venustatem oris quoque.  
 of the body, the comeliness of the face also.

108. Adeps resumptus ex suis cellulis in sanguinem, creditur  
 Fat taken up again from its cells into the blood, is believed  
 nutrire: sed hoc est minus certum. Defendit quodammodo a frigore;  
 to nourish: but this is not certain. It defends in some degree from cold;  
 datus magnâ copiâ animalibus frigidarum regionum.  
 being given in great abundance to the animals of the cold regions.

cere vel alio casu, pars aliqua telæ quæ adipem  
 continebat destructa fuerit.

107. Quin, et ad corporis formam et pulchritudinem haud parum confert, magna interstitia inter musculos implendo, quæ corpus deforme et horrendum redderent. Justa autem pinguedine, hoc, nitidum, teres, atque rotundum fit. Porro, adeps colorem dat candidum, cereum, qui roseo mixtus, venustissimum oris colorem

efficit. Hinc fit, ut puellæ, male metuentes ne nimis pinguescant, et medicamentis, diætâ, vitæ genere, marcescere conantes, cum nitido corporis habitu, oris quoque venustatem perdere soleant.

108. Nutrire creditur adeps ex suis cellulis in sanguinem resumptus. Sed hoc minus certum est. A frigore quodammodo defendit: animalibus regionum frigidarum magna copia datus.

CAP. III.  
CHAP. III.

*De vivo solido, seu nervoso genere, que dotibus et  
Of the living solid, or nervous system, and the properties and  
fabricâ et usibus ejûs; nec non de conjecturis quæ prolatae  
structure and uses of it; also of the conjectures which have been  
sunt circa naturam et functiones ejûs.  
set forth about the nature and functions of it.*

109. Solidæ partes quæ habent sensum et mobilitatem dicuntur  
*The solid parts which have sensation and mobility are called  
viva vel vitalia solida. Hæ dotes, pendentes à vitâ, incipiunt  
the living or vital solids. These properties, depending upon life, begin  
et desinunt cum eâ (vita): vero dotes solidarum partium, de quibus  
and end with it: but the properties of the solid parts, of which  
fuit dictum, supersunt etiam post mortem.  
it has been spoken, remain even after death.*

110. Autem partes, quæ habent vel sensum, vel mobilitatem, vel  
*But the parts, which have either sensation, or mobility, or  
utrumque, sunt cerebrum, cerebellum, medulla oblongata, medulla spinalis,  
both, are the brain, the cerebellum, the medulla oblongata, medulla spinalis,  
nervi oriundi ex his, diffusi per  
the nerves that are derived (given off) from these, diffused (distributed) through  
fere totum corpus, impensi in varia organa singulorum  
almost the whole body, expended upon the various organs of the individual  
sensuum, et musculos, et demum musculi ipsi.  
senses, and muscles, and lastly the muscles themselves.*

111. Sensus est multo magis generalis quam mobilitas, quippe (is)  
*Sensation is much more general than mobility, as being that  
qui sit communis omnibus partibus jam recensitis, quamvis plane  
which is common to all the parts already enumerated, although evidently  
fiat per nervos solos. Vero mobilitas est propria  
it takes place through the nerves alone. But mobility is peculiar  
musculosis fibris solis: igitur ubicunque sensus est, ibi  
to the muscular fibres alone: therefore wherever sensation is, there  
nervi (sunt;) vero ubicunque mobilitas observatur, ibi musculosæ fibræ  
nerves (are;) but wherever mobility is observed, there muscular fibres  
videntur esse.  
seem to be.*

CAP. III.—*De solido vivo, seu genere nervoso, ejusque dotibus, fabrica, et usibus; nec non de conjecturis quæ circa ejus naturam et functiones prolatae sunt.*

109. *Solida viva, vel vitalia, dicantur partes solidæ quæ sensum et mobilitatem habent. Hæ dotes, a vita pendentes, cum ea incipiunt et desinunt. Dotes vero partium solidarum, de quibus (75, et seq.) dictum fuit, etiam post mortem supersunt.*

110. *Partes autem, quæ vel sensum, vel mobilitatem, vel utrumque habent, sunt cerebrum,*

*cerebellum, medulla oblongata, medulla spinalis, nervi ex his oriundi, per totum fere corpus diffusi, in varia singulorum sensuum organa et musculos impensi, et demum musculi ipsi.*

111. *Sensus multo magis generalis est quam mobilitas, quippe qui omnibus partibus jam recensitis communis sit, quamvis plane per nervos solos fiat. Mobilitas vero solis fibris musculosis est propria. Ubicunque igitur sensus est, ibi nervi; ubicunque vero mobilitas, observatur, ibi fibræ musculosæ videntur esse.*

112. Quin et mobilitas ipsa videtur pendere a nexu quem  
*Moreover mobility itself seems to depend upon the connexion which*  
 musculi habent cum nervis, &c. nam nervo resecto, vel  
*the muscles have with the nerves, &c. for a nerve being cut off, or*  
 compresso vel ligato, musculi quibus impendebatur, brevi  
*compressed or tied, the muscles upon which it was expended, quickly*  
 amittunt suam mobilitatem seu propriam vim contrahendi; nec  
*lose their mobility or peculiar power of contracting; nor*  
 res habet se aliter si cerebrum ipsum, vel origo  
*does the thing have itself otherwise if the brain itself, or origin*  
 nervorum, fuerint male affecta.  
*of the nerves, should be badly affected (disordered).*

113. Sunt (ii) qui credunt musculos oriri et formari  
*There are those who believe that the muscles arise and are formed*  
 a nervis, et constare ex eadem materiâ. Utrique sane  
*from the nerves, and that they consist of the same material. Both truly*  
 habent similem structuram, quatenus constant ex valde minutis  
*have a similar structure, inasmuch as they consist of very minute*  
 fibris; utrique sunt albi, dummodo musculi fuerint probe eloti et  
*fibres; both are white, provided the muscles have been well washed and*  
 purgati a sanguine, quem continent multum: neque  
*cleansed from the blood, when they contain much (in abundance): nor*  
 possunt nervosæ fibræ, quæ bene multæ subeunt musculos,  
*can the nervous fibres, which very numerous supply the muscles,*  
 distingui ullo modo ope *microscopii*, ab muscularibus  
*be distinguished in any way by means of the microscope, from the muscular*  
 fibris ipsis. Porro utrisque est (est pro habet) idem sensus, et  
*fibres themselves. Moreover both have the same sensation, and*  
 stimulantia et sedantia medicamenta plane edunt eosdem effectus  
*stimulating and sedative medicines evidently produce the same effects*  
 in musculis, sive fuerint admota musculo ipsi, sive  
*upon the muscles, whether they (shall) be applied to the muscle itself, or*  
 nervo qui adeat eum.  
*to the nerve which goes to (supplies) it.*

114. Quantis difficultatibus scientia originis multarum  
*With how great difficulties the knowledge of the origin of many*  
 partium corporis prematur erit locus dicendi  
*parts of the body is pressed (beset) there will be an opportunity of speaking*  
 alibi; sive credamus omnes produci eodem tempore, sive  
*elsewhere; whether we believe that all are produced at the same time, or*  
 alias post alias certo ordine: interea tamen  
*some after others in a certain order: in the mean time nevertheless*

112. Quin et mobilitas ipsa a nexu, quem musculi cum nervis, &c. habent, pendere videtur: nam resecto, vel compresso, vel ligato nervo, musculi quibus impendebatur, mobilitatem suam, seu vim propriam contrahendi, brevi amittunt; nec aliter res se habet, si cerebrum ipsum, vel origo nervorum, male affecta fuerint.

113. Sunt qui credunt musculos a nervis oriri et formari, et ex eadem materia constare. Utrique sane similem structuram habent, quatenus ex fibris valde minutis constant; utrique albi sunt, dummodo musculi probe eloti, et a

sanguine, quem multum continent, purgati fuerint: Neque ope *microscopii* ullo modo distingui possunt fibræ nervosæ, quæ bene multæ musculos subeunt, ab ipsis fibris muscularibus. Porro, idem sensus utrisque est, et stimulantia et sedantia medicamenta eosdem plane effectus in musculis edunt, sive ipsi musculo, sive nervo qui eum adeat, admota fuerint.

114. Quantis difficultatibus prematur scientia originis multarum corporis partium, alibi locus erit dicendi; sive omnes eodem tempore, sive alias post alias, certo ordine produci credamus. Interea tamen non dissimulandum est, partes

non est dissimulandum (sup. nobis) quasdam musculosas partes conspici  
*we must not dissemble that certain muscular parts are seen*  
 perquam mature in fœtû, et jam adeptas esse insignem  
*very early in the fœtus, and already have acquired remarkable*  
 vim et robur, quum cerebrum ipsum reperitur adhuc molle et  
*power and strength, when the brain itself is found still soft and*  
 fere fluidum; et actionem earum (part. mus.) requiri ad functionem  
*almost fluid; and that the action of them is required to the function*  
 et augmen hujus (cerebri); et musculos esse semper multo firmiores  
*and increase of the latter; and that muscles are always much firmer*  
 partibus vere nervosis, et habere propriam vim, nimirum  
*than parts truly nervous, and have a peculiar power, namely*  
 irritabilem, quam nervi nunquam participant.  
*the irritable (irritability), which the nerves never participate.*

115. Igitur oportet vel (sup. ut) musculi fuerint constituti  
*Therefore it behoves either that the muscles (should) be constituted*  
 ex materiâ diversâ ab eâ ex quâ nervi fiunt, vel si  
*of matter different from that of which the nerves are made, or if*  
 utrique constant ex eadem (materia) hæc sit fabricæ prorsus  
*both consist of the same this is of a structure wholly*  
 diversæ in his ac in illis, ut habeat  
*different in the latter and in the former, that it should have (to have)*  
 vires adeo dissimiles. Quod si, igitur, substantia musculorum  
*strength so dissimilar. But if, therefore, the substance of the muscles*  
 ac nervorum sit diversa, tum patebit facile multam nervosam  
*and nerves be different, then it will appear easily that much nervous*  
 substantiam misceri semper cum musculosâ (substantia). Nam  
*substance is mixed always with the muscular. For*  
 tenuissima acicula potest non adigi in musculum quin  
*the most slender little needle can not be driven into a muscle but that*  
 inde multi nervosi ramuli pungantur vel lacerentur  
*thence many nervous little branches (filaments) are pricked or are lacerated*  
 simul, ut dolor clare testatur.  
*at the same time, as the pain clearly testifies.*

116. Igitur tam arctus nexus intercedit inter  
*Therefore so close a connexion goes between (exists) between*  
 musculos que nervos tum quod attinet ad officium  
*the muscles and the nerves as well what belongs to (in relation to) the duty*  
 quo funguntur tum quod attinet ad fabricam quam habent,  
*which they perform as what belongs to the structure which they have,*  
 ut omnia viva solida habeantur merito pro partibus ejusdem  
*that all the living solids may be considered justly as parts of the same*

quasdam musculosas perquam mature in fœtu conspici, et insignem vim et robur jam adeptas esse, quum cerebrum ipsum adhuc molle et fere fluidum reperitur: earumque actionem ad hujus functionem et augmen requiri; et musculos semper partibus vere nervosis multo firmiores esse, et vim propriam, irritabilem nimirum, habere, quam nervi nunquam participant.

115. Oportet, igitur, vel ex diversa musculi constituti fuerint materia, ab ea ex qua nervi fiunt, vel, si ex eadem utrique constant, hæc fabricæ prorsus diversæ sit in his, ac in illis,

ut vires adeo dissimiles habeat. Quod si, igitur, diversa sit musculorum ac nervorum substantia, tum facile patebit multam substantiam nervosam cum musculosâ semper misceri. Nam acicula tenuissima non potest in musculum adigi, quin inde simul multi ramuli nervosi pungantur vel lacerentur; ut dolor clare testatur (111).

116. Igitur tam arctus inter musculos nervosque intercedit nexus, tum quod ad officium attinet quo funguntur, tum quod ad fabricam quam habent, ut merito omnia viva solida pro



generis, cui nomen Nervosum Genus solet imponi à  
 system, to which the name Nervous System is accustomed to be applied by  
 medicis.  
 physicians.

117. Miræ dotes quas hæ partes possident vindicarunt  
*The wonderful properties which these parts possess have claimed*  
 sibi, optimo jure, attentionem medicorum et philosophorum:  
*to themselves, by the best right, the attention of physicians and philosophers:*  
 que plurimi et ingeniosissimi viri, inter quos oportet numerare  
*and many and very ingenious men, amongst whom it behoves to reckon*  
 summum Newtonum, collocarunt haud exiguam operam in investigandis  
*the great Newton, have bestowed no small labour in investigating*  
 causis earundem (dotum) que perscrutando modo quo  
*the causes of the same and in thoroughly searching the manner in which*  
 variæ functiones ipsarum fierent, que protulerunt  
*the various functions of themselves were done (performed), and made*  
 in medium varias conjecturas quæ placebant singulis de  
*public (published) the various conjectures which pleased each concerning*  
 his rebus. Vero ulla ratio nondum est  
*these things. But any method has not yet (no method has yet) been*  
 proposita explorandi rem per experimenta: et experientia  
*proposed of exploring the matter by experiments: and the experience*  
 bis mille annorum demonstravit satis que super,  
*of twice a thousand years has demonstrated sufficiently and above,*  
 sapientissimos etiam hominum rarissime detegere arcana Naturæ  
*that the wisest even of men very seldom unfold the secrets of Nature*  
 conjectando. Nonnulli scriptores, abusi sunt omnino male nunquam  
*by conjecturing. Some writers, have misused altogether badly the never*  
 non venerando nomine Newtoni, qui rejecerunt in  
*not to be venerated (ever to be revered) name of Newton, who have referred to*  
 totam auctoritatem ejus opinionem quam cuperent tueri  
*the entire authority of him the opinion which they wished to defend (to*  
 quamvis ille, (Newtonius) solitâ modestiâ et prudentiâ,  
*support) although he, with his accustomed modesty and prudence,*  
 quas plerique auctores maluere laudare quam imitari, proposuerit  
*which most authors had rather praise than imitate, proposed*  
 suam sententiam de hac re, tantum pro conjecturâ seu  
*his own opinion concerning this matter, only as a conjecture or*  
 quæstione, aut refellendâ aut confirmandâ idoneis experimentis et  
*question, either to be refuted or confirmed by suitable experiments and*  
 argumentis. Sed ne licet sumere conjecturas quidem  
*arguments. But it is not permitted to take (to admit) the conjectures even*

artibus ejusdem generis habeantur, cui nomen  
*genus Nervosum a medicis imponi solet.*

117. Miræ quas hæ partes possident dotes  
 medicorum et philosophorum attentionem op-  
 mo jure sibi vindicarunt: plurimique et in-  
 eniosissimi viri (inter quos summum *Neuto-*  
 numerare oportet) operam haud exiguam  
 llocarunt in causis earundem investigandis,  
 odoque perscrutando quo variæ ipsarum  
 nctiones fierent; variasque quæ singulis  
 abebat de his rebus conjecturas in medium  
 otulerunt. Nondum vero ratio ulla propo-  
 ta est rem per experimenta explorandi; et

experientia bis mille annorum satis superque  
 demonstravit sapientissimos etiam hominum  
 Naturæ arcana conjectando rarissime detegere.  
 Male omnino *Newtoni* nomine, nunquam non  
 venerando, abusi sunt scriptores nonnulli, qui  
 opinionem quam tueri cuperent in ejus aucto-  
 ritatem rejecerunt totam: quamvis ille, solita  
 modestia et prudentia (quas laudare quam imi-  
 tari plerique auctores maluere) suam de hac  
 re sententiam, pro conjectura tantum seu  
 quæstione proposuerit, idoneis experimentis et  
 argumentis aut refellenda aut confirmanda.  
 Sed ne quidem *Newtoni* conjecturas pro veris

Neutoni pro veris: non sic ille imitandus; non sic scientia  
of Newton as truths: not thus is he to be imitated; not thus is science  
promovenda.  
to be promoted.

118. Profecto variae sententiæ prolatae sunt de modo  
Truly various opinions have been published concerning the mode  
quo sensus que motus fiunt in animali corpore; vero hoc  
in which sensation and motion take place in the animal body; but this  
fundamentum fortasse quoque et vitium, est commune omnibus,  
principle perhaps also even fault, is common to all,  
nempe, quod petant rationem utriusque à quibusdam motibus  
namely, that they seek the cause of both from certain motions  
propriis et peculiaribus Nervoso Generi, incipientibus ab organo  
proper and peculiar to the Nervous System, beginning from the organ  
sensûs, et propagatis per nervos ad cerebrum dum sen-  
of sense, and propagated through the nerves to the brain whilst we are  
timus, et incipientibus a cerebro que delatis  
perceiving (during sensation), and beginning from the brain and carried  
per nervos, (sive eosdem qui inserviunt sensui  
(transmitted) through the nerves, (whether the same which serve for sensation  
sive alios omnino diversos et distinctos quamvis colligatos cum  
or others altogether different and distinct although bound up with  
illis in eundem fasciculum ad musculos dum movemus  
them in the same bundle (fasciculus) to the muscles whilst we are moving  
nostros musculos ad arbitrium.  
our muscles at our will.

119. Alii crediderunt hos motus fieri per substantiam  
Some believed that these motions were caused through the substance  
ipsam nervorum trementium vel vibrantium ut vocabant non  
itself of the nerves trembling or vibrating as they called it not  
secus ac chordæ lyrae tremunt percussæ  
otherwise than as (like as) the chords of a lyre tremble (when) struck  
plectro.  
with the plectrum.

120. Alii quibus erat bene perspectum quam male nervi et  
Others to whom it was well perceived how badly the nerves and  
cerebrum essent accommodati ad perficiendos et propagandos tales  
brain were suited to perform and propagate such  
tremores vel motus, quippe qui existant toti mollissimi  
tremors or motions, as being things which exist entire (throughout) very soft  
et impediti multum tactu vicinarum partium, vel  
and hindered very much by the contact of the neighbouring parts, or

sumere licet: non sic ille imitandus; non sic scientia promovenda.

118. Variæ profecto sententiæ, de modo quo sensus motusque in corpore animali fiunt, prolatae sunt; omnibus vero hoc fundamentum commune est, fortasse et vitium quoque, nempe, quod rationem utriusque petant a motibus quibusdam *Generi Nervoso* propriis et peculiaribus, ab organo sensus incipientibus, et per nervos ad cerebrum propagatis, dum sentimus; et a cerebro incipientibus, perque nervos (sive eosdem qui sensui inserviunt, sive alios omnino diversos et distinctos, quamvis in

eundem fasciculum cum illis colligatos) ad musculos delatis, dum musculos nostros ad arbitrium movemus.

119. Hos motus alii crediderunt per ipsam substantiam nervorum fieri, trementium vel vibrantium, ut vocabant, non secus ac lyrae chordæ tremunt plectro percussæ.

120. Alii, quibus bene perspectum erat quam male accommodati essent nervi et cerebrum tales perficiendos et propagandos tremores vel motus (quippe qui toti mollissimi existant, et vicinarum partium tactu multum impediti vel sæpe etiam ad vicinas partes alligati sint

sæpe etiam sint alligati ad vicinas partes, rejecerunt motus  
*often even are bound to the neighbouring parts, referred the motions,*  
 quos contendebant fieri et esse necessarios, in tenuem et  
*which they contended took place and were necessary, to a thin and*  
 valde mobilem humorem, quem fugebant iuisse nervis, que  
*very mobile fluid, which they supposed existed in the nerves, and*  
 moveri in iis suis legibus, que possidere multas et miras  
*was moved in them by its own laws, and possessed many and wonderful*  
 dotes et excellentias.  
*properties and excellencies.*

121. Demum alii confugerunt potius ad Universalem Ætherem, qualem  
*Lastly others had recourse rather to a Universal Æther, such as*  
 et nuper et olim multis philosophis persuasum est (imperson. ponitur)  
*both lately and formerly many philosophers believed*  
 pervadere, implere, que temperare totum mundum variis legibus;  
*pervaded, filled up, and governed the whole world by various laws;*  
 ope et ministerio cuius sidera mearent, sol fulgeret,  
*by the aid and ministry of which the stars passed on, the sun shone,*  
 mare cresceret que decresceret, flumina laberentur,  
*the sea increased and decreased (flowed and ebbd), rivers glided on,*  
 venti spirarent, plantæ pullularent, Jupiter ipse tonaret. — Certe  
*the winds blew, plants budded, Jupiter himself thundered.—Certainly*  
 utilissimus et strenuissimus æther, sed nusquam prehensus, nusquam  
*a very useful and very powerful æther, but nowhere laid hold of, never*  
 deductus ad quæstionem ut redderet rationem sui,  
*brought to the question that it might render an account of itself,*  
 mutabilior et fugacior Proteo ipso, jam agitatus  
*more changeable and transient than Proteus himself, already agitated*  
 diu que multum frustra, tandem requiescat in pace. Nam  
*a long time and a great deal in vain, at length let it rest in peace. For*  
 quæ spesprehendendi (sup. id) “cui est jus  
*what hope of taking that “to which is (which has) the faculty*  
*transire in plures figuras?”*  
*to pass into many forms?”*

“Nam modo videre (pro videbant) te juvenem, modo (videre)  
*“For now they saw thee a youth, now they saw*  
 te leonem:— nunc eras violentus aper: nunc anguis quem  
*thou a lion:— now thou wast a savage boar: now a snake which*  
 timerent tetigisse: modo cornua faciebant te taurum:—  
*they would fear to have touched: sometimes horns made thee a bull:—*  
 sæpe poteras videri lapis, sæpe quoque arbor.— Interdum, imitatus  
*often you could seem a stone, often also a tree.— Sometimes, imitating*

motus, quos fieri et necessarios esse contende-  
 bant, in humorem tenuem et valde mobilem  
 rejecerunt, quem nervis inesse fingeant, inque  
 iis suis legibus moveri, multasque et miras  
 dotes et excellentias possidere.

121. Alii demum ad Ætherem Universalem  
 potius confugerunt, qualem et nuper et olim  
 multis philosophis persuasum est totum mun-  
 dum pervadere, implere, variisque legibus tem-  
 perare; cuius ope et ministerio sidera mearent,  
 sol fulgeret, mare cresceret decresceretque, flu-  
 mina laberentur, venti spirarent, plantæ pul-  
 lularent, Jupiter ipse tonaret.—Utilissimus  
 certe et strenuissimus æther, sed nusquam pre-

hensus, nusquam ad quæstionem deductus, ut  
 sui rationem redderet, Proteo ipso mutabilior  
 et fugacior, diu multumque jam frustra agita-  
 tus, tandem requiescat in pace. Nam quæ spes  
 prehendendi “cui in plures jus est transire  
 figuras.”

“Nam modo te juvenem, modo te videre  
 leonem; [merent  
 Nunc violentus aper, nunc quem tetigisse ti-  
 Auguis eras; modo te faciebant cornua taurum.  
 Sæpe lapis poteras, arbor quoque sæpe videri.  
 Interdum, faciem liquidarum imitatus aqua-  
 rum, [ignis.”  
 Flumen eras; interdum, uadis contrarius

faciem liquidarum aquarum, eras flumen: interdum,  
*the appearance of liquid waters, thou wast a river: sometimes,*  
 ignis contrarius undis.”  
*fire contrary to waters.”*

122. Vero medici male disputaverint de his aut similibus  
*But physicians badly disputed concerning these or similar*  
 commentis priusquam fuerit demonstratum vel observando vel  
*inventions before it was demonstrated either by observing or*  
 experiendo talem æthera existere, que  
*by trying (by observation or experience) that such an æther existed, and*  
 tales motus fieri in nervoso genere, vel saltem fuerit  
*that such motions were made in the nervous system, or at least it was*  
 factum credibile nodum iri solutum  
*made (rendered) credible that the knot would be loosed (the difficulty removed)*  
 talibus conjecturis. Enim omnibus postulatis de æthere et  
*by such conjectures. For all things required concerning the æther and*  
 motibus in nervoso genere concessis, proficitur omnino parum:  
*motions in the nervous system being granted, it advantages nothing at all:*  
 nam tremores nervorum, vel motus ætheres, qualescunque amantissimi  
*for tremors of the nerves, or motions of the æther, whatever kind the most loving*  
 commentorum hujusmodi potuerint fingere sibi,met,  
*of conjectures of this kind could (have been able to) imagine to themselves*  
 erunt nusquam aut sensus, aut similes sensui, aut unquam  
*will be in no way either sensation, or like to sensation, or ever*  
 mutabiles, secundum notas leges Naturæ, in sensum.  
*changeable, according to the known laws of Nature, into sensation.*

123. Nec quisquam facile ostenderit quo pacto voluntas  
*Nor could any one easily shew in what manner the will*  
 animi, cui voluntati inest nihil corporei, afficeret tenuissimum  
*of the mind, which will has nothing corporeal, could affect a very thin*  
 et subtilissimum que mobilissimum æthera, facilius aut melius quam  
*and very subtle and very mobile æther, more easily or better than*  
 saxum que conjiceret eum (æth.) in motus.  
*a stone and throw it into motions.*

124. Nec hoc modo melior aut magis perspicua ratio  
*Nor in this manner is a better or more perspicuous explanation*  
 redditur sensuum qui dicuntur interni, scilicet, memoriæ,  
*rendered of the senses which are called internal, that is to say, of memory,*  
 imaginationis, et judicii. Erit vix credibile ullos motus  
*of imagination, and judgment. It will be scarcely credible that any motions*  
 retineri et condi in nervoso genere, erupturos denuo et  
*are retained and stored in the nervous system, to break forth again and*

122. Male vero de his aut similibus commen-  
 tis medici prius disputaverint, quam vel obser-  
 vando vel experiendo, demonstratum fuerit,  
 talem æthera existere, talesque in *genere ner-  
 voso* motus fieri; vel saltem credibile factum  
 fuerit, talibus conjecturis nodum solutum iri.  
 Concessis enim omnibus de æthere et motibus in  
*genere nervoso* postulatis, parum omnino profici-  
 tur; nam tremores nervorum vel motus ætheris,  
 qualescunque commentorum hujusmodi aman-  
 tissimi sibi met fingere potuerint, nusquam aut  
 sensus erunt, aut sensui similes, aut in sen-

sum, secundum notas Naturæ leges, unquam  
 mutabiles.

123. Nec facile quisquam ostenderit quo  
 pacto voluntas animi, cui voluntati nihil inest  
 corporei, tenuissimum, et subtilissimum, mo-  
 bilissimumque æthera, facilius aut melius quam  
 saxum afficeret, eumque in motus conjiceret.

124. Nec melior hoc modo aut magis per-  
 spicua ratio redditur sensuum qui dicuntur  
 interni; memoriæ scilicet, imaginationis, et  
 judicii. Vix credibile erit motus illos in  
*genere nervoso* retineri et condi, nostro arbitrio

renovandos nostro arbitrio; neque impressiones aut vestigia  
*to be renewed at our pleasure; nor that impressions or footsteps (traces)*  
 aut ullas imagines eorum motuum imprimi in cerebro, veluti  
*or any images of those motions are impressed in the brain, as*  
 sigilli in cera, quas (imag. &c.) contemblemur iterum que iterum ad  
*of a seal in wax, which we can contemplate again and again at*  
 nostrum arbitrium, que integremus denuo motus qui primo  
*our pleasure, and renew again the motions which at first*  
 effecissent eas: tamen renovatio præteritorum sensuum est sæpe  
*had produced them: nevertheless the renewal of gone by sensations is often*  
 validissima, recordantibus, imaginantibus, somniantibus.  
*very strong, in persons remembering, imagining, dreaming.*

125. Quod si tales motus sunt necessarii ad actionem æque  
*But if such motions are necessary to the action alike*  
 interiorum ac exteriorum sensuum, tum plane oportebit vel  
*of the internal as of the external senses, then plainly it will behove either*  
 (ut) motus præcedant sensum, vel hic (præcedat) illos, vel  
*that the motions precede the sensation, or the latter the former, or*  
 denique utrique fiant uno que eodem puncto temporis. Si  
*lastly that both take place at one and the same instant of time. If*  
 sensus est prior, nequit oriri à quovis motu fluidi  
*sensation is the former, it cannot arise from any motion of the fluid*  
 nervorum, et debet habere aliam causam. Si ille motus  
*of the nerves, and ought to have another cause. If the former motion*  
 est prior, causa ejus erit quærenda, scilicet qui possit  
*is prior, the cause of it will be to be sought, as being a thing which can*  
 minime pendere à sensu aut voluntate quæ sequuntur.  
*by no means depend upon sensation or will (volition) which follow.*  
 Si demum uterque, nimirum motus et sensus, fit simul,  
*If finally both, namely motion and sensation, take place at the same time,*  
 oportet (nos) fingere aliam causam utriusque; enim neuter potest  
*it behoves that we imagine another cause of both; for neither can*  
 esse causa alterius priusquam ipse existit.  
*be the cause of the other before itself exists.*

126. Sane possumus vix, aut ne quidem vix, concipere  
*Truly we can scarcely, or not even scarcely, conceive*  
 animo ullam mutationem fieri in corporeis rebus, quæ (mutatio)  
*in our mind that any change is made in corporeal things, which*  
 non pendeat a quodam motu, vel saltem conjugatur aliquo  
*does not depend upon some motion, or at least is conjugated in some*  
 modo cum motu: vero res de quibus agitur hic,  
*manner with motion: but the things of which it is treated here,*

denuo erupturos et renovandos; neque impressiones, aut vestigia, aut imagines ullas eorum motuum in cerebro imprimi, veluti sigilli in cera, quas ad arbitrium nostrum iterum iterumque contemblemur, motusque qui eas primo effecissent denuo integremus. Tamen validissima sæpe est sensuum præteritorum renovatio, recordantibus, imaginantibus, somniantibus.

125. Quod si tales motus ad interiorum æque ac exteriorum sensuum actionem necessarii sunt, tum plane oportebit, vel motus sensuum præcedant, vel hic illos, vel denique uno eodemque temporis puncto utrique fiant.—Si

prior est sensus, a motu quovis fluidi nervorum oriri nequit, et aliam igitur debet habere causam.—Si prior est motus ille, causa ejus quærenda erit, scilicet qui minime pendere possit a sensu aut voluntate quæ sequuntur. Si demum uterque, motus nimirum et sensus, simul fit, utriusque aliam fingere oportet causam; neuter enim alterius causa esse potest, prius quam ipse existit.

126. Vix sane, aut ne vix quidem, animo concipere possumus mutationem ullam in rebus corporeis fieri, quæ a motu quodam non pendeat, vel saltem cum motu aliquo modo conjugatur. Res vero de quibus hic igitur,

nimirum sensus, tum externus tum internus, et voluntas, et  
*namely sensation, as well external as internal, also volition, and*  
 demum conatus ad movendos musculos vel artus, sunt non  
*lastly the efforts to move the muscles or the limbs, are not*  
 corporeæ, neque explanandæ iisdem principiis ac tales res.  
*corporeal, nor to be explained upon the same principles as such things.*

127. Igitur commentis hujusmodi de rebus, quas Natura  
*Therefore conjectures of this kind about things, which Nature*  
 forsitan negaverit humanis visibus, missis, tanquam ducentibus  
*perhaps has denied to human sight, being dismissed, as if leading*  
 ad inutilia, et incomprehensibilia, vel fortasse absurda erit  
*to useless, and incomprehensible, or perhaps absurd things it will be*  
 magis e sua re, si medici accinxerint semet  
*more to their purpose, if physicians should set themselves (apply, &c.)*  
 gnaviter ad investigandas singulas res factas et veras  
*in good earnest to investigate the individual things done and true (esta-*  
 de hoc argumento.  
*blished facts and truths) concerning this subject.*

## CAP. IV.

## CHAP. IV.

*De sensû generatim, que varietatibus, usibus, voluptatibus, molestiis,*  
 Of sensation generally, and the varieties, uses, pleasures, troubles,  
*et vitii ejus.*  
 and disorders of it.

128. Sensus eget nullâ definitione, neque revera potest facile  
*Sensation wants no definition, nor truly can it easily*  
 definiri; quippe (is sit) quo nihil fere sit simplicius  
*be defined; as being a thing than which nothing almost can be more simple*  
 aut melius intellectum. Tamen solet describi, autem  
*or better understood. Nevertheless it is accustomed to be described, but*  
 vix explanari, longo et parum accurato et satis  
*scarcely to be explained, by a long and no way accurate and sufficiently*  
 inepto circuitu verborum hujusmodi; mutatio in  
*unsuitable circuit of words (circumlocution) of this kind; a change in*

sensus nimirum, tum externus tum internus, et voluntas, et conatus demum ad musculos vel artus movendos, non sunt corporeæ, neque iisdem ac tales res principiis explanandæ.

127. Missis igitur hujusmodi commentis de rebus quas Natura forsitan visibus humanis negaverit, tanquam ad inutilia, et incomprehensibilia, vel absurda fortasse, ducentibus, magis e re sua erit, si medici ad singulas res factas et veras de hoc argumento investigandas semet gnaviter accinxerint.

CAP. IV.—*De sensu generatim, ejusque varietatibus, usibus, voluptatibus, molestiis, et vitiiis.*

128. Sensus nulla definitione eget, neque revera facile definiri potest; quippe quo nihil fere simplicius sit, aut melius intellectum. Describi tamen vix autem explanari solet, hujusmodi verborum circuitu, longo et parum accurato, et quidem satis inepto;—Mutatio cujus conscii sumus in statu animi, mutatione aliqua in statu corporis effecta.

statu animi cujus sumus conscii, effecta aliquâ mutatione  
*the state of the mind of which we are conscious, effected some change*  
 in statu corporis.  
*in the state of the body.*

129. Vero utcunque simplex sensus videatur primo aspectu, philosophi  
*But however simple sensation may seem at first sight, philosophers*  
 perscrutati rem accuratiùs, crediderunt se detexisse  
*having examined the subject more accurately, believed that they had detected*  
 duplicem naturam ejus (sensus), et ideo monent esse probe  
*the twofold nature of it, and therefore advise that we should well*  
 distinguendum (sup. nobis) inter duas res pertinentes ad sensum,  
*distinguish between the two things serving to sensation,*  
 quæ vulgo solent comprehendi sub uno que eodem  
*which commonly are wont to be comprehended under one and the same*  
 nomine, quamvis nemo sanus (mentis) existat tam stupidus qui  
*name, although no one in his senses can exist so stupid who*  
 confuderit res ipsas, et sane philosophi objecerunt  
*could confound the things themselves, and truly philosophers have cast upon*  
 talem errorem, omnino perperam, vulgo hominum.  
*(attributed) such an error, altogether falsely, to the commonality of men.*

130. Altera (res) harum rerum nimirum, mutatio quæ efficitur in  
*The one of these things namely, the change which is effected in*  
 statu animi, spectat ad animum solum et est propria  
*the state of the mind, looks to (relates to) the mind alone and is peculiar*  
 huic (sc. animo) fugax et peritura suâ naturâ, et simul  
*to it, fleeting and perishable in its nature, and at the same time*  
 simplicissima, que aut definienda aut describenda nullis verbis  
*very simple, and either to be defined or described, by no word*  
 (neither to be defined nor described by any words), dissimillima externæ rei  
*very unlike the external object*  
 quæ excitat sensum, alienissima ab omni corporeâ conditione  
*which excites the sensation, very different from all kind of corporeal condition*  
 atque naturâ, ita ut neque ipsa nec quicquam simile ipsi possit in  
*and nature, so that neither itself nor anything like to it can be*  
 esse in externâ re, quam percipimus.  
*in (exist) in the external object, which we perceive.*

131. Altera res quæ vulgo comprehenditur sub nomine  
*The other thing which commonly is comprehended under the name*  
 sensûs, nimirum, quævis qualitas externæ rei quam contemplamur,  
*of sensation, namely, some quality of the external thing which we view,*  
 quam sensus (scilicet, mutatio in statu animi,) representat  
*which the sensation (that is to say, the change in the state of the mind,) represents*

129. Utcunque vero simplex primo aspectu sensus videatur, philosophi, rem accuratiùs perscrutati, duplicem ejus naturam se detexisse crediderunt, et ideo monent probe esse distinguendum inter duas res ad sensum pertinentes, quæ vulgo sub uno eodemque nomine comprehenduntur; quamvis profecto nemo sanus existat tam stupidus qui res ipsas confuderit; et sane perperam omnino talem vulgo hominum errorem objecerunt philosophi.

130. Harum rerum altera (mutatio nimirum quæ in animi statu efficitur) ad animum solum spectat, et huic propria est, sua natura fugax

et peritura, et simul simplicissima, nullisque aut definienda aut describenda verbis, rei externæ quæ sensum excitat dissimillima, ab omni corporea conditione atque natura alienissima, ita ut neque ipsa, nec quicquam ipsi simile, in re externa quam percipimus invenisse possit.

131. Altera vero, res quæ vulgo sub nomine sensus comprehenditur, qualitas nimirum quævis rei externæ quam contemplamur, quam sensus (mutatio scilicet in animi statu) nobis representat vel suggerit, longe diversæ videtur esse naturæ.—Qualitates enim rerum externæ

vel suggerit nobis, videtur esse longe diversæ naturæ. Enim  
*or suggests to us, seems to be of a far different nature. For*  
 qualitates externarum rerum quas percipimus ope sensûs  
*the qualities of the external things which we perceive by the aid of the sense*  
 pertinent ad illas res solas, neque possunt inesse ullo pacto animo,  
*belong to those things alone, nor can exist in any manner in the mind*  
 nec habent quicquam simile aut commune cum animo que variis  
*nor have they any thing similar or common with the mind and the various*  
 statibus ejus (sc. animi) constantes et durabiles (sc. qualitates) suâ naturâ,  
*states of it constant and durable in their nature,*  
 sive fuerint perceptæ a nobis, sive ignotæ aut neglectæ, neque adeo  
*whether they shall be perceived by us, or unknown or neglected, nor so*  
 simplices, quin multæ (qualitates) earum, saltem, possint definiri aut  
*simple, but that many of them, at least, can be defined or*  
 describi facile et accurate, et comparari invicem inter  
*be described easily and accurately, and be compared in turn between*  
 se  
*themselves (mutually.)*

132. Profecto acquirimus plurimam et utilissimam scientiam de  
*Truly we acquire a great deal and very useful knowledge concerning*  
 externis rebus, facillimo et simplicissimo modo, per varios  
*external things, in a very easy and very simple manner, by the various*  
 sensus, præsertim visum et tactum, sine ullo studio aut labore; ita  
*senses, especially the sight and touch, without any study or labour; so*  
 ut sit bene perspicuum, istas facultates sentiendi  
*that it is well perceived (very evident), that those faculties of perceiving*  
 esse datas nobis a Supremo Opifice, hoc, (saltem ex quadam  
*were given to us by the Supreme Maker, with this, (at least to a certain*  
 parte,) consilio. Vero omnes sensus non præstant hunc usum,  
*extent,) design. But all the senses do not afford this use,*  
 neque tam facilis via patet ad scientiam totiûs  
*(answer this end), nor does so easy a way lie open to the knowledge of all*  
 Naturæ; et sane multa (sup. negotia) ostendunt varios sensus  
*Nature; and truly many things shew that the various senses*  
 quibus instruimur, inservire aliis et sæpe eximiis usibus.  
*with which we are furnished serve for other and often excellent uses (purposes.)*

133. Sensus fit in sano et vigili homine, quandocunque  
*Sensation takes place in a healthy and waking man, whensoever*  
 status cujusvis partis nervosi generis fuerit mutatus aliquantum,  
*the state of any part of the nervous system has been changed somewhat,*  
 sive ista mutatio facta sit ab externâ causâ sive ab  
*whether that change has been caused by an external cause or by*

rum, quas sensus ope percipimus, ad illas res solas pertinent; neque animo ullo pacto inesse possunt, nec quicquam cum animo, variisque ejus statibus, simile aut commune habent, sua natura constantes et durabiles sive perceptæ a nobis fuerint, sive ignotæ aut neglectæ, neque adeo simplices, quin multæ saltem earum, facile et accurate definiri aut describi, et inter se invicem comparari, possint.

132. Plurimam profecto et utilissimam de rebus externis scientiam, facillimo et simplicissimo modo, per varios sensus, visum præsertim et tactum, sine ullo studio aut labore

acquirimus; ita ut bene perspicuum sit, hoc (quodam saltem ex parte) consilio, istas sentiendi facultates a Supremo Opifice nobis esse datas. Non omnes vero sensus hunc usum præstant; neque tam facilis ad totiûs Naturæ scientiam patet via; et sane multa ostendunt, varios quibus instruimur sensus, aliis sæpe et eximiis usibus inservire.

133. Fit sensus in homine sano et vigili, quandocunque status partis cujusvis generis nervosi aliquantum mutatus fuerit, sive ista mutatio ab externa causa, sive ab interna, facta sit.—Qui a priori causa fiunt sensus, ab



internâ. Sensus qui fiunt a priore causâ dicuntur  
*an internal. The sensations which take place from the former cause are said*  
 apud medicos esse ab impressione vel impulsu, qui fiunt  
*among physicians to be from impression or impulse, those which take place*  
 a posteriore causâ, à conscientiâ.  
*from the latter cause, from consciousness.*

134. Neque sane sensus fit ab omni impulsu in nervosum  
*Nor truly is sensation caused by every impulse upon the nervous*  
*genus: ut sentiamus, oportet (ut) impulsus sit factus*  
*system: that we may perceive (to perceive), it behoves that the impulse be made*  
 certâ vi aut impetu in partem præditam  
*(the impulse must be made) with a certain force or impetus upon a part endowed*  
 sensu. Enim sensus a leviore impulsu est obscurus, aut  
*with sensibility. For sensation from a slighter impulse is obscure, or*  
 plane nullus; autem, ab multo vehementiore impulsu, dolor fit  
*altogether none; but, from a much more violent impulse, pain is made (arises)*  
 sine ullo distincto sensu; quod si demum impulsus fuerit  
*without any distinct sensation; but if at length the impulse should be*  
 vehementissimus, que tanta vis fuerit illata sentienti parti,  
*very strong, and so much violence should be applied to the sentient part,*  
 ut fabrica organi ipsius lædatur, tum stupor fere oritur.  
*that the structure of the organ itself be injured, then stupor commonly arises.*

135. Neque perbrevis impulsus sive impressio, quamvis alioquin  
*Nor does a very short impulse or impression, although otherwise*  
 satis vehemens, efficit sensum; ad quem (sc. sensum) nimirum  
*sufficiently vehement (strong), cause sensation; for which doubtless*  
 aliquod temporis et quædam diuturnitas impressionis requirantur.  
*something of time (some time) and a certain continuance of impression are required.*

Corpora, et quidem satis magnæ molis, mota velocitate tantâ ut  
*Bodies, and even of sufficiently great bulk, moved with a velocity so great that*  
 nequeant conspici, docent. Ratio est quoque par  
*they cannot be seen, teach (prove this). The reason is also alike (similar)*

multorum dolorum quos præstigiatores solent exhibere; quibus  
*of the many tricks which jugglers are accustomed to exhibit; to which*  
 hominibus solet esse Axioma, et fundamentum quasi totiûs  
*men it is wont to be an Axiom, and the foundation as it were of their whole*  
 artis, motum esse multo velociorem visu.  
*art, that the motion be much quicker than the sight.*

136. Vero impulsu cessante, que externâ causâ sensus ideo  
*But the impulse ceasing, and the external cause of sensation being conse-*  
 sublatâ, sensus ipse qui excitatur solet durare per  
*quently removed, the sensation itself which is excited is accustomed to last during*

impressionem vel impulsu; qui a posteriore  
 causa fiunt, a conscientia, apud medicos, di-  
 cuntur esse.

134. Neque ab omni sane impulsu in *genus*  
*nervosum* fit sensus. Ut sentiamus, oportet certa  
 vi aut impetu in partem sensu præditam im-  
 pulsus factus sit. A leviore enim impulsu,  
 sensus obscurus aut plane nullus est; ab im-  
 pulsua autem multo vehementiore, dolor fit, sine  
 ullo distincto sensu; quod si impulsus demum  
 vehementissimus fuerit, tantaque vis parti  
 sentienti illata fuerit, ut organi ipsius fabrica  
 lædatur, tum stupor fere oritur.

135. Neque perbrevis impulsus sive impressio,

quamvis alioquin satis vehemens, distinctam  
 sensum, efficit; nimirum ad quem temporis ali-  
 quod, et diuturnitas quædam impressionis, re-  
 quirantur.—Docent corpora, et quidem satis  
 magnæ molis, tanta velocitate mota, ut con-  
 spici nequeant.—Par quoque ratio est multorum  
 dolorum quos præstigiatores solent exhibere;  
 quibus hominibus *Axioma*, et quasi artis totius  
 fundamentum, esse solet, motum visu multo  
 esse velociorem.

136. Cessante vero impulsu, sublataque ideo  
 externa sensus causa, ipse qui excitatur sensus,  
 per aliquod, quamvis exiguum, temporis spa-  
 tium, durare solet.—Docet circulus flammeus,

aliquod quamvis exiguum, spatium temporis. Flammeus circulus, quem  
*some although short, space of time. The fiery circle, which*  
 conspicimus a rapidâ rotatione ardentis baculi, docet.  
*we behold from the rapid rotation of a burning stick, proves this.*

137. Autem sensus est non adeo corporeus quin multum pendeat  
*But sensation is not so far corporeal but that much may depend*  
 a statu mentis; enim hac (sc. mente) occupatâ aliis rebus  
*upon the state of the mind; for this being occupied with other things,*  
 satis validi impulsus facti in organa sensuum vix, aut ne  
*sufficiently strong impulses made upon the organs of the senses scarcely, or not*  
 quidem vix percipiuntur. Contra, si attendimus animum  
*even scarcely are perceived. On the other hand, if we apply the mind*  
 probe, possumus sæpe facile percipere levissimos impulsus,  
*diligently, we can often easily perceive the slightest impulses,*  
 gravioribus (sc. impulsibus) neglectis, que vix perceptis.  
*the stronger ones being neglected, and scarcely perceived.*

138. Hoc fundamento ut videtur, saltem ex magna  
*Upon this foundation (principle) as it seems, at least in a great*  
 parte, nititur illud mirum et fere incredibile acumen et  
*measure, depends that wonderful and almost incredible sharpness and*  
 perfectio singulorum externorum sensuum, quæ variis homines, occupati  
*perfection of the individual external senses, which various men, occupied*  
 variis negotiis, solent adipisci multo usu: quamvis sit  
*in various pursuits, are accustomed to acquire by much use: although it is*  
 satis verisimile (nobis) esse tribuendum nonnihil perfectionis  
*sufficiently probable that we ought to attribute something of a perfection*  
 hujûsmodi conditioni organorum, quæ possint acui variis  
*of this sort to the condition of the organs, which can be sharpened in various*  
 modis crebrâ exercitatione, et aptari melius ad propria  
*ways by frequent exercise, and be fitted better for their peculiar*  
 munera. Est bene notum organa motus proficere haud  
*duties (functions.) It is well known that the organs of motion benefit not a*  
 parum hoc modo.  
*little in this manner.*

139. Attentio pendet quodammodo a voluntate, tamen datur  
*Attention depends in some degree upon the will, nevertheless it is given*  
 plerumque validis, novis, jucundis, ingratis sensibus, que demum  
*generally to strong, new, pleasant, unpleasant sensations, and lastly*  
 iis (sc. sensibus) qui, præter solitum, afficiunt vel commovent  
*to those which, beyond customary (unusually) affect or disturb*  
 mentem quivis modo.  
*the mind in any way.*

quem conspicimus a rapida rotatione baculi ardentis.

137. Sensus autem non adeo est corporeus quin multum pendeat a statu mentis. Hac enim aliis rebus occupata, impulsus satis validi in organa sensuum facti, vix, aut ne vix quidem, percipiuntur. Contra, si probe animum attendimus, neglectis vixque perceptis gravioribus, levissimos sæpe impulsus facile percipere possumus.

138. Hoc ut videtur fundamento, magna saltem ex parte, nititur mirum illud et fere incredibile singulorum sensuum; externorum

acumen et perfectio, quæ variis homines, variis occupati negotiis, multo usu solent adipisci; quamvis satis sit verisimile perfectionis hujûsmodi nonnihil tribuendum esse conditioni organorum, quæ variis modis acui possint crebra exercitatione, et ad propria munera melius aptari. Bene notum est organa motus hoc modo haud parum proficere.

139. Attentio a voluntate quodammodo pendet; tamen plerumque datur sensibus validis, novis, jucundis, ingratis, iisque demum qui mentem quivis modo præter solitum afficiunt vel commovent.

140. Hinc tot res (sunt) vix, ac ne quidem vix perceptæ,  
*Hence so many things are scarcely, and not even scarcely perceived,*  
 quamvis idonei impulsus facti sint ab iis in organa sensuum,  
*although suitable impulses have been made by them upon the organs of the senses,*  
 vel si fuerint perceptæ quodammodo, quamvis minus accurate,  
*or if they have been perceived in any degree, although less accurately,*  
 (sup. sunt) statim traditæ oblivioni: hinc novæ res,  
*are immediately delivered (consigned) to oblivion: hence new things,*  
 cæteris paribus, (sunt) semper maximè observatæ, que novi sensus  
*other things being equal, are always most observed, and new sensations*  
 (sunt) validissimi: hinc sensus, sæpe repetiti, quamvis validi,  
*are the strongest: hence sensations, often repeated, although powerful,*  
 fiunt brevi familiares, et fere negliguntur: vero debiliores  
*become in a short time familiar, and commonly are neglected: but the weaker*  
 impulsus, qui tamen solebant dare satis validum  
*impulses, which nevertheless were accustomed to cause a sufficiently strong*  
 sensum, sæpe repetiti, neque percipiuntur omnino, neque relinquunt  
*sensation, frequently repeated, neither are perceived at all, nor do they leave*  
 ulla vestigia sui in animo.  
*any footsteps (traces) of themselves in the mind.*

141. Sunt (ii) qui strenuè contendunt hominem, inter sentiendum,  
*There are they who stoutly contend that man, during thinking,*  
 semper contemplari tantum unicum sensum vel perceptionem externæ  
*always contemplates only a single sensation or perception of an external*  
 rei; sed (hominem) ire atque redire tam facile que tam subito, quodam  
*object; but that he goes and returns so easily and so suddenly, in some*  
 modo ad suum arbitrium, ab uno ad alium sensum, ut, primo  
*degree at his own pleasure, from one to another sensation, that, at first*  
 intuitu, videatur sibi capere simul multos (sc. sensus)  
*sight, he may seem to himself to take together (comprehend) many.*

Sed hoc est minus certum.

*But this is not certain.*

142. Vero est certissimum hominem sæpe percipere simul plures  
*But it is very certain that a man often perceives at the same time several*  
 sensus ejusdem generis, dummodo hi possint ita conjungi et misceri  
*sensations of the same kind, provided these can be so joined and be mixed*  
 quasi ut efficiant unam perceptionem diversam a singulis (sc.  
*as it were that they produce a single perception different from the individual*  
 perceptionibus), et compositam ex iis. Hæc conjunctio potest fieri  
*ones, yet compounded of them. This combination may be caused*  
 vel singulis impulsibus factis simul, vel novis impulsibus  
*either by single impulses made at the same time, or by new impulses*

140. Hinc tot res vix ac ne vix quidem perceptæ, quamvis idonei in organa sensuum impulsus ab iis facti sint, vel si quodammodo, quamvis minus accurate, perceptæ fuerint, statim oblivioni traditæ. Hinc novæ semper, cæteris paribus, maxime observatæ, novæque sensus validissimi. Hinc sæpe repetiti sensus, quamvis validi, brevi familiares fiunt, et fere negliguntur; debiliores vero impulsus, qui tamen sensum satis validum dare solebant, sæpe repetiti, neque omnino percipiuntur, neque ulla sui vestigia in animo relinquunt.

inter sentiendum unicum tantum sensum vel rei externæ perceptionem semper contemplari; sed tam facile tamque subito ad suum quodammodo arbitrium ab uno ad alium sensum ire atque redire, ut primo intuitu multos simul capere sibi videatur.—Sed hoc minus certum est.

142. Certissimum vero est hominem sæpe plures sensus ejusdem generis simul percipere, dummodo hi ita conjungi et quasi misceri possint, ut unam perceptionem, a singulis diversam, et ex iis compositam, efficiant. Hæc conjunctio fieri potest vel singulis impulsibus simul factis, vel novis impulsibus prioribus

141. Sunt qui strenue contendunt hominem

succedentibus prioribus tam subito, ut prior sensus  
*succeeding to the former so suddenly, that the former sensation*  
 nondum desiverit, cum posterior jam inceperit; enim  
*shall not yet have ceased, when the latter shall have already begun; for*  
 sensus sæpe durat diutius quam impulsus ipse, præsertim si idonea  
*the sensation often lasts longer than the impulse itself, especially if the suitable*  
 attentio animi fuerit adhibita. Musica compositio sonorum  
*application of the mind have been afforded. The musical composition of sounds*  
 docet; charta tincta variis coloribus docet, quæ (charta), rapide  
*teaches this. paper stained with various colours teaches, which, rapidly*  
 acta in circulum, exhibet eundem medium vel mixtum colorem,  
*driven (whirled) into a circle, exhibits the same mean or mixed colour,*  
 compositum ex aliis, ac colores ipsi mixti efficiunt.  
*compounded of the others, as the colours themselves mixed would produce.*  
 Odores quoque et sapes, accipiunt, singuli, suo  
*Odours also and tastes, admit, (are susceptible of), each, in their own*  
 genere, pares compositiones, aliæ (sc. compositiones) quarum reperiuntur  
*kind, similar combinations, some of which are found*  
 gratæ, aliæ ingratisimæ. Hoc fundamento, saltem ex magna  
*agreeable, others very unpleasant. Upon this foundation, at least in a great*  
 parte, ars coqui et unguentarii nititur. Vero perceptiones  
*measure, the art of the cook and of the perfumer depends. But the perceptions*  
 sive sensus quos tactus dat, sunt tot que tam  
*or sensations which touch produces, are so many (so numerous) and so*  
 diversi, ut queant vix conjungi ita ut efficiant  
*different, that they can scarcely be combined so that they may produce (so as to*  
 unum, quasi, medium vel compositum sensum.  
*produce) a single, as it were, mean or compound sensation.*

143. Ex quâvis externâ causâ, nimirum impulsu facto  
*From any external cause, for example, from an impulse made*  
 certâ vi in organum sensûs, et durante certum tempus,  
*with a certain force upon an organ of sense, and lasting a certain time,*  
 sensus poterit esse varius, propter multas internas res, proprias  
*sensation will be various, on account of many internal things, peculiar*  
 sentienti corpori, que multas partes quæ sunt necessariae ad  
*to the sentient body, and the many parts which are necessary to*  
 efficiendum sensum. Imprimis, ratio animi, quod ad  
*produce the sensation. In the first place, the state of the mind, as to*  
 attentionem, est habenda; tum quoque cerebri, quod ad delirium,  
*attention, is to be considered; as well also of the brain, as to delirium,*  
 torporem, somnum, vigiliam, &c.; tum nervorum qui adeunt  
*torpor, sleep, waking, &c.; as of the nerves which go to (supply)*

tam subito succedentibus, ut prior sensus nondum desiverit, cum posterior jam inceperit. Sensus enim sæpe diutius quam ipse impulsus durat, præsertim, si idonea adhibita fuerit animi attentio (136, 137.) Docet sonorum compositio musica; docet charta variis coloribus tincta, quæ rapide in circulum acta, eundem colorem medium vel mixtum, et aliis compositum, exhibet, ac ipsi colores mixti efficiunt. Odores quoque et sapes, singuli, ut videtur, suo genere, pares compositiones accipiunt; quarum aliæ gratæ, aliæ ingratisimæ reperiuntur. Hoc fundamento, magna saltem ex parte, nititur ars coqui et unguentarii. Per-

ceptiones vero sive sensus quos tactus dat, tot tamque diversi sunt, ut vix ita conjungi queant ut unum, quasi medium vel compositum, sensum efficiant.

143. Ex causa quavis externa, impulsu nimirum in organum sensus certa vi facto, et certum tempus durante, varius esse poterit sensus propter multas res internas corpori sentienti proprias, multasque partes quæ ad sensum efficiendum necessariae sunt. Animi imprimis ratio habenda est, quod ad attentionem; tum quoque cerebri, quod ad delirium, torporem somnum, vigiliam, &c.; tum nervorum quæ organum sentiens adeunt, prout integri, liberi

sentiens organum, prout fuerint integri, liberi, sani, vel prout  
*the sentient organ, as they shall be perfect, free, healthy, or as*  
 (fuerint) compressi, ve aliter læsi; tum finium  
*(they shall be) compressed, or otherwise injured: then of the ends (extremities)*  
 nervorum organi ipsiùs, prout fuerint magis ve minus sentientes,  
*of the nerves of the organ itself, as they shall be more or less sentient,*  
 vel a primâ fabricatione corporis, vel ab aliis  
*either from the original structure (conformation) of the body, or from other*  
 impulsibus factis antea, vel a calore aut frigore, vel a statu  
*impulses made before, or from heat or cold, or from the condition*  
 vasorum vehentium sanguinem, quæ (vasa) inseparabilia comitantur  
*of the vessels carrying the blood, which inseparable accompany*  
 minutas nervosas fibras, que quæ possint vel laxari vel distendi  
*the minute nervous fibres, and which may either be relaxed or be distended*  
 præter solitum, vel demum inflammari; tum denique oportet, habere  
*unusually, or finally be inflamed; then lastly it behoves to consider*  
 rationem partium, qualescunque fuerint, quæ tegunt et defendunt  
*the nature of the parts, whatever kind they shall be, which cover and defend*  
 tenuissimos et acerrime sentientes fines nervorem, et vel augent  
*the very thin and very acutely sentient extremities of the nerves, and either increase*  
 vel temperant vim impressionum. Quales sunt cuticula ubique  
*or moderate the force of impressions. Such are the cuticle every where*  
 corporis, auris, tum externa tum interna, que uterque  
*(throughout) (of) the body, the ear, as well external as internal, and both*  
 meatus ejùs; et demum varii humores oculi.  
*meatus of it; and lastly the various humours of the eye.*

144. Porro nonnulli sensus oriuntur a multis internis causis,  
*Moreover some sensations arise from many internal causes,*  
 nullâ externâ (sc. causâ) aut juvante aut concurrente. Mens ipsa  
*no external one either assisting or concurring. The mind itself*  
 conscia sui et varii status ejùs, cogitatio,  
*conscious of itself (in self-possession), and the various states of it, thinking,*  
 memoria, imaginatio, voluntas, omnes affectus, possunt referri huc  
*memory, imagination, volition, all affections, may be referred hither*  
 (to this head). Tum quoque varii status corporis, vigor, debilitas,  
*As well also various states of the body, vigour, debility,*  
 alacritas, torpor, lassitudo, dolor, anxietas, pruritus, appetitus, veluti fames  
*alacrity, torpor, lassitude, pain, anxiety, itching, appetites, as hunger*  
 et sitis; demum, multæ propensiones, quales impellunt ad tussim,  
*and thirst; lastly, many inclinations, such as impel to cough,*  
 vomitum, evacuandum alvum, et similia. Vero solemus referre  
*omitting, to evacuate the belly, and the like. But we are wont to refer*

ni, vel prout compressi, aliterve læsi fuerint; tum finium nervorum ipsius organi, prout magis minusve sentientes fuerint, vel a primâ corporis fabricatione, vel ab aliis impulsibus factis antea, vel a calore aut frigore, vel a statu vasorum sanguinem vehentium, quæ minutas nervosas fibras comitantur inseparabilia, æque vel præter solitum laxari vel distendi, demum inflammari possunt: tum denique partium, qualescunque fuerint, rationem habere oportet, quæ fines nervorum tenuissimos acerrime sentientes tegunt et defendunt, et non impressionum vel augent vel temperant. Quales sunt cuticula ubique corporis, auris

tum externa tum interna, ejusque meatus uterque; et varii demum oculi humores.

144. Porro a multis causis internis, nulla aut juvante aut concurrente externa, sensus nonnulli oriuntur. Ipsa mens sui conscia, et varii ejus status, cogitatio, memoria, imaginatio, voluntas, affectus omnes, huc referri possunt. Tum quoque varii corporis status, vigor, debilitas, alacritas, torpor, lassitudo, dolor, anxietas, pruritus, appetitus, veluti fames et sitis, propensiones demum multas, quales ad tussim, vomitum, alvum evacuandam, et similia, impellunt. Plerosque vero horum sensuum, qua-

plerosque horum sensuum, quatenus sunt corporei, ad sensum  
*most of these sensations, inasmuch as they are corporeal, to the sense*  
 tactus.  
*of touch.*

145. Sensus tum externi tum interni, nunquam relati sunt  
*The sensations, as well external as internal, never have been referred*  
 accurate ad classes vel genera. Vero externi (sc. sensus), semper et  
*accurately to classes or genera. But the external, always and*  
 ubique, referuntur ad quinque genera, nempe visum, auditum, olfactum,  
*every where, are referred to five kinds, namely seeing, hearing, smelling,*  
 gustum, et tactum. Quod spectat (ad) quatuor priores (sc. sensus) paucae  
*tasting, and touching. What (as) concerns the four former the few*  
 qualitates externorum corporum, quas (qualitates) unusquisque eorum  
*qualities of external bodies, which each one of them*  
 percipit reducuntur facile in classes diversas invicem a  
*perceives are reduced easily into classes differing in turn (mutually) from*  
 se, et referuntur ad unum et proprium sensum:  
*themselves (from each other), and are referred to a single and peculiar sense:*  
 imprimis, quia sensus ipse habet singulare et proprium organum,  
*in the first place, because the sense itself has a single and peculiar organ,*  
 neque insidet (sc. sensus) alibi in corpore, aut potest excitari quivis  
*neither does it reside elsewhere in the body, or can it be excited in any*  
 modo; quoque tum quia organum sensus afficitur ab uno  
*manner; also as well because the organ of sensation is affected by one*  
 genere impulsus, veluti lucis, tremorum aeris, volatilium particularum;  
*kind of impulse, as of light, of tremors of the air, of volatile particles;*  
 denique, tum quia perceptiones ex singulis istorum sensuum,  
*finally, also because the perceptions from each of those senses,*  
 quantumvis videantur differre inter se, semper habent aliquid  
*however they may seem to differ between themselves, always have something*  
 commune, ita ut possint comparari, que similitudines et differentiae  
*common, so that they can be compared, and the likenesses and differences*  
 earum (sc. perceptionum) detegi.  
*of them be detected.*

146. Hoc est verissimum de rebus quas (res) aures, nares, vel  
*This is very true concerning the things which the ears, nostrils, or*  
 lingua percipiunt: vero oculi capiunt plures res, que eas satis  
*tongue perceive; but the eyes take in many things, and these sufficiently*  
 dissimiles; scilicet, colorem, figuram, magnitudinem, et motum. Tamen,  
*dissimilar; namely, colour, figure, magnitude, and motion. Nevertheless,*  
 omnes hæ perceptiones referuntur facile ad unum sensum, quia  
*all these perceptions are referred easily to a single sense, because*

teus corporei sunt, ad sensum tactus referre solemus.

145. Sensus, tum externi, tum interni, nunquam accurate ad classes vel genera relati sunt. Externi vero, semper et ubique ad quinque genera referuntur, nempe visum, auditum, olfactum, gustum et tactum. Quod priores quatuor spectat, paucae corporum externorum qualitates, quas unusquisque eorum percipit, facile in classes a se invicem diversas reducuntur, et ad unum et proprium sensum referuntur. Imprimis, quia sensus ipse singulare et proprium organum habet, neque alibi in corpore insidet, aut quivis modo excitari potest; tum

quoque quia sensus organum ab uno genere impulsus afficitur, veluti lucis, tremorum aeris particularum volatilium; tum denique quia perceptiones ex singulis istorum sensuum quantumvis inter se differre videantur, aliquid semper commune habent, ita ut comparari possint earumque similitudines et differentiae detegi.

146. Hoc verissimum est de rebus quas aures nares, vel lingua percipiunt. Oculi vero plures res capiunt, easque satis dissimiles; colorem scilicet, figuram, magnitudinem et motum. Omnes tamen hæ perceptiones ad unum sensum facile referuntur, quia per idem organum

percipluntur per idem organum, que idem medium, ut vocatur, *they are perceived through the same organ, and the same medium, as it is called,* que (per) idem genus impulsus. Autem reliquæ perceptiones, utcunque *and the same kind of impulse. But the remaining perceptions, however* dissimiles fuerint, referuntur ad sensum tactus. *dissimilar they may be, are referred to the sense of touch.*

147. Plerique sensus reperiuntur vel grati vel ingrati: scilicet, *Most sensations are found either pleasant or unpleasant: that is to say,* non modo monent (nos) de externis rebus, que representant nobis *not only do they warn us about external things, and represent to us* qualitates earum, sed simul ita afficiunt animum, ut vel *the qualities of them, but at the same time so affect the mind, that either* cupiamus vel nolimus eosdem sensus continuari aut repeti. *we desire or we are unwilling that the same sensations be continued or repeated.*

148. In quibusdam exemplis sensuum, sensus ipse, (scilicet *In some examples of the sensations, the sensation itself, (that is* mutatio quæ efficitur in statu animi,) est jucundus, et *the change which is produced in the state of the mind,) is pleasant, and* voluptas nascitur ab eo solo: vero in aliis exemplis, non tantum *the pleasure arises from it alone; but in other examples, not so much* sensus quam perceptio, (nimirum, qualitas seu conditio externæ *the sensation as the perception, (namely, the quality or condition of the external* rei quam percipimus, et cognoscimus ope sensus,) dat *thing which we perceive, and know by the aid of the sense,) gives* voluptatem. *the pleasure.*

149. Exempla prioris generis sunt, jucundi sensus seu voluptates *Examples of the former kind are, the pleasant sensations or pleasures* quas gustus, olfactus, auditus, suggerunt nobis; quibus oportet adjungere *which taste, smell, hearing, supply to us; to which it behoves to add* quosdam sensus, veluti caloris, quos tactus dat. Nimirum, in his *certain sensations, as of heat, which touch gives. Doubtless, in these* exemplis, attendimus ad sensum solum, neque docemur quicquid ab *examples, we attend to the sensation alone, nor are we taught any thing by* eo (sc. sensu) de causâ seu qualitate externi corporis quæ efficit *it of the cause or the quality of the external body which produces* sensum. Si novimus quid istiusmodi, plane didicimus *the sensation. If we know any thing of that sort, evidently we have learned* id ope aliorum sensuum et iudicii, observando, periclitando, *it by the aid of the other senses and the judgment, by observing, by experiencing,* ratiocinando. *by reasoning.*

idemque medium, ut vocatur, idemque genus impulsus, percipiuntur. Reliquæ autem perceptiones, utcunque dissimiles fuerint, ad sensum tactus referuntur.

147. Sensus plerique vel grati vel ingrati reperiuntur: scilicet non modo nos de rebus externis monent, earumque qualitates nobis representant, sed animum simul ita afficiunt, ut eosdem sensus vel cupiamus vel nolimus continuari aut repeti.

148. In quibusdam sensuum exemplis, sensus ipse, mutatio scilicet quæ in animi statu efficitur, jucundus est, et ab eo solo voluptas nascitur. In aliis vero exemplis, non tantum sen-

sus quam perceptio, qualitas nimirum seu conditio rei externæ quam percipimus et sensus ope cognoscimus, voluptatem dat.

149. Prioris generis exempla sunt, jucundi sensus seu voluptates quas gustus, olfactus, auditus, nobis suggerunt: quibus adjungere oportet sensus quosdam, veluti caloris, quos tactus dat. In his nimirum exemplis, ad sensum solum attendimus; neque ab eo quicquid docemur de causa, seu qualitate corporis externi, quæ sensum efficit. Siquid istiusmodi novimus, id, ope aliorum sensuum et iudicii, observando, periclitando, ratiocinando, plane didicimus.

150. Exempla posterioris (sc. generis) sunt, quædam jucundæ perceptiones  
*Examples of the latter are, certain agreeable perceptions*  
 externarum qualitatum rerum, quas (sc. qualitates) vel visus vel tactus  
*of the external qualities of things, which either the sight or touch*  
 suggerunt nobis: veluti omnis visibilis pulchritudinis, formæ, proportionis,  
*supply to us: as of all visible beauty, of form, of proportion,*  
 motûs et forsitan coloris quoque; vel, denique, tactilis formæ  
*of motion and perhaps of colour also; or, lastly, of tangible shape*  
 aut lævoris, aut mollitiæ. In his exemplis scilicet perceptio  
*or smoothness, or softness. In these examples doubtless the perception*  
 ipsa placet, que sensu neglecto, seu statu animi  
*itself pleases, and the sensation being neglected, or the state of the mind*  
 mutato, transimus statim ad rem seu qualitatem quam ille  
*being changed, we pass immediately to the thing or quality which that*  
 sensus suggerit, que sæpe contemplamur eam cum voluptate.  
*sensation supplies, and often contemplate it with pleasure.*

151. Profecto videtur difficillimum (sc. negotium) explanatu, cur  
*Truly it seems very difficult to be explained, why*  
 tot diversi sensus oriuntur a variis generibus impressionum  
*so many different sensations can arise from various kinds impressions*  
 factarum in certa organa corporis. Autem est multo difficilius  
*made upon certain organs of the body. But it is much more difficult*  
 explanatu cur ab fere omni genere impressionum in varia  
*to be explained why from almost every kind of impressions upon the various*  
 organa corporis, tales sensus excitentur, quales non modo  
*organs of the body, such sensations should be excited, as not only*  
 representaverint animo singuli suam perceptionem, sed simul  
*shall represent to the mind each their own perception, but at the same time*  
 vel delectaverint eundem plurimum, vel affecerint insigni  
*either (shall) delight the same very much, or (shall) affect it) with remarkable*  
 dolore, angore, molestia, fastidio.  
*grief, vexation, uneasiness, loathing.*

152. Enim sensus, utcumque diversi inter se secundum  
*For sensations, however different among themselves according to*  
 varia organa eorum (sensuum) que res quæ afficiunt hæc  
*the various organs of them and the things which affect them*  
 (sc. organa) tamen sunt constantes, que singuli semper agnoscunt  
*nevertheless are constant, and each always acknowledge*  
 easdem causas, neque eadem impressio dat eidem homini varium  
*the same causes, nor does the same impression give to the same man a different*  
 sensum seu perceptionem, variis temporibus; neque ulla ratio  
*sensation or perception, at various times; nor does any reason*

150. Posterioris exempla sunt, perceptiones quædam jucundæ qualitatum rerum externarum, quas vel visus vel tactus nobis suggerunt: veluti pulchritudinis omnis visibilis, formæ, proportionis, motus, et forsitan coloris quoque; vel denique formæ tactilis, aut lævoris, aut mollitiæ. In his scilicet exemplis, perceptio ipsa placet: neglectoque sensu, seu mutato animi statu, ad rem, seu qualitatem, quam sensus ille suggerit, statim transimus, eamque sæpe cum voluptate contemplamur.

151. Difficillimum profecto explanatu videtur, cur tot diversi sensus a variis impressionum generibus in certa corporis organa factarum

oriuntur (145, 146.) Multo autem difficilius explanatu est, cur ab omni fere genere impressionum in varia corporis organa, tales excitentur sensus, quales non modo suam singuli perceptionem (130, 131) animo representaverint, sed eundem simul vel plurimum delectaverint, vel insigni dolore, angore, molestia, fastidio, affecerint.

152. Sensus enim, utcumque inter se secundum varia eorum organa, resque quæ hæc afficiunt, diversi, tamen constantes sunt, easdemque semper singuli causas agnoscunt; neque eideri homini, variis temporibus, eadem impressio varium dat sensum seu perceptionem; neque



existit, cur credamus eandem rem seu impressionem dare  
*exist, why we should believe that the same thing, or impression produces*  
 diversum sensum aut perceptionem diversis hominibus, nisi in  
*a different sensation or perception in different men, except in*  
 nonnullis rarissimis exemplis, in quibus est verisimile aliquod vitium,  
*some very rare examples, in which it is probable that some defect,*  
 neque sane leve (vitium) subesse in corpore, vel saltem organa  
*nor truly a slight one, exists in the body, or at least that the organs*  
 sensuum hujus (sc. corporis) alienari multum a solito et naturali  
*of the senses of it are altered much from the usual and natural*  
 statu.  
*state.*

153. Vero voluptas, vel molestia, vel fastidium, quæ comitantur  
*But the pleasure, or uneasiness, or loathing, which accompany*  
 tot sensus, variant quam maxime, cum in variis hominibus,  
*so many sensations, vary the most possible, as well in different men,*  
 tum in iisdem (sc. hominibus) variis temporibus.  
*as in the same at various times.*

154. Vis consuetudinis in voluptates aut molestias sensus  
*The influence of custom (habit) upon the pleasures or uneasiness of sensation*  
 est quoque insignis et fere incredibilis; autem exigua in  
*is also remarkable and almost incredible; but small (trifling) upon*  
 sensum ipsum, et nulla omnino in perceptionem qualitatis,  
*the sense itself, and none at all upon the perception of the quality,*  
 externæ rei quam sensus suggerit. Enim nemo sanus, (ment.),  
*of the external object which the sense suggests. For no one sound in mind,*  
 vel naturâ vel ullâ consuetudine potest percipere durum  
*either by nature or by any custom (habituation), can perceive hard*  
 pro molli, aut rubrum pro viridi, aut mel pro absinthio: quamvis,  
*for soft, or red for green, or honey for wormwood: although,*  
 vel singulari constitutione corporis, vel demum  
*either by the singular (peculiar) constitution of the body, or lastly*  
 consuetudine solâ, ista amarissima herba possit fieri gratior et  
*by custom alone, that very bitter herb may become more grateful and*  
 jucundior gustui Hymettio melle.  
*more pleasant to the taste (palate) than Hymettian honey.*

155. Quamvis plerique sensus sint plus (ve) minus grati, tamen  
*Although most sensations are more or less grateful, nevertheless*  
 non (nobis) est negandum insigne discrimen intercedere inter  
*we must not deny that a remarkable difference goes (exists) between*  
 eos de hac re, et alios esse naturâ  
*them concerning this thing (in this respect), and that some are by nature (naturally)*

ratio ulla existit, cur credamus eandem rem seu impressionem diversum sensum aut perceptionem dare, nisi in nonnullis rarissimis exemplis, in quibus verisimile est vitium aliquod, neque sane leve, in corpore subesse, vel hujus saltem sensuum organa a solito et naturali statu multum alienari.

153. Voluptas vero, vel molestia, vel fastidium, quæ tot sensus comitantur, variant quam maxime, cum in variis hominibus, tum in iisdem, variis temporibus.

154. Insignis quoque, et fere incredibilis, est vis consuetudinis in voluptates aut molestias

sensus; exigua autem in sensum ipsum, et nulla omnino in perceptionem qualitatis rei externæ quam sensus suggerit. Nemo enim sanus, vel natura vel ulla consuetudine, durum pro molli, aut rubrum pro viridi, aut mel pro absinthio, aut absinthium pro melle, percipere potest: quamvis vel singulari corporis constitutione, vel demum sola consuetudine, amarissima ista herba Hymettio melle gratior et jucundior gustui fieri possit.

155. Quamvis sensus plerique plus minus grati sint, tamen non est negandum, insigne eos inter hac de re discrimen intercedere, et

gratissimos fere omnibus hominibus, alios valde ingratos; demum, *very agreeable almost to all men, others very unpleasant; lastly,* nonnullos adeo indifferentes, ut dent neque voluptatem, neque *some so indifferent that they produce (as to give) neither pleasure, nor* ullam molestiam. Nulla ratio discriminum sensuum hujusmodi *any uneasiness. No explanation of the differences of sensations of this sort* est reddita hactenus. *has been given hitherto.*

156. Tamen, est quoddam novisse fere unumquodque genus *However, it is something to know that almost each kind* sensuum, esse vel gratum vel ingratum, naturâ ejûs (sc. generis) *of the sensations is either grateful or ungrateful, the nature of it* nil mutatâ, secundum vehementiam ipsiûs (sc. sensûs.) Enim *being no way changed, according to the vehemence of itself. For* nullus sensus existit adeo jucundus, quin intensus ultra modum, *no sensation exists so pleasant, but that stretched beyond bounds,* evadat ingratus, nonnunquam fere intolerabilis. Et omnino, *it may become ungrateful, sometimes almost intolerable. And altogether,* contra, (ii) qui naturâ, que solitâ vehementiâ offendunt *on the other hand, they which by nature, and in the usual vehemence offend* multum, facti leviores, sæpe fiunt tolerabiles, et interdum admodum *much, made slighter, often become tolerable, and sometimes very* jucundi. *pleasant.*

157. Ratio est fere par quod multi sensus, primo grati *The reason is almost similar that many sensations, at first pleasant* cessent delectare, si fuerint repetiti sæpius, quamvis fuerint *cease to delight, if they have been repeated too often, although they (shall) be* ejusdem naturæ et vehementiæ, quantum attinet impressionem ipsam; *of the same nature and intensity, as far as regards the impression itself;* et multi, primo ingrati, desinant displicere, et tandem placeant, *and many, at first unpleasant, cease to displease, and at length please,* quamvis neque naturâ neque vehementiâ impressionis, fuerint *although neither in nature (kind) nor in intensity of impression, shall they be* mutatæ vel minimum. Scilicet, sensus sæpe repetiti, facti *changed even in the least. That is to say, sensations often repeated, (having) become* familiares consuetudine solâ, percipiuntur segnius, et tandem negliguntur *familiar by custom alone, are perceived more slowly, and at length are neglected* penitus, nullâ attentione animi adhibitâ. *entirely, no attention of the mind being afforded.*

158. Hinc quoque ratio potest reddi cur novi sensus fere *Hence also the explanation can be given why new sensations commonly*

alios natura fere omnibus hominibus esse gratissimos, alios valde ingratos, nonnullos demum adeo indifferentes, ut neque voluptatem neque molestiam ullam dent. Hujusmodi sensuum discriminum ratio nulla hactenus reddita est.

156. Est quoddam tamen novisse, unumquodque fere sensuum genus, vel gratum esse, vel ingratum, naturâ ejus nil mutatâ, secundum ipsius vehementiam. Nullus enim existit sensus adeo jucundus, quin ultra modum intensus, ingratus evadat, nonnunquam fere intolerabilis. Et contra omnino, qui natura, solitaque vehementia, multum offendunt, le-

viores facti, tolerabiles sæpe fiunt, et interdum admodum jucundi.

157. Par fere ratio est quod multi sensus, primo grati, delectare cessent, si sæpius repetiti fuerint, quamvis semper ejusdem naturæ et vehementiæ fuerint, quantum ipsam impressionem attinet; et multi primo ingrati displicere desinant, et tandem placeant, quamvis neque natura neque vehementia impressionis vel minimum mutatæ fuerint. Scilicet, solâ consuetudine familiares facti, sensus sæpe repetiti, segnius percipiuntur (140), et tandem negliguntur penitus, nulla animi attentione adhibita.

placeant magis; cur varietas (est) adeo jucunda; cur cupiamus  
*please more; why variety is so charming; why we desire*  
 validiores sensus, vel saltem impressiones in organa cujuslibet  
*more powerful sensations, or at least impressions upon the organs of any*  
 sensus, ut augeamus aut continuemus voluptatem:  
*sense, that we may increase or continue (to increase or continue) the pleasure;*  
 cur attendamus vix, ac ne quidem vix, ad tot voluptates,  
*why we attend scarcely, and not even scarcely, to so many pleasures,*  
 neque fere sciamus tales (voluptates) extitisse antequam amiserimus  
*nor generally do we know that such existed before that we have lost*  
 eas; cur pueris (sup. sunt hic pro "habent" ponitur) præ senibus  
*them; why boys have before old men*  
 tot voluptates que tam constantes et puræ,  
*(in preference to old men) so many pleasures and so constant and pure,*  
 que ideo tanta et tam continua hilaritas animi. Enim  
*and consequently so great and such continual cheerfulness of mind. For*  
 quantumcunque voluptatis (homo), subito donatus novâ facultate  
*whatsoever, of pleasure a person, suddenly gifted with a new faculty*  
 sentiendi, aut cæcus redditus denuo visui, haberet, tantum  
*of perceiving, or a blind person restored again to sight, would have, so much*  
 omnes olim habuimus, ab omnibus sensibus, quamvis longus usus  
*we all formerly have had, from all the senses, although long use*  
 et consuetudo jam pene deleverint istam voluptatem.  
*and custom (have) now almost destroyed that pleasure.*

159. Plerique sensus, satis validi ut distinguantur  
*Many sensations, sufficiently powerful that they can be distinguished*  
 facile et accurate, quisque suo genere et modo,  
*(to be distinguished) easily and accurately, each one in its own kind and manner,*  
 fere placent maxime. Autem varia genera voluptatum existunt;  
*generally please most. But various kinds of pleasures exist;*  
 que igitur varii sensus possunt delectare animum variis modis.  
*and therefore various sensations can delight the mind in various ways.*  
 Neque profecto aut splendor solis, aut pulchra et vivida  
*Nor truly do either the splendour of the sun, or the beautiful and vivid*  
 meridiana facies totiûs Naturæ, sola delectant oculos hominum, neque  
*meridian face of all Nature, alone delight the eyes of men, nor*  
 concentus soli aures eorum scilicet (sup. sunt ii) qui longe  
*harmonies alone the ears of them that is to say there are who with a far*  
 diversâ, sed tamen haud exiguâ voluptate, spectant obscura  
*different, but nevertheless no small pleasure, view the obscure*  
 templa Numinis, et adeunt umbrosos lucos per lunam,  
*temples of the Diety, and go to (approach) the shady groves by moonlight,*

158. Hinc quoque ratio reddi potest, cur novi sensus fere magis placeant; cur varietas adeo jucunda: cur validiores sensus, vel saltem impressiones in organa sensus cujuslibet, cupiamus, ut voluptatem vel augeamus vel continuemus; cur ad tot voluptates vix ac ne vix quidem attendamus, neque fere tales ante extitisse sciamus quam eas amiserimus; cur tot voluptates, tamque constantes et puræ, tantaque ideo et tam continua animi hilaritas, pueris præ senibus. Quantum enim cunque voluptatis, nova sentiendi facultate subito donatus, aut cæcus visui denuo redditus, haberet, tantum, omnes, ab omnibus sensibus olim ha-

buiamus, quamvis longus usus et consuetudo istam voluptatem jam pene deleverint.

159. Sensus plerique satis validi, ut facile et accurate distinguantur, suo quisque genere et modo, fere placent maxime. Varia autem existunt voluptatum genera; varique igitur sensus variis modis animum delectare possunt. Neque profecto aut splendor solis, aut pulchra et vivida totius Naturæ facies meridiana, sola hominum oculos, neque magni concentus soli aures eorum delectant; scilicet qui longe diversa, sed tamen haud exigua voluptate, obscura Numinis templa spectant, et umbrosos lucos per lunam adeunt, noctisque demum nigrum

que demum, lubentes contemplantur nigram formidinem noctis; et  
*and finally, willing contemplate the black fear (horror) of night; and*  
 auscultant zephyrum agitantem sylvas, aut susurrum apum,  
*listen to the west-wind agitating the woods, or the humming of the bees,*  
 aut murmur fluminis. Quin est et tempus, quo tenebræ,  
*or the murmur of a river. But there is also a time, in which darkness,*  
 silentiæ, que, demum, absentia omnis sensûs, sola (neuter plural) placent.  
*silence, and, finally, the absence of all sensation, alone please.*

160. Igitur, voluptatibus sensuum sunt (pro habent) sui limites,  
*Therefore the pleasures of the senses have their own bounds,*  
 et quidem satis arcti; quippe quæ possint neque augeri  
*and indeed sufficiently narrow; as being which can neither be increased*  
 multum neque repeti nimis sæpe, neque produci, aut continuari  
*much nor be repeated too often, nor be produced, or be continued*  
 diu: quasi Natura ipsa hoc modo moneret, hominem esse natum  
*long: as if Nature herself in this way would admonish, that man was born*  
 non voluptatibus solis, saltem non voluptatibus hujusmodi; enim  
*not for pleasures alone, at least not for pleasures of this kind; for*  
 languor aut fastidium abrumpunt omnes nimis cultas; tandem  
*languor or loathing break off all (when) too much worshipped; at length*  
 insignis molestia aut dolor excipiunt nonnullas. Et profecto, ut  
*remarkable irksomeness or pain take off some. And truly, as*  
 voluptas transit tam facile in molestiam aut dolorem, sic, fere  
*pleasure passes so easily into trouble or pain, so almost*  
 pari ratione, subita cessatio doloris, saltem magni  
*for an equal (similar) reason, the sudden cessation of pain, at least of great (pain,)*  
 est aliquando incredibilis voluptas, qualis nimirum, si esset  
*is sometimes an incredible pleasure, such as doubtless, if there were*  
 facultas emendi minore (majore?) aut quovis alio pretio,  
*the faculty of purchasing (it) at a less, or at any other price,*  
 certe emptores non deessent. Voluptas et dolor (ut pulchra  
*certainly purchasers would not be wanting. Pleasure and pain (as the beautiful*  
 fabula Socrates docet,) fuerunt sorores, utcumque dissimiles que  
*fable of Socrates teaches,) were sisters, however unlike and*  
 expertæ diversam sortem; nimirum, altera optata et grata  
*that experienced a different lot; namely, the one wished-for and acceptable*  
 omnibus, altera pariter invisa; quas tamen Jupiter ita sociavit et  
*to all, the other equally hated; whom however Jupiter so associated and*  
 conjunxit tam indissolubili vinculo, ut, quamvis naturâ contrarias,  
*linked in so indissoluble a chain, that, although by nature opposite,*

formidinem lubentes contemplantur; et zephyrum sylvas agitantem, aut apum susurrum, aut fluminis murmur, auscultant. Quin et tempus est, quo tenebræ, silentium, omnisque demum sensus absentia, sola placent.

160. Sui igitur sunt, et quidem satis arcti, limites voluptatibus sensuum; quippe quæ neque multum augeri, neque nimis sæpe repeti, neque diu produci aut continuari possint: quasi ipsa Natura hoc modo moneret, non solis voluptatibus, saltem non hujusmodi voluptatibus, hominem esse natum: omnes enim nimis cultas languor aut fastidium abrumpunt; nonnullas insignis molestia aut dolor tandem excipiunt. Et profecto, ut voluptas in molestiam

aut dolorem tam facile transit, sic, pari fere ratione, doloris, saltem magni, cessatio subita, incredibilis aliquando voluptas est, qualis nimirum, si minore aut alio quovis pretio emendi facultas esset, certe non deessent emptores. Voluptas et Dolor, ut pulchra Socratis fabula docet, sorores fuerunt, utcumque dissimiles, diversamque sortem expertæ; altera nimirum optata et grata omnibus, altera pariter invisa; quas tamen Jupiter ita sociavit, et tam indissolubili vinculo conjunxit, ut quamvis natura contrarias, et diverse spectantes, quicumque alterutram amplectitur, alteram trahat simul.

et spectantes diverse quicumque amplectitur alteram,  
*and looking differently (different ways), whosoever embraces the one,*  
 trahat simul alteram (sororem.)  
*draws at the same time the other.*

161. Autem de hac re magna differentia observatur inter varias  
*But upon this subject a great difference is observed between the various*  
 facultates sentiendi, quæ varias voluptates quas dant: quædam  
*faculties of perceiving, and the various pleasures which they give; some*  
 fatiscunt brevi, neque distinguunt bene res quas  
*weary in a short time, neither do they distinguish well the things which*  
 debent, neque delectantur amplius rebus ipsis quas  
*they ought, nor are delighted longer with the things themselves which*  
 distinguunt satis, et quæ primo fuerant gratissimæ; aliæ  
*they do distinguish sufficiently, and which at first had been very agreeable; others*  
 valent diutius ad sua munera, et fruuntur magis diuturnâ  
*are able (adequate) longer for their functions, and enjoy a more lengthened*  
 voluptate. Sic, olfactus et gustus fere satiantur brevi;  
*pleasure. Thus, the smell and taste generally are satiated in a short time;*  
 auditus tardius; visus longe tardissimè omnium externorum  
*hearing more slowly; sight by far the most slowly of all the external*  
 sensuum: autem voluptates quæ derivantur a mente solâ seu  
*senses: but the pleasures which are derived from the mind alone or*  
 internis sensibus sunt maxime longævæ omnium. Demum, possumus  
*internal senses are the most lasting of all. Finally, we can*  
 producere haud parum omnes voluptates, variando eas,  
*prolong not a little (to a great extent) all pleasures, by varying them,*  
 que miscendo alias cum aliis, vel sæpe interponendo res minus  
*and by mixing some with others, or often by interposing things less*  
 gratas, iis quæ delectant magis, ita ut ne quid sit  
*agreeable with those which delight more, so that nothing (no one) be*  
 nimis.  
*overmuch (in excess.)*

162. Et quædam aliæ res supersunt, plane diversæ a (rebus)  
*Also some other things remain, evidently different from those things*  
 jam memoratis quæ regunt multum nonnullas voluptates  
*now mentioned which govern much (much influence) some pleasures*  
 sensuum; nimirum, variæ conditiones vel universi corporis,  
*of the senses; that is to say, the various conditions either of the whole body,*  
 præsertim nervorum, vel quorundam organorum aut functionum  
*especially of the nerves, or of certain organs or of functions*  
 præ aliis, quibus functionibus, quædam organa sensûs,  
*in comparison with others, to which functions, certain organs of sense,*

161. Magna autem hac de re inter varias sentiendi facultates, variasque quas dant voluptates, differentia observatur. Quædam brevi fatiscunt, neque res quas debent, distinguunt bene, neque amplius delectantur rebus ipsis quas satis distinguunt, et quæ primo gratissimæ fuerant; aliæ diutius ad sua munera valent, et magis diuturnâ fruuntur voluptate. Sic olfactus et gustus fere brevi satiantur; auditus tardius; visus omnium externorum sensuum longe tardissime. Voluptates autem quæ a sola mente seu sensibus internis derivantur, sunt omnium maxime longævæ. Omnes de-

num voluptates, eas variando, aliasque cum aliis miscendo, vel sæpe minus gratas res iis quæ magis delectant interponendo, ita ut ne quid nimis sit, haud parum producere possumus.

162. Supersunt et aliæ quædam res, a jam memoratis plane diversæ, quæ nonnullas sensuum voluptates multum regunt; variæ nimirum conditiones vel universi corporis, præsertim nervorum, vel quorundam præ aliis organorum aut functionum, quibus functionibus, organa quædam sensus, fortasse et sensus ipsi, magna ex parte, inserviunt. Et hæc inter

et fortasse sensus ipsi, ex magna parte, inserviunt.  
*and perhaps the sensations themselves, in a great measure, subservient.*  
 Et hæc est (causa) inter alias causas, quod multæ voluptates, et  
*And this is (a cause) one amongst other causes, that many pleasures, and*  
 quæ coluntur maxime, nequeant esse immortales. Pura aqua  
*which are worshipped the most of all, cannot be immortal. Pure water*  
 est sitienti pro nectare; omnis cibus gratissimus (homini)  
*is to one thirsting as nectar; every kind of food very grateful to a man*  
 esurienti etiam odor cibi (est) jucundus: frigus placet æstuanti  
*hungering even the odour of food is pleasant: cold pleases one burning*  
 aut febricitanti, calor frigenti. Vero eadem res sunt non  
*or labouring of fever, heat a cold person. But the same things are not*  
 modo non gratæ iisdem hominibus aliis temporibus, sed sæpe  
*only not grateful to the same men at different times, but often*  
 valde ingrata, veluti cibus aut potio, utcumque delicata, statim post  
*very unpleasant, as food or drink, however delicate, immediately after*  
 pastum aut potum; vel odor cibi statim post prandium  
*feeding or drinking; or the odour of food immediately after a repast:*  
 neque profecto possunt aut perpetuæ epulæ, aut alterum  
*nor truly can either constant banquets, or another (a second)*  
 prandium statim a primo, delectare perditissimum  
*repast immediately after the first (the previous one), delight the most abandoned*  
 helluonem: neque Venus ipsa semper placet etiam strenuissimis  
*glutton: nor does Venus herself always please even the most strenuous (devoted)*  
 cultoribus.  
*worshippers.*

163. Quin voluptas aut molestia possunt oriri ab aliis sensibus et,  
*But pleasure or uneasiness may arise from other sensations also,*  
 præter illos qui fiunt ab externâ impressione: voluptas  
*besides those which take place from external impression: pleasure*  
 percipitur ab actione musculorum, quatenus hæc (actio) fuerit fortis,  
*is perceived from the action of the muscles, so far as this shall be strong,*  
 facilis, alacris; vero contrarii sensus, ab actione musculorum, nempe,  
*easy, free; but the opposite feelings, from the action of the muscles, to wit,*  
 hebetudinis, lassitudinis, difficultatis, debilitatis, sunt semper molesti:  
*of dullness, of lassitude, of difficulty, of debility, are always troublesome*  
 demum, varii status animi, affectus (ejus), variæ exercitationes  
*lastly, various states of the mind, affections of it, various exercises*  
 memoriæ, imaginationis, iudicii, fere pari ratione,  
*of the memory, of the imagination, of the judgment, nearly for a like reason,*  
 reperuntur nunc grati, nunc molesti.  
*are found one time agreeable, at another troublesome.*

alias causas est, quod multæ, et quæ maxime coluntur, voluptates, immortales esse nequeant. Sienti pura aqua pro nectare est; esurienti omnis cibus gratissimus, etiam cibi odor jucundus: æstuanti aut febricitanti frigus, frigenti calor, placet. Iisdem vero hominibus, aliis temporibus, eadem res non modo non gratæ sunt, sed sæpe valde ingrata, veluti cibus aut potio, utcumque delicatus, statim post pastum aut potum; vel odor cibi statim post prandium: neque profecto aut epulæ perpetuæ, aut alterum prandium statim a primo, perditissimum possunt delectare helluonem:

neque Venus ipsa, strenuissimis etiam cultoribus, semper placet.

163. Quin et ab aliis sensibus præter illos qui ab impressione externa (133, 144) fiunt, voluptas aut molestia oriri possunt: ab actione musculorum, quatenus hæc fortis, facilis, alacris, fuerit, neque ad fatigationem continuata, voluptas percipitur; contrarii vero ab actione musculorum sensus, hebetudinis nempe, lassitudinis, difficultatis, debilitatis, semper molesti sunt: varii demum animi status, affectus, exercitationes variæ memoriæ, imaginationis, iudicii, pari fere ratione, nunc grati nunc molesti reperiuntur.

164. Ex omnibus his est æquum, ut videtur, concludere Naturam  
*From all these it is reasonable, as it seems, to conclude that Nature*  
 providisse tanta benignitate et liberalitate hominibus, que suppeditasse  
*has provided with so much kindness and liberality for men, and has supplied*  
 tot voluptates iis, ut non modo viverent, sed fruerentur  
*so many pleasures for them, that not only should they live, but enjoy*  
 vitâ quam dedit.  
*the life which she gave.*

165. Neque sane voluptates sensuum carent suis eximiis  
*Nor truly do the pleasures of the senses want their own excellent*  
 usibus. Illa generalis suavitas quæ fere comitatur omnes sensus,  
*uses. That general sweetness which mostly accompanies all the sensations,*  
 præsertim primâ ætate, invitat nos ad exercendas probe varias  
*especially at the first age (infancy), invites us to exercise well the various*  
 facultates sentiendi, et sic acuendas (facultates) que simul  
*faculties of perceiving, and thus to sharpen them, and at the same time*  
 acquirendam nobismet quotidie plurimam utilissimam scientiam.  
*to acquire to ourselves daily a great deal of very useful knowledge.*

166. Fere pari ratione, homines, præsertim pueri invitantur  
*Almost for a like reason, men, especially boys (children), are invited*  
 ad exercenda modice et crebro sua organa motûs, insita vis  
*to exercise moderately and frequently their organs of motion, the innate power*  
 quorum promovetur sic, et facilis et promptus usus discitur.  
*of which is promoted thus, and an easy and ready use is learned.*

167. Quin et invitamur, præmio egregiæ voluptatis, ad quasdam  
*Moreover, we are invited, by the reward of exquisite pleasure, to certain*  
 actiones et maximi momenti, nimirum, qualibus aut singuli  
*actions, and of the greatest moment, that is to say, by such as either individual*  
 homines conservantur, aut humanum genus propagatur.  
*men are preserved, or the human race is propagated.*

168. Postremo inducimur illâ voluptate quæ oritur a modicâ  
*In fine, we are induced by that pleasure which arises from a moderate*  
 exercitatione mentis ad exercendas et excolendas nobilissimas facultates  
*exercise of the mind to exercise and to cultivate the noblest faculties*  
 ejus (mentis), quæ (facultates) neglectæ et otiosæ sunt exiguæ, probe  
*of it, which (being) neglected and idle are small, well*  
 cultæ, fiunt pene divinæ.  
*cultivated, become almost divine.*

169. Demum, singuli sensus quibus instruimur, tum externi  
*Lastly, the individual senses with which we are furnished, as well external*  
 tum interni, sunt obnoxii variis vitii; scilicet, unusquisque,  
*as internal, are liable to various disorders; that is to say, each one,*

164. Ex his omnibus, ut videtur, concludere, æquum est, tanta benignitate et liberalitate hominibus providisse Naturam, totque iis voluptates suppeditasse, ut non modo viverent, sed vita quam dedit fruerentur.

165. Neque sane suis et eximiis usibus carent sensuum voluptates. Suavitas illa generalis quæ omnes fere sensus, præsertim primâ ætate comitatur, invitat nos ad varias sentiendi facultates probe exercendas, et sic acuendas, plurimamque simul et utilissimam scientiam (131, 132) nobismet quotidie acquirendam.

166. Pari fere ratione ad sua organa motus modice et crebro exercenda invitantur homines,

præsertim pueri, quorum sic vis insita promovetur, et facilis et promptus usus discitur.

167. Quin et ad quasdam et maximi momenti actiones, qualibus nimirum aut singuli homines conservantur, aut genus humanum propagatur, egregiæ voluptatis præmio invitamur.

168. Postremo, voluptate illa quæ a modica mentis exercitatione oritur, ad nobilissimas ejus facultates exercendas et excolendas inducimur; quæ neglectæ et otiosæ, exiguæ sunt, probe cultæ, pene divinæ fiunt.

169. Singuli demum quibus instruimur sensus, tum externi tum interni, variis obnoxii sunt vitii; unusquisque scilicet, præsertim ex-

præsertim externorum (sensuum) potest esse vel nimis acutus, vel nimis especially of the external ones, can be either too acute or too obtusus, vel abolitus, vel denique depravatus.—Fortasse multi molesti obtuse, or abolished, or lastly depraved. —Perhaps many troublesome sensus quoque possunt referri huc qui sive sint sensations also may be referred hither (to this head) which whether they be ipsi primarii morbi, sive tantum signa aliorum morborum, themselves primary diseases, or only the signs of other diseases, optimo jure vindicant sibi attentionem by the best right (most deservedly) claim to themselves the attention medici. of the physician.

## CAP. V.

## CHAP. V.

De tactu que vitis ejus; nec non de dolore, anxietate, et pruritu. Of touch and the disorders of it; also of pain, anxiety, and itching.

170. Tactus est simplicissimus omnium externorum sensuum et maxime Touch is the most simple of all the external senses and the most generalis; quippe qui sit communis toti nervoso generi; general; as being that which is common to the whole nervous system; sed acutior certis partibus, veluti cuti, et imprimis apicibus but more acute in certain parts, as the skin, and especially the tips digitorum. Hi (apices) dicuntur habere nervosas papillas, quæ, of the fingers. These are said to have nervous papillæ, which, sanguine influente, erigantur quodammodo in tactu daturæ the blood flowing in, are erected in some manner during touch to give accurationem sensum; sed hæc opinia nititur conjecturâ derivatâ a fabricâ linguæ, quæ est delicatissimum organum, non from the structure of the tongue, which is a most delicate organ, not modo gustûs sed quoque tactûs, potius quam certis observationibus only of taste but also of touch, rather than upon certain observations rei ipsiûs. of the thing itself.

171. Tactus percipit varias qualitates corporum; duritiem, molliem, Touch perceives the various qualities of bodies; the hardness, softness,

ternorum, potest esse vel nimis acutus, vel nimis obtusus, vel abolitus, vel denique depravatus. Huc fortasse referri quoque possunt multi sensus molesti, qui, sive ipsi primarii morbi, sive tantum aliorum morborum signa sint, medici attentionem optimo jure sibi vindicant (34.)

CAP. V.—De tactu ejusque vitis; nec non de dolore, anxietate et pruritu.

170. OMNIUM sensuum externorum tactus simplicissimus est, et maxime generalis;

quippe qui toti generi nervoso communis sit: sed certis partibus acutior, veluti cuti, et imprimis apicibus digitorum. Hi papillas nervosas habere dicuntur, quæ, influente sanguine, quodammodo in tactu erigantur, sensum accurationem daturæ; sed potius conjectura a linguæ fabrica derivata, quæ non gustus modo, sed tactus quoque delicatissimum organum est, hæc opinio nititur, quam certis rei ipsius observationibus.

171. Varias corporum qualitates tactus percipit; duritiem, molliem, asperitatem, lævi-



asperitatem, lævitatem, calorem, frigus, molem, figuram, distantiam,  
*roughness, smoothness, heat, cold, bulk, figure, distance,*  
 pressuram, pondus; raro fallax aut depravatus; quia scilicet  
*pressure, weight; rarely fallacious or depraved; because indeed*  
 corpora, qualitates quorum sunt explorandæ, admoventur proxime  
*the bodies, the qualities of which are to be examined, are applied closely*  
 ad organum ipsum, nullo medio interposito, varietates  
*to the organ itself, no medium being interposed, the varieties*  
 cujus (medii) possint fallere vel corrumpere sensum.  
*of which can deceive or corrupt the sensation.*

172. Quod pertinet ad vitia tactûs, observatus est  
*What belongs to (as regards) the disorders of touch, it has been observed*  
 nimis acutus in universum (sc. corpus) in rarissimis si ullis  
*too acute in universum (sc. corpus) in rarissimis si ullis*  
*too acute in general (all over the body) in very few if any*  
 exemplis. Vero sæpe fit acutior justo singulari  
*examples. But it often becomes more acute than proper (natural) in a particular*  
 parti, vel à cuticulâ nimis tenui, aut molli, aut sublatâ,  
*part, either from the cuticle being too thin, or too soft, or removed,*  
 vel parte ipsâ inflammatâ, vel expositâ nimio calori.  
*or the part itself inflamed, or exposed to too great heat.*

173. Fit nimis obtusus, aut aboletur plane in universo  
*It becomes too obtuse, or is abolished altogether in the whole*  
 corpore, vel in magnâ parte ejus (corporis) a variis vitiis  
*body, or in great part of it from various disorders*  
 cerebri que nervorum, compressione, vulnere, defectu vitalis vis:  
*of the brain and nerves, compression, wound, loss of vital power:*  
 Hoc vocatur Anæsthesia, aliquando comes paralyseos  
*This is called Anæsthesia, sometimes the companion of paralysis (palsy),*  
 et nonnunquam observatum (sup. est) in altero latere sine paralyysi.  
*and sometimes it has been observed on the one side without palsy.*  
 dum alterum (sc. latus) factum esset paralyticum, sensu  
*whilst the other was made (had become) paralytic, sensation*  
 integro.  
*being perfect.*

174. Deficit in singulari parte vel a vitio ejus nervi,  
*It fails in a particular part either from a disorder of its nerve,*  
 compressione, obstructione, vulnere, &c. vel parte ipsâ expositâ  
*by compression, obstruction, wound, &c. or the part itself having been exposed*  
 nimio frigori, vel demum, cuticulâ quæ tegit, vitiatâ,  
*to too great cold, or in fine, the cuticle which covers it, being vitiated,*  
 nimis crassâ, aut factâ durâ, contrectatione asperorum aut nimis  
*too thick, or become hard, by the handling of rough or too*

tatem, calorem, frigus, molem, figuram, distantiam, pressuram, pondus; raro fallax vel depravatus; quia scilicet corpora, quorum qualitates sunt explorandæ, proxime ad ipsum organum admoventur, nullo interposito medio, cujus varietates sensum fallere vel corrumpere possint.

172. Quod ad vitia tactus pertinet, nimis acutus in universum rarissimis si ullis exemplis observatus est. Parti singulari vero acutior justo sæpe fit, vel a cuticula nimis tenui, aut molli, aut sublata, vel parte ipsa inflammata, vel nimio calori exposita.

173. Nimis obtusus fit, aut plane aboletur in universo corpore, vel in magna ejus parte, a variis vitiis cerebri nervorumque, compressione, vulnere, vis vitalis defectu: hoc Anæsthesia vocatur, paralyseos aliquando comes; et nonnunquam in altero latere observatum, sine paralyysi; dum alterum, sensu integro, paralyticum factum esset.

174. Deficit in parte singulari, vel a vitio ejus nervi, compressione, obstructione, vulnere, &c. vel parte ipsa nimio frigori exposita; vel demum, cuticula quæ tegit vitiata, nimis crassa, aut dura facta, asperorum aut nimis

calidorum corporum, quod accidit vitrariis et ferrariis fabris,  
*hot bodies, which happens to workers in glass and blacksmiths,*  
 vel a subjectâ cute elevatâ, sanguine, sero, pure,  
*or from the subjacent skin being elevated, blood, serum, pus,*  
 interposito; vel cute ipsâ maceratâ, laxatâ, factâ torpidâ,  
*being interposed; or the skin itself macerated, relaxed, rendered torpid,*  
 quod nonnunquam accidit hydropicis; vel, demum, toto organo  
*which sometimes happens to dropsical persons; or, lastly, the whole organ*  
 corrupto, gangrænâ, ustione, algore, contusione.  
*being corrupted, by gangrene, burning, cold, contusion.*

175. Tactus depravatur rarissime, nisi forte inter delirium, quum  
*Touch is depraved very rarely, unless perhaps during delirium, when*  
 omnes functiones cerebri turbantur in mirum modum.  
*all the functions of the brain are disturbed in a wonderful manner.*

176. Ut a reliquis sensibus, sic etiam a tactu, voluptas aut  
*As from the other sensations, so also from touch, pleasure or*  
 dolor possunt oriri. Solemus contemplari, cum voluptate,  
*pain can arise. We are accustomed to contemplate, with pleasure,*  
 lævorem, mollitiem, modicum calorem. Levis pruritus, quoque, seu titillatio,  
*smoothness, softness, moderate heat. Slight itching, also, or tickling,*  
 quæ est habenda pro voluptate, pertinet ad hunc sensum, quamvis  
*which is to be considered as a pleasure, belongs to this sense, although*  
 sæpe oriatur a internis causis.  
*often it may arise from internal causes.*

177. Referimus dolorem ad hunc sensum, que fere cæteros  
*We refer pain to this sense, and for the most part the other*  
 molestos sensus, anxietatem, pruritus, &c. quamvis revera dolor  
*troublesome sensations, anxiety, itching, &c. although truly pain*  
 possit oriri ab omni vehementiore sensu.  
*may arise from every more vehement sensation.*

178. Dolor est ingratus, vehemens, acer sensus, quem referimus  
*Pain is an unpleasant, vehement, sharp sensation, which we refer*  
 ad certam partem corporis; que id minus accurate, si interna  
*to a certain part of the body; and that, less accurately, if an internal*  
 pars dolet, sed magis accurate, si superficies corporis afficitur.  
*part is in pain, but more accurately, if the surface of the body is affected.*  
 Neque tamen causa doloris semper hæret in dolente  
*Nor nevertheless does the cause of pain always stick (exist) in the painful*  
 parte. Nascitur a magnâ vi illatâ sentienti parti, sive  
*part. It arises from great violence done to the sentient part, whether*  
 illa vis fuerit intus sive extrinsecus. Igitur, quicquid  
*that violence have been within or from without. Therefore, whatever*

calidorum corporum contractatione, quod vitrariis, fabrisque ferrariis accidit, vel a subjecta cute elevata, interposito sanguine, sero, pure; vel ipsa cute macerata, laxata, torpida facta, quod hydropicis nonnunquam accidit; vel demum toto organo corrupto, gangrænâ, ustione, algore, contusione.

175. Rarissime depravatur tactus, nisi forte inter delirium, quum omnes cerebri functiones mirum in modum turbantur.

176. Ut a reliquis sensibus, sic etiam a tactu, voluptas aut dolor oriri possunt. Lævorem, mollitiem, calorem modicum cum voluptate contemplari solemus. Levis quoque pruritus,

seu titillatio, quæ pro voluptate habenda est, ad hunc sensum pertinet, quamvis sæpe a causis internis oriatur.

177. Dolorem ad hunc sensum referimus, cæterosque fere sensus molestos, anxietatem, pruritus, &c.; quamvis revera ab omni sensu vehementiore dolor oriri possit.

178. Dolor est sensus ingratus, vehemens, acer, quem ad certam corporis partem referimus; idque minus accurate, si pars interna dolet; sed magis accurate, si corporis superficies afficitur. Neque tamen causa doloris semper in parte dolente hæret. Nascitur a magna vi parti sentienti illata, sive intus sive

pungit, secat, lacerat, distendit, comprimit, contundit, percutit, nodit,  
*pricks, cuts, lacerates, distends, compresses, bruises, strikes, gnaws,*  
 urit, vel ullo modo vehementer stimulat aut irritat, potest  
*burns, or in any manner violently stimulates or irritates, may*  
 creare dolorem.  
*produce pain.*

179. Hinc jungit se frequentissimum, molestissimum comitem,  
*Hence it joins itself a very frequent, very troublesome companion,*  
 tot morbis, sæpe intolerabiliorem morbo ipso. Modicus  
*to so many diseases, often more intolerable than the disease itself. Moderate*  
 dolor excitat affectam partem, et paulatim totum corpus; facit  
*pain excites the affected part, and gradually the whole body; causes*  
 majorem fluxum sanguinis et nervosæ vis ad partem, et sæpe  
*a greater flow of blood and of nervous power to the part, and often*  
 stimulat ad necessarios et salubres motus, fidelis, quamvis  
*stimulates to necessary and healthy motions, a faithful, although*  
 ingratus monitor: hinc numerandus nonnunquam inter præsidia  
*unpleasant monitor: hence to be accounted sometimes amongst the safeguards*  
 vitæ.  
*of life.*

180. Autem vehementior dolor facit nimiam irritationem, inflamma-  
*But more violent pain causes too much irritation, inflamma-*  
 tionem, que consequentias ejûs, febrem, et omnia mala quæ  
*tion, and the consequences of it, fever, and all the evils which*  
 profluunt a nimio motu humorum; convellit totum  
*flow forth from too great motion of the humours; convulses the whole*  
 nervosum genus, et inducit pervigilium, convulsiones, delirium,  
*nervous system, and brings on watching, convulsions, delirium,*  
 debilitatem, defectionem animi.  
*debility, fainting.*

181. Neque animus neque corpus potest ferre diu  
*Neither the mind nor the body can bear (endure) for a long time*  
 immanem dolorem; et profecto Natura posuit certos fines,  
*cruel (very severe) pain and truly Nature has placed certain limits,*  
 ultra quos non permiserit dolorem intendi, quin delirium,  
*beyond which she will not permit pain to be stretched, without that delirium,*  
 aut convulsio, aut defectio animi, vel demum mors ipsa, eripiat  
*or convulsion, or fainting, or lastly death itself, rescue*  
 miserum (scil. hominem) supplicio.  
*the wretched sufferer from punishment.*

extrinsecus illa vis fuerit. Quicquid igitur  
 pungit, secat, lacerat, distendit, comprimit,  
 contundit, percutit, rodit, urit, vel ullo modo  
 vehementer stimulat aut irritat, dolore creare  
 potest.

179. Hinc tot morbis frequentissimum, mo-  
 lestissimum comitem se jungit; sæpe ipso  
 morbo intolerabiliorem. Modicus dolor partem  
 affectam, et paulatim totum corpus, excitat,  
 majorem sanguinis et vis nervosæ fluxum ad  
 partem facit, et ad motus necessarios et salu-  
 bres sæpe stimulat, fidelis quamvis ingratus  
 monitor. Hinc inter præsidia vitæ nonnun-  
 quam numerandus.

180. Vehementior autem dolor nimiam irrita-  
 tionem facit, inflammationem, ejusque conse-  
 quentias, febrem, et omnia mala quæ a nimio  
 humorum motu profluunt; totum genus nervo-  
 sum convellit, et pervigilium, convulsiones,  
 delirium, debilitatem, animi defectionem iu-  
 ducit.

181. Immanem dolorem neque animus neque  
 corpus diu ferre potest: et profecto certos fines  
 Natura posuit, quos ultra dolorem intendi non  
 permiserit, quin delirium, aut convulsio, aut  
 animi defectio, vel demum ipsa mors miserum  
 supplicio eripiat.

182. Diuturnus dolor, quamvis mitior, sæpe inducit debilitatem,  
*Long continued pain, although milder, often brings on debility,*  
 torporem, paralyzin, et rigiditatem affectæ partis.  
*torpor, palsy, and stiffness of the affected part.*

183. Tolerantia doloris pendet multum a vi animi  
*The endurance of pain depends much upon the strength of mind*  
 quam æger possidet: et prout ipse tulerit (eum), mala  
*which the sick possesses: and as he himself shall bear it, the evils*  
 quæ nascuntur à dolore erunt graviora vel leviora. Nam in hoc,  
*which arise from pain will be severer or slighter. For in this,*  
 uti in aliis exemplis, onus quod fertur bene fit leve.  
*as in other examples, the burthen which is borne well becomes light.*

184. Dolor, si non fuerit nimis vehemens, neque febris aut  
*Pain, if it should not be too vehement, and neither fever or*  
 anxietas comitetur eum, (dolorem), videtur aliquando conferre ad  
*anxiety accompany it, seems sometimes to conduce to*  
 claritatem et acumen ingenii. Qui laboraverunt  
*clearness and sharpness of understanding. They who have laboured under*  
 podagrâ testantur se expertos fuisse hoc.  
*gout testify that they have experienced this.*

185. A dolore quem sentiunt, homines ferunt aliquod iudicium de  
*From the pain which they feel, men form some judgment of*  
 modo quo causa ejus agit; veluti pungendo, lancinando,  
*the manner in which the cause of it acts; as by pricking, by lacerating,*  
 lacerando, urendo, &c. scilicet, fingunt sibi quandam  
*by lacerating, by burning, &c. that is, they imagine to themselves a certain*  
 convenientiam et similitudinem inter res quas viderint, vel  
*agreement and similarity between things which they have seen, or*  
 noverint alio modo, et res magis obscuras.  
*have known in another way, and things more obscure.*

186. Alius molestus sensus est anxietas, plane diversa a  
*Another troublesome sensation is anxiety, altogether different from*  
 dolore, obtusior, referenda, minus accurate, ad singularem partem,  
*pain, more obtuse, to be referred, less accurately, to a particular part,*  
 et sæpe intolerabilior omni dolore. Distinguendum est (sup. nobis  
*and often more intolerable than any pain. We must distinguish*  
 probe inter hanc anxietatem, de quâ agitur  
*well between the anxiety, of which it is treated (we treat)*

medico sensu, que eam de quâ loquimur communi sermone.  
*in a medical sense, and that of which we speak in common language.*

Hæc nimirum est a mente, neque pendet a statu  
*The latter doubtless is from the mind, nor does it depend upon the state*

182. Diuturnus dolor, quamvis mitior, sæpe partis affectæ debilitatem, torporem, paralyzin et rigiditatem inducit.

183. Doloris tolerantia pendet multum a vi animi quam æger possidet: et, prout ipse tulerit, mala quæ a dolore nascuntur graviora vel leviora crunt. Nam in hoc, uti in aliis exemplis, leve fit quod bene fertur onus.

184. Dolor, si non nimis vehemens fuerit, neque cum febris aut anxietas comitetur, ad claritatem et acumen ingenii aliquando conferre videtur. Hoc qui podagra laboraverunt se expertos fuisse testantur.

185. A dolore quem sentiunt, homines judi-

cium aliquod ferunt de modo quo causa ejus agit: veluti pungendo, lancinando, lacerando, urendo, &c.; scilicet inter res quas viderint, vel alio modo noverint, et res magis obscuras, convenientiam et similitudinem quandam sibi fingunt.

186. Alius sensus molestus est anxietas, a dolore plane diversa, obtusior, minus accurate ad partem singularem referenda, et sæpe omni dolore intolerabilior. Probe distinguendum est hanc inter anxietatem de qua sensu medico agitur, eamque de qua communi sermone loquimur. Hæc nimirum a mente est, neque a statu corporis pendet; quippe quæ oriatur a

corporis; quippe quæ oriatur a metu cujusvis prævisi  
*of the body; as being that which arises from the fear of any foreseen*  
 periculi, vel magni impendentis mali. Autem illa est vere corporea,  
*danger, or of great impending evil. But the former is truly corporeal,*  
 non secus ac dolor ducens originem à certo  
*not otherwise than as (in like manner as) pain deriving its origin from a certain*  
 statu corporis. Vero nihil obstat, quo utraque minus adsit  
*state of the body. But nothing hinders, why both should not be present*

simul, vel altera sit causa alterius. Revera ingens  
*at the same time, or the one be the cause of the other. Truly great*  
 corporea anxietas incutiet metum et anxietatem animi firmissimo  
*corporeal anxiety will strike fear and anxiety of mind to the stoutest*  
 pectori; et hæc vicissim si fuerit gravis et diuturna,  
*breast; and this in turn if it should be severe and long continued,*  
 viribus corporis fractis, imprimis quæ efficiunt cur-  
*the strength of the body being broken, especially those which effect the circu-*  
 sum sanguinis poterit inducere alteram (anxietatem).  
*lation of the blood will (be able) to bring on the other.*

187. Anxietas, medico sensu, oritur imprimis a quâcunque  
*Anxiety, in a medical sense, arises in the first place from any*  
 causâ turbante vel impediente motum sanguinis per cor,  
*cause disturbing or obstructing the motion of the blood through the heart,*  
 que magna vasa prope cor que pulmonem. Hinc comitatur  
*and great vessels near the heart and lungs. Hence it accompanies*  
 multiplicia vitia cordis que vasorum ejus, amplificationem,  
*the manifold disorders of the heart and of the vessels of it, enlargement*  
 constrictionem, conversionem in os, polypum,  
*(hypertrophy), constriction, conversion into bone (ossification), polypus,*  
 palpitationem, syncopen, inflammationem, debilitatem, et ideo  
*palpitation, syncope, inflammation, debility, and consequently*  
 nonnullos affectus animi.  
*some affections of the mind.*

188. Oritur quoque ab omni difficultate spirandi, qualiscunque  
*It arises also from every difficulty of breathing, whatever*  
 fuerit causa ejus; nimirum exhalatione mephitis e  
*have been the cause of it; that is the exhalation of mephitic air from*  
 pulmone, et ista salutari mutatione sanguinis quæ fit per  
*the lungs, and that salutary change of the blood which is caused by*  
 spiritum impeditâ; et sanguine ipso forsân transeunte minus  
*the air being obstructed; and the blood itself perhaps passing less*  
 libere per pulmonem. Anxietas hujusmodi sentitur profunde in pectore.  
*freely through the lung. Anxiety of this kind is felt deeply in the breast.*

metu periculi cujusvis prævisi, vel magni  
 mali impendentis. Illa autem vere corporea  
 est non secus ac dolor, a certo corporis statu  
 originem ducens. Nihil vero obstat, quo mi-  
 nus utraque simul adsit, vel altera alterius  
 causa sit. Revera ingens anxietas corporea  
 metum et animi anxietatem firmissimo pectori  
 incutiet. Et hæc vicissim, si gravis fuerit et  
 diuturna, fractis corporis viribus, imprimis  
 quæ sanguinis cursum efficiunt, alteram indu-  
 cere poterit.

187. Anxietas, medico sensu, oritur imprimis  
 a causa quâcunque sanguinis motum, per cor,  
 vasaque magna prope cor, pulmonemque, tur-

bante vel impediente. Hinc vitia cordis ejus-  
 que vasorum multiplicia, amplificationem,  
 constrictionem, conversionem in os, polypum,  
 palpitationem, syncopen, inflammationem, de-  
 bilitatem, et ideo nonnullos animi affectus,  
 comitatur.

188. Oritur quoque ab omni spirandi difficul-  
 tate, qualiscunque ejus causa fuerit; impedita  
 nimirum exhalatione mephitis e pulmone, et  
 mutatione ista salutari sanguinis quæ per  
 spiritum fit: et sanguine forsân ipso minus  
 libere per pulmonem transeunte. Hujusmodi  
 anxietas profunde in pectore sentitur.

189. Dicitur quoque oriri a difficiliore transitu sanguinis  
*It is said also to arise from a more difficult passage of the blood*  
 per jecur, que cætera viscera abdominis.  
*through the liver, and the other viscera of the abdomen.*

190. Quoddam genus anxietatis familiaris et molestissimæ hypochondriacis oritur a stomacho et intestinis gravatis multo onere crudi atque corrupti cibi que potus, vel distentis aëre extricato per minus sanam concoctionem. Ventriculus, delicatissimum organum, afficitur male, tali onere vel distentione: a most delicate organ, is affected badly, by such a burthen or distention: igitur (sup. est) nil mirum si dat ungratum sensum; *therefore it is no way wonderful if it gives an unpleasant feeling;* quin et distentio ejus impedit liberum descensum transversi septi *but also the distention of it hinders free the descent of the transverse septum* et sic obest respiratiōni. Anxietas hujusmodi solet *(diaphragm) and thus opposes respiration. Anxiety of this kind is accustomed* levari multum et subito aëre expulso, et dignoscitur *to be relieved much and suddenly by the air being expelled, and is distinguished* facile hoc, et aliis signis prævæ digestionis. In his exemplis, anxietas solet referri ad ventriculum, sed *easily by this, and other signs (symptoms) of depraved digestion. In these examples, the anxiety is accustomed to be referred to the stomach, but* parum accurate. *by no means accurately.*

191. Anxietas, nunc gravior, nunc levior, quoque sæpe comitatur omnigenas febres: tum propter generalem debilitatem tum *Anxiety, at one time severer, another slighter, also often accompanies all kinds of fevers: as well on account of the general debility as* propter sanguinem pulsum a superficie corporis, que accumulatum in magnis vasis, veluti intermittente febre ingruente; *on account of the blood driven from the surface of the body, and accumulated in the great vessels, as the intermitting paroxysm attacking;* tum quoque propter ventriculum male affectum, et gravatum *as also on account of the stomach badly affected, and oppressed* onere crudi aut corrupti cibi, vel distentum et nauseantem *with a load of crude or corrupted food, or distended and nauseating* multo imprimis calido medicato potu. Febre *(being sick) with much especially warm medicated drink. The fever*

189. Dicitur quoque oriri a difficiliore transitu sanguinis per jecur, cæteraque viscera abdominis.

190. Genus quoddam anxietatis hypochondriacis familiaris, et molestissimæ, oritur a stomacho et intestinis, vel multo crudi atque corrupti cibi potusque onere gravatis, vel aëre per concoctionem minus sanam extricato distentis. Tali onere, vel distentione, ventriculus, organum delicatissimum, male afficitur. Nil mirum igitur si seusum ingratum dat; quin et ejus distentio liberum septi transversi descensum impedit, et sic respiratiōni obest. Hujusmodi

anxietas, expulso aëre, multum et subito levari solet, et hoc, et aliis prævæ concoctionis signis, facile dignoscitur. In his exemplis, anxietas ad ventriculum, sed parum accurate, referri solet.

191. Febres quoque omnigenas anxietas sæpe comitatur, nunc gravior nunc levior: tum propter generalem debilitatem, tum propter sanguinem a superficie corporis pulsum, inque magnis vasis accumulatum, veluti ingruente febre intermittente: tum quoque propter ventriculum male affectum, et onere cibi crudi aut corrupti gravatum, vel multo potu, imprimis

ingravescente æger angitur magis que magis, insigniter, ut  
*becoming severe the sick is distressed more and more, remarkably so, as*  
 medici testantur, mox ante crisin, vel nocte quæ  
*physicians testify, immediately before a crisis, or on the night which*  
 præcedit eam, veluti ante eruptionem super cutem, vel profluvium  
*precedes it, as before an eruption on the skin, or a profluvium*  
 sanguinis, vel sudorem, vel fluxum alvi, quales aliquando solvunt  
*of blood, or sweat, or flux of the belly, such as sometimes resolve*  
 febres. Æger quoque angitur a repulsâ eruptione, vel salutari  
*fevers. The sick also is distressed from a repelled eruption, or salutary*  
 translatione.

*translation (metastasis).*

192. Quin anxietas comitatur pariter et febres et plerosque morbos  
*But anxiety accompanies alike both fevers and most diseases*  
 quum, vitâ jam deficiente, mors instat, cuius (sc. mortis) est  
*when, life already failing, death is at hand, of which it is*  
 prænnuncia et signum. Fit nimirum quum vitales vires,  
*a forerunner and sign. It happens doubtless when the vital powers,*  
 factæ impares propriis muneribus, nequeunt absolvere circuitum  
*become unequal to their proper functions, cannot perform the circulation*  
 sanguinis. Autem qualis hæcce anxietas sit, cætera signa  
*of the blood. But what kind this anxiety may be, the other signs*  
 appropinquantis mortis docent satis que super.  
*of approaching death teach sufficiently and over (more than sufficiently).*

193. Porro, anxietas potest oriri inter somnum, ab iisdem  
*Moreover, anxiety may arise during sleep, from the same*  
 causis: hinc dira somnia, quæ sæpe rumpunt somnum subito  
*causes: hence direful dreams, which often break the sleep suddenly*  
 et cum terrore.  
*and with terror.*

194. Pruritus, scilicet inquietans sensus, cum cupiditate scalpendi,  
*Itching, that is a disquieting sensation, with a desire of scratching,*  
 est sæpe molestissimus, quamvis sit magis affinis voluptati quam dolori.  
*is often very troublesome, although it is more akin to pleasure than to pain.*

195. Ut dolor fit à gravi irritatione, tam mechanicâ  
*As pain is made (arises) from severe irritation, as well mechanical*  
 quam chemicâ, sic pruritus (sup. fit) a leviori. Titillatio, seu  
*as chemical, so itching arises from a slighter. Tickling, or*  
 frictio, veluti lanei indusii homini minus assueto (ei), et  
*friction, as of a flannel shirt to a man not accustomed to it, and*  
 prædito delicatiore cute, excitat prurimum; et multa acria  
*endowed with a more delicate skin, excites itching; and many acrid things*

calido, medicato, distentum et nauseantem. Ingravescente febre, æger magis magisque angitur, insigniter, ut testantur medici, mox ante crisin, vel nocte quæ eam præcedit, veluti ante eruptionem super cutem, vel profluvium, vel sudorem, vel alvi fluxum, quales febres aliquando solvunt. Angitur quoque æger a repulsâ eruptione, vel translatione salutari.

192. Quin et febres, et plerosque morbos pariter anxietas comitatur, quum, vita jam deficiente, mors instat, cuius prænnuncia est et signum. Fit, nimirum quum vires vitales, propriis muneribus impares factæ, circuitum

sanguinis absolvere nequeunt. Qualis autem sit hæcce anxietas, cætera appropinquantis mortis signa satis superque docent.

193. Porro, inter somnum ab iisdem causis anxietas oriri potest. Hinc dira somnia, quæ somnum sæpe subito et cum terrore rumpunt.

194. Pruritus, sensus scilicet inquietans, cum scalpendi cupiditate, sæpe molestissimus est, quamvis voluptati magis quam dolori affinis sit.

195. Ut dolor a gravi irritatione, tam mechanicâ quam chemicâ, sic pruritus a leviori fit. Titillatio, seu frictio, veluti indusii lanei minus assueto homini, et delicatiore prædito, prurimum excitat; et multa acria ex animalibus

derivata ex animalibus, aut herbis, aut fossilibus rebus. Sic primus  
*derived from animals, or vegetables, or fossile things. Thus the first*  
 sensus a *Cantharidibus* admotis cuti est pruritus, quamvis idem  
*sensation from Cantharides applied to the skin is itching, although the same*  
 auctus fiat dolor.  
*increased may become pain.*

196. Quædam acria delata in cutem, veluti in febris, quas  
*Certain acrid things conveyed (forced) to the skin, as in fevers, which*  
 eruptio super cutem comitatur, aut regio morbo  
*an eruption upon the skin accompanies, or in the royal disease (jaundice),*  
 aut, demum, varii morbi ipsius (sc. cutis), scabies, lepra, edunt  
*or, lastly, the various diseases of itself, , itch, lepra, produce*  
 eundem effectum.  
*the same effect.*

197. Pediculi, vermes, imprimis *ascarides*, irritantes vel cutem vel intestina,  
*Lice, worms, especially ascarides, irritating either the skin or intestines,*  
 excitant molestum pruritus.  
*excite a troublesome itching.*

198. Quædam species interni pruritus impellit homines ad multas et  
*A certain kind of internal itching drives men to many and*  
 necessarias actiones, tam sani quam morborum corporis;  
*necessary actions, as well of the healthy as of the diseased body;*  
 excretionem urinæ et alvi, tussim, sternutationem, et similia.  
*the excretion of the urine and fæces, cough, sneezing, and the like.*

## CAP. VI.

## CHAP. VI.

*De gustu; que usibus, et varietatibus, et vitiis ejus.*  
 Of taste; and the uses, and varieties, and disorders of it.

199. Lingua est princeps organum hujus: que ea (sc. lingua), quo  
*The tongue is the principal organ of this: and it, the*  
 propior apici, habet eo acutiorem sensum, quo propior  
*nearer the apex, has the more acute feeling (sensitivity), the nearer*  
 gutturi eo obtusorem: quamvis revera nonnulla acria,  
*the throat the more obtuse: although truly some acrid things (acrids),*

bus, aut herbis, aut fossilibus rebus derivata. Sic primus sensus a *cantharidibus* cuti admotis, pruritus est, quamvis idem auctus dolor fiat.

196. Acria quædam in cutem delata, veluti in febris, quas eruptio super cutem comitatur, aut morbo regio, aut demum varii ipsius morbi, scabies, lepra, eundem effectum edunt.

197. Pediculi, vermes, *ascarides* imprimis, vel cutem vel intestina irritantes, molestum pruritus excitant.

198. Species quædam pruritus interni, homi-

nes ad multas et necessarias tam sani quam morborum corporis, actiones impellit; urinæ et alvi excretionem, tussim, sternutationem, et similia.

CAP. VI.—*De gustu, ejusque usibus, varietatibus et vitiis.*

199. Hujus organum princeps est lingua: eaque quo propior apici, eo acutiorem, quo propior gutturi, eo obtusorem sensum, habet: quamvis revera acria nonnulla, circa apicem vix



vix gustata circa apicem, excitent acerrimum sensum prope  
*scarcely tasted about the apex, may excite a very sharp sensation near*  
 radicem linguæ, vel in guttere ipso.  
*the root of the tongue, or in the throat itself.*

200. Lingua instruitur insignibus et pulcherrimis nervosis  
*The tongue is furnished with remarkable and very beautiful nervous*  
 papillis, quæ videntur esse proxima sedes gustus. Hæ  
*papillæ, which seem to be the proximate (immediate) seat of taste. These*  
 (sc. papillæ) elevantur et eriguntur inter gustandum, quo habeant  
*are elevated and are erected during tasting, that they may have*  
 acutiorem sensum.  
*(to have) a more acute sensibility.*

201. Possumus gustare nihil, nisi quod sit solubile in salivâ, quæ  
*We can taste nothing, unless what is soluble in the saliva, which*  
 est fere aqua, ut, admotum linguæ fluidâ formâ, pervadat  
*is mostly water, that, applied to the tongue in the fluid form, it may pervade*  
 involucra ejus, que afficiat nervosam pulpam. Hinc insolubiles terræ  
*the coverings of it, and affect the nervous pulp. Hence insoluble earths*  
 sunt nulliûs saporis.  
*are of no taste.*

202. Neque est sat, ut gustemus id, corpus  
*Nor is it sufficient, that we may taste (in order to taste) it, that a body*  
 esse solubile: oportet (sup. ut) habeat nonnihil salis, vel  
*be soluble: it behoves that it have (it must have) something of salt, or*  
 saltem acrimoniâ, in se, quod stimulet nervosam substantiam.  
*at least of acrimony, in it, which can stimulate the nervous substance.*  
 Igitur quicquid est minus salsum aut acre quam saliva ipsa, habet  
*Therefore whatever is less salt or acrid than the saliva itself, has*  
 nullum saporem.  
*no taste.*

203. Varia genera saporum distinguuntur facile, et ideo nacta  
*The various kinds of tastes are distinguished easily, and therefore have*  
 sunt sibi met peculiaria nomina etiam in communi sermone: veluti  
*got for themselves peculiar names, even in common language: as*  
 acidus sapor, dulcis, amarus, salsus, acer, aromaticus, putridus; vero hic  
*an acid taste, sweet, bitter, salt, sharp, aromatic, putrid; but this last*  
 quoque jungitur cum odore. Sunt varii gradus omnium  
*is also joined with odour. There are various degrees of all (of every kind of)*  
 saporum, que omnes (sc. sapes) possunt conjungi varie inter  
*tastes, and all can be combined variously among*  
 se.  
*themselves (together).*

gustata, prope radicem linguæ, vel in ipso gutture, acerrimum sensum excitent.

200. Lingua insignibus et pulcherrimis papillis nervosis instruitur, quæ proxima gustus sedes videntur esse. Hæ inter gustandum elevantur, et eriguntur, quo acutiorem sensum habeant.

201. Nihil gustare possumus, nisi quod in saliva, quæ fere aqua est, solubile sit, ut fluida forma linguæ admotum involucra ejus pervadat, pulpamque nervosam afficiat. Hinc terræ insolubiles nullius saporis sunt.

202. Neque sat est solubile esse corpus, ut id

gustemus. Oportet salis, vel saltem acrimoniæ nonnihil in se habeat, quod nervosam substantiam stimulet. Quicquid igitur quam ipsa saliva minus salsum aut acre est, nullum habet saporem.

203. Saporum varia genera facile distinguuntur, et ideo nomina peculiaria etiam in communi sermone sibi met nacta sunt: veluti sapor acidus, dulcis, amarus, salsus, acer, aromaticus, putridus; hic vero cum odore quoque jungitur. Omnium saporum varii sunt gradus, omnesque varie inter se conjungi possunt.

204. Alii sapes sunt suavissimi et gratissimi; alii ingrati, que  
*Some tastes are very sweet and very agreeable; some disagreeable, and*  
 vix tolerandi. Tamen, mira diversitas hominum  
*scarcely to be borne (endured). Nevertheless, a wonderful difference of men (in men)*  
 (est) de hac re: ita ut quod est (pro affert positum) maximæ  
*exists in this respect: so that what brings (affords) the greatest*  
 voluptati aliis (hominibus) alii respuant non sine nausæ et horrore.  
*pleasure to some, others spit back not without nausea and horror.*

205. Quin homines solent fastidire brevi et  
*But men are accustomed to loath in a short time even*  
 suavissimos sapes, qui primo dederant magnam voluptatem;  
*the sweetest tastes, which at first had given (afforded) great pleasure;*  
 dum consuetudine discunt amare et appetere pessimos  
*whilst by custom (habituation) they learn - to love and to desire the worst*  
 et ingratisimos: quales sunt (sapes) nicotianæ, tabaci, ferulæ,  
*and the most unpleasant: such as are those of nicotiana, tobacco, of ferula,*  
*assafœtidæ, et simillium.*  
*assafœtidæ, and of the like.*

206. Præcipuus usus gustûs videtur esse invitare ad bonum et  
*The chief use of taste seems to be to invite to good and*  
 salubrem cibum, divertere a noxio aut minus idoneo (cibo). Plerique  
*wholesome food, to divert from [noxious or less suitable]. Most*  
 et optimi cibi sunt grati gustui; vero qui (cibi) sunt mali  
*and the best foods are pleasant to the taste; but what are of bad*  
 saporis incorrupto gustui ii (sc. cibi) fere nocent.  
*taste (flavour) to an uncorrupted taste (palate) they commonly hurt.*

Instinctu hujusmodi, raro fallace, quem olfactus quoque juvat,  
*By an instinct of this kind, seldom deceptive, which the smell also assists,*  
 bruta animalia perducuntur ad idoneum cibum, et arcentur a noxio.  
*brute animals are led to suitable food, and are warded off from noxious.*

207. Vero hic instinctus, non secus ac reliqui  
*But this instinct, not otherwise than as the remaining (the other),*  
 (sc. instinctus), datur minus perfectus homini quam belluis; quippe qui  
*instincts, is given less perfect to man than to brutes; as being one who*  
 (sc. homo) minus egeat tali auxilio, præditus aliis facultatibus;  
*does not want (require) such aid, being gifted with other faculties;*  
 vero instinctus ipse qui datur sæpe corrumpitur parum naturali  
*but the instinct itself which is given often is corrupted by a not natural*  
 genere vitæ.  
*(unnatural) kind of life.*

208. Porro, alma Parens rerum statuit ut actio adeo  
*Moreover, the kind Parent of nature resolved that an action so*

204. Sapes alii suavissimi et gratissimi sunt; alii ingrati, vixque tolerandi. Mira tamen de hac re hominum diversitas: ita ut quod aliis maxime voluptati est, alii non sine nausæ et horrore respuant.

205. Quin et suavissimos sapes, qui magnam primo voluptatem dederant, homines breve fastidire solent: dum pessimos et ingratisimos, quales sunt *Nicotiana tabaci, Ferulæ assafœtidæ, et simillium*, consuetudine amare discunt et appetere.

206. Usus gustus præcipuus videtur esse, ad cibum bonum et salubrem invitare, a noxia aut

minus idoneo divertere. Plerique et optimi cibi gustui grati sunt. Qui vero gustui incorrupto mali saporis sunt, ii fere nocent. Hujusmodi instinctu, raro fallace, quem olfactus quoque juvat, bruta animalia ad idoneum cibum perducuntur, et a noxio arcentur.

207. Hic vero instinctus, non secus ac reliqui, minus perfectus homini quam belluis datur; quippe qui tali auxilio minus egeat, aliis facultatibus præditus. Ipse vero qui datur instinctus, vitæ genere parum naturali sæpe corrumpitur.

208. Statuit porro alma rerum Parens, ut

necessaria ad alendam vitam, et suâ naturâ quodammodo voluntaria,  
*necessary to support life, and in its nature in some degree voluntary,*  
 non careret aliquâ voluptate. Allicimur grato sapore  
*should not want some pleasure. We are allured by the agreeable taste*

cibi, tanquam præmio, ad sumendum et conficiendum cibum.  
*of food, as it were by a reward, to take and to chew food.*

Revera ista voluptas pendet multum a statu ventriculi, et  
*Truly that pleasure depends much upon the state of the stomach, and*  
 a necessitate sumendi novi cibi: enim vilissimus et fere insulsus  
*upon the necessity of taking new food: for the vilest and almost unsavoury*  
 cibus est gratissimus homini esurienti; vero crearet fastidium  
*food is very agreeable to a man hungering; but would cause loathing*

saturi. Porro, inter mandendum, saliva affluit copiosior,  
*to one sated. Moreover, during chewing, the saliva flows forth more copious,*

quo gustus evadat accuratior, et sapor cibi  
*in order that the taste may become more accurate, and the flavour of the food*

gratior. Saliva fluit esurienti, ad conspectum etiam,  
*more agreeable. The saliva flows to the hungering man, at the sight also,*

vel etiam ad imaginem aut recordationem grati cibi quem appetit.  
*or even at the idea or recollection of the pleasant food which he desires.*

209. Gustus observatur raro nimis acutus, nisi a vitio cuticulæ  
*Taste is observed seldom too acute, except from disease of the cuticle*

quæ tegit linguam. Hæc, (cuticula), si fuerit sublata, aut vulnerata,  
*which covers the tongue. This, if it should be raised, or wounded,*

aut obsessa ulceribus, aphthis, que similibus malis, tum gustu  
*or beset with ulcers, aphthæ, and similar disorders, then taste*

facto nimis acri, sapes percipiuntur non sine dolore; vel  
*being made too sharp (acute), tastes are perceived not without pain: or*

aliquando nullus sapor distinguitur, dolor solus sentitur.  
*sometimes no taste is distinguished, pain alone is felt.*

210. Deficit, non secus ac tactus, a variis vitiis cerebri  
*It fails, not otherwise than as touch, from various disorders of the brain*

ipsius que nervorum. Vero exempla hujusmodi sunt rara. Datur  
*itself and of the nerves. But examples of this sort are rare. It is given*

admodum obtusus nonnullis hominibus. Hi (homines) solent quoque  
*very obtuse to some men. They are accustomed also*

habere parum olfactus. Deficit sæpissime propter defectum  
*to have little (no) smell. It fails very often on account of a deficiency*

salivæ: nam sicca lingua nequit gustare. Hinc est obtusus in multis  
*of saliva: for a dry tongue cannot taste. Hence it is obtuse in many*

morbis, imprimis febribus, gravedine, &c. tum ob  
*diseases, especially fevers, stuffing in the head, &c. as well on account of*

actio ad vitam alendam adeo necessaria, et sua natura quodammodo voluntaria, voluptate aliqua non careret. Grato cibi sapore, tanquam præmio, ad cibum sumendum et conficiendum allicimur. Revera ista voluptas pendet multum a statu ventriculi, et a necessitate novi cibi sumendi. Vilissimus enim cibus, et fere insulsus, homini esurienti gratissimus est, saturi vero fastidium crearet. Porro, inter mandendum saliva copiosior affluit, quo accuratior evadat gustus, et cibi sapor gratior. Fluit etiam saliva esurienti ad conspectum, vel etiam ad imaginem aut recordationem grati cibi, quem appetit.

209. Gustus raro nimis acutus observatur, nisi a vitio cuticulæ, quæ linguam tegit. Hæc, si sublata fuerit, aut vulnerata, aut ulceribus, aphthis, similibusque malis, obsessa, tum gustu nimis acri factu, sapes non sine dolore percipiuntur; vel aliquando sapor nullus distinguitur, solus dolor sentitur.

210. Deficit non secus, ac tactus, a variis cerebri ipsius nervorumque vitiis. Hujusmodi vero exempla rara sunt. Nonnullis hominibus admodum obtusus datur. Hi quoque parum olfactus habere solent. Deficit sæpissime propter defectum salivæ: nam sicca lingua gustare nequit. Hinc in multis morbis obtusus

defectum salivæ, tum quoque ob (sup. defectum) appetitûs,  
*a deficiency of saliva, as also on account of loss of appetite,*  
 qui (appetitus) juvat adeo in sano homine; vel propter  
*which assists so much in the healthy man; or on account of*  
 linguam ipsam obductam tenace et fœdo muco.  
*the tongue itself covered (coated) with a tenacious and foul mucus.*

211. Gustus sæpe depravatur; scilicet, vel gustamus, nihil omnino  
*Taste often is depraved; that is, either we taste, nothing at all*  
 admoto linguæ; vel, si quid fuerit admotum ei (sc. linguæ),  
*being applied to the tongue; or, if anything should be applied to it,*  
 percipimus saporem alienum a vero et solito (sc. sapore.) Hoc  
*we perceive a taste different from the true and usual one. This*  
 fit plerumque a vitio salivæ, quæ ipsa gustatur.  
*happens for the most part from disorder of the saliva, which itself is tasted.*  
 Hoc modo dulcis, salsus, acer, amarus, putridus, rancidus sapor,  
*In this manner, a sweet, salt, sharp, bitter, putrid, rancid taste,*  
 potest percipi, prout saliva fuerit corrupta, vel a statu  
*may be perceived, as the saliva shall be corrupted, either from the state*  
 generalis massæ humorum, vel organorum quæ secernunt ipsam  
*of the general mass of the humours, or of the organs which secrete it,*  
 (sc. salivam), vel oris ipsius, vel ventriculi, unde vapor et  
*or of the mouth itself, or of the stomach, whence vapour and*  
 ructus surgunt ad os, præsertim si (sc. ventriculus) habet se male.  
*belchings rise to the mouth, especially if it has itself badly.*

212. Verum gustus vitiatum ab aliis causis præter vitia  
*But taste is disordered from other causes besides the defects*  
 salivæ, veluti conditione nervosarum papillarum, cuius vero  
*of the saliva, as from the condition of the nervous papillæ, of which truly*  
 parum hactenus est notum; nam nonnunquam gustus plane alienatur,  
*little hitherto is known; for sometimes taste evidently is corrupted,*  
 quamvis saliva ipsa sit nullius saporis aliis hominibus.  
*although the saliva itself is of no taste to other men.*

213. Medici solent attendere multum ad conditionem linguæ  
*Physicians are accustomed to attend much to the condition of the tongue*  
 in omnibus morbis, præsertim febribus; nec immerito. Nam ex  
*in all diseases, especially fevers; nor undeservedly. For from*  
 eâ (sc. lingua) possunt judicare de statu ventriculi, de siti, vel  
*it they can judge of the state of the stomach, of thirst, or*  
 potius de necessitate sumendi potûs, cum æger, propter  
*rather of the necessity of taking drink, when the sick, on account of*  
 delirium, stuporem, &c., neque sentit sitim, neque potest conqueri de  
*delirium, stupor, &c., neither feels thirst, nor can complain of*

est, febribus imprimis, gravedine, &c. tum ob salivæ, tum quoque ob appetitus defectum, qui in sano homine adeo juvat; vel propter linguam ipsam tenace et fœdo muco obductam.

211. Depravatur sæpe gustus. Scilicet, vel gustamus nihil omnino linguæ admoto; vel, si quid ei admotum fuerit, saporem percipimus a vero et solito alienum. Hoc fit plerumque a vitio salivæ quæ ipsa gustatur. Hoc modo sapor dulcis, salsus, acer, amarus, putridus, rancidus, percipi potest, prout saliva vel a statu generalis massæ humorum, vel organorum quæ ipsam secernunt, vel oris ipsius, vel ventriculi, unde vapor et ructus, præsertim si

male se habet, ad os surgunt, corrupta fuerit.

212. Verum, præter salivæ vitia, ab aliis causis gustus vitiatum, veluti papillarum nervosarum conditione; cuius vero parum hactenus notum est. Nam gustus nonnunquam plane alienatur, quamvis saliva ipsa aliis hominibus nullius saporis sit.

213. Ad linguæ conditionem medici in omnibus morbis, præsertim febribus, multum solent attendere; nec immerito. Nam ex eis judicare possunt de statu ventriculi, de siti, vel potius de necessitate potus sumendi, cum æger, propter delirium, stuporem, &c. neque sitim sentit, neque de ea potest conqueri; et demum

eâ (sc. sîti;) et, demum, medici conantur deducere aliquod  
 it; and, lastly, physicians endeavour to deduce (to form) some  
 iudicium ab inspectâ linguâ, de naturâ et augmento vel remissione  
 judgment from the inspected tongue, of the nature and increase or remission  
 febris.  
 of fever.

CAP. VII.

CHAP. VII.

De olfactu; que usibus, varietatibus, et vitiis ejus; necnon de naturâ  
 Of smell, and the uses, varieties, and disorders of it; also of the nature  
 odorum, que effectibus eorum in humano corpore.  
 of odours, and the effects of them in the human body.

214. Sedes hujûs sensûs est in illâ molissimâ delicatissimâ membrana,  
 The seat of this sense, is in that very soft delicate membrane,  
 refertâ nervorum et vasorum, vehentium sanguinem, quæ (sc. membrana)  
 full of nerves and of vessels, carrying blood, which  
 obducitur internis naribus, que varils sinibus et antris,  
 is spread over the internal nostrils, and the various sinuses and antrums,  
 quibus est (pro habent) iter ex iis. Sensus (sup. est) acutior  
 which have a passage from them. The sensation is more acute  
 circa medium septum que spongiosa ossa, quibus membrana datur  
 about the middle septum and spongy bones, to which the membrane is given  
 crassior et mollior, quam in profundioribus antris ubi membrana  
 thicker and softer, than in the deeper antrums where the membrane  
 est tenuior, minus nervosa, et minus referta vasis; quamvis hæ  
 is thinner, less nervous, and less supplied with vessels: although these  
 partes quoque, ut videtur, non omnino careant olfactu.  
 parts also, as it appears, do not altogether want smell.

215. Ut gustu judicamus de solubilibus partibus corporum, sic olfactu  
 As by taste we judge of the soluble parts of bodies, so by smell  
 (sup. judicamus) de volatilibus partibus, quæ (sc. partes), subtilissimæ, volitant  
 we judge of the volatile parts, which very subtile, float  
 per aëra Ut aliquis olfaciat accurate, inhalat  
 through the air. That any one may smell (in order to smell) accurately, he inhales

de natura, et augmento, vel remissione febris, ab inspecta lingua, medici iudicium aliquod deducere conantur.

CAP. VII.—De olfactu; ejusque usibus, varietatibus et vitiis: nec non de natura odorum, eorumque effectibus in corpore humano.

214. Hujus sensus sedes est in membrana illa molliissima, delicatissima, nervorum et vasorum sanguinem vehentium referta, quæ naribus internis, variisque sinibus et antris, quibus iter

ex iis est, obducitur. Acutior sensus circa medium septum, ossaque spongiosa, quibus membrana crassior et mollior datur, quam in antris profundioribus, ubi membrana tenuior, minus nervosa, et vasis minus referta est; quamvis hæ quoque, ut videtur, partes olfactu non omnino careant.

215. Ut gustu de partibus corporum solubilibus, sic olfactu de partibus volatilibus, quæ subtilissimæ per aëra volitant, judicamus. Ut accurate olfaciat aliquis, apertis quantum pos-

aëra, fortiter, naribus apertis, quantum possit, que ore  
*the air, strongly, with the nostrils opened, as much as he can, and the mouth*  
 clauso, quo plures volatiles particulæ admoveantur, que majore vi,  
*shut, that more volatile particles may be applied, and with greater force,*

organo olfactûs.  
*to the organ of smelling.*

216. Organum olfactûs quoque, non secus ac organum gustûs,  
*The organ of smell also, not otherwise than as the organ of taste,*  
 servatur madidum, quo habeat acutiorem sensum, partim proprio  
*is kept moist, that it may have a more acute sensibility, partly by its own*  
 muco, partim lachrymis quæ distillant assidue ex oculis.  
*mucus, partly by the tears which drop down constantly from the eyes.*

217. Ut gustus præponitur custos itineri cibi, sic olfactus  
*As taste is put over as a guard to the passage of the food, so smell*  
 (sup. præp. &c.) ostio viarum quas aër debet subire  
*is placed over the mouth of the passages which the air ought to go through,*  
 moniturus ne quid noxii admittatur in corpus viâ quæ  
*to advise that no thing noxious be admitted into the body by a passage which*  
 semper patet. Porro, ut gustus, hic sensus quoque invitat ad  
*always lies open. Moreover, like as taste, this sense also invites to*  
 salutarem cibum, deterret a noxio, aut corrupto, imprimis putrido  
*salutary food, frightens from noxious, or corrupted, especially putrid*  
 vel rancido (sc. cibo.)  
*or rancid food.*

218. Quin et, quidam odores pollent insigni vi in nervoso  
*Moreover, certain odours act with remarkable power upon the nervous*  
 genere, et nonnunquam edunt mirandos effectus. Alii grate excitant  
*system, and sometimes produce wonderful effects. Some gratefully excite*  
 et statim recreant fere deficientem animo; alii faciunt lingui  
*and immediately recover the almost fainting; others cause a person*  
 animo, et aliquando, ut fertur, plane extinguunt hominem. Huc  
*to faint, and sometimes, as it is said, evidently kill the man. Hither*  
 pertinent quoque quæ vocantur antipathiæ, ridiculæ profecto,  
*(to this head) belong also what are called antipathies, ridiculous truly,*  
 sed sæpe debellandæ nullâ vi animi.  
*but often to be driven off by no force of mind (by no resolution.)*

219. Olfactus interdum fit nimis acutus, tum propter quædam  
*Smell sometimes becomes too acute, as well on account of certain*  
 vitia organi ipsius, quod observatur rarius, tum quoque  
*defects of the organ itself, which is observed more rarely, as also*  
 propter universum nervosum genus sentiens nimis ut  
*on account of the whole nervous system feeling too much (too sensibly) as*

sit naribus, clausoque ore, aëra fortiter inhalat. quo plures particulæ volatiles, majoreque vi, olfactus organo admoveantur.

216. Organum quoque olfactus, non secus ac organum gustus, quo acutiorem sensum habeat, madidum servatur: partim proprio muco, partim lachrymis quæ ex oculis assidue distillant.

217. Ut gustus cibi itineri, sic olfactus ostio viarum, quas aër subire debet, custos præponitur, moniturus ne quid noxii, viâ quæ semper patet, in corpus admittatur. Porro, ut gustus, hic quoque sensus ad cibum salutarem invitat,

a noxio aut corrupto, putrido imprimis vel rancido, deterret.

218. Quin et odores quidam insigni vi in genere nervoso pollent, et mirandos nonnunquam effectus edunt. Alii grate excitant, et animo fere deficientem statim recreant; alii animo lingui faciunt, et aliquando, ut fertur, hominem plane extinguunt. Huc quoque pertinent quæ vocantur antipathiæ, ridiculæ profecto, sed sæpe nulla vi animi debellandæ.

219. Olfactus interdum nimis acutus fit, tum propter vitia quædam organi ipsius, quod rarius observatur, tum quoque propter universum

observatur aliquando in quibusdam febribus, in phrenitide, in *hysteriâ*.  
*is observed sometimes in certain fevers, in phrenitis, in hysteria.*

220. Obtunditur sæpius aut a vitiis cerebri que nervorum,  
*It is blunted more often either from disorders of the brain and of the nerves,*  
 veluti à vi illatâ capiti, vel provenientibus à internâ  
*as from violence done to the head, or proceeding from an internal*  
 causâ; aut à vitio organi ipsiûs, aridi, propter solitos  
*cause; or from disorder of the organ itself, dry, on account of the accustomed*  
 humores suppressos, vel versos alio, vel obruti  
*humours being suppressed, or turned (directed) elsewhere, or overwhelmed*  
 (sc. organi) nimîâ copiâ mucî que lachrymarum: exemplum  
*with too great plenty of mucus and tears; an example*  
 utriusque est in gravidine, ubi initio  
*of both is (exists) in stuffing of the head, where (in which) at the beginning*  
 morbi nares arescunt, vero postea vel inundantur multo  
*of the disease the nostrils grow dry, but afterwards either are inundated with much*  
 humore, vel obstuuntur spissiore mucô. Sed in his, que bene  
*humour, or are obstructed with a thicker mucus. But in these, and a good*  
 multis aliis exemplis, membrana ipsa nasi afficitur inflammatione,  
*many other examples, the membrane itself of the nose is affected with inflammation*  
 relaxatione, nimîâ tensione, quâ potest non fieri quin nervi,  
*relaxation, too great tension, by which it cannot happen but that the nerves,*  
 qui efficiunt magnam partem ejûs (sc. membranæ,) vitientur.  
*which form (constitute) a great part (portion) of it, are diseased.*  
 Porro, quicquid impedit liberum introitum aëris in nares,  
*Moreover, whatever impedes the free ingress of the air into the nostrils,*  
 aut transitum ipsiûs (sc. aëris) per eas (sc. nares), potest non non obesse  
*or the passage of it through them cannot not hurt*  
 olfactui.  
*(must hurt) smelling.*

221. Olfactus nonnumquam depravatur, et odores percipiuntur, ubi  
*Smell sometimes is depraved, and odours are perceived, where*  
 nihil odorati fuit, vel odores rerum percipiuntur alieni a  
*nothing (of) odorous has been, or odours of things are perceived different from*  
 veris et solitis (odoribus.) Odoratæ particulæ, post longam moram  
*the true and usual ones. The odorous particles, after a long delay*  
 in antris, demum erumpentes, et denuo afficientes organum,  
*in the antrums, at last breaking forth, and again affecting the organ,*  
 nonnumquam efficiunt depravationem hujûsmodi, etiam in sanissimo  
*sometimes produce depravation of this kind, even in the most healthy*  
 homine. Multa vitia narium quoque, que partium quibus  
*man. Many diseases of the nostrils also, and of the parts by which*

genus nervosum nimis sentiens; ut in febribus quibusdam, in phrenitide, in *hysteriâ*, aliquando observatur.

220. Obtunditur sæpius, aut a vitiis cerebri nervorumque, veluti a vi capiti illata, vel a causa interna, provenientibus; aut a vitio ipsius organi, aridi, propter solitos humores suppressos, vel alio versos, vel nimia mucî lachrymarumque copia obruti. Utriusque exemplum est in gravidine, ubi initio morbi nares arescunt, postea vero vel multo humore inundantur, vel spissiore mucô obstuuntur. Sed in his aliisque bene multis exemplis, membrana nasi ipsa afficitur, inflammatione, relaxatione,

tensione nimia, qua fieri non potest quin nervi, qui magnam ejus partem efficiunt, vitientur. Porro, quicquid liberum aëris in nares introitum, aut ipsius per eas transitum impedit, olfactui non obesse non potest.

221. Depravatur nonnumquam olfactus, et odores percipiuntur, ubi nihil odorati fuit, vel odores rerum percipiuntur a veris et solitis alieni. Particulæ odoratæ, post longam in antris moram, demum erumpentes, et organum denuo afficientes, hujusmodi depravationem, in sanissimo etiam homine, nonnumquam efficiunt. Multa quoque vitia narium, partiumque quibus ad eas iter patet, ulcera, caries, cancer, corrup-

iter ad eas patet, ulcera, caries, cancer, quævis corruptio  
*the passage to them lies open, ulcers, caries, cancer, any corruption*  
 oris, dentium, gutturis, pulmonis, etiam prava concoctio  
*of the mouth, of the teeth, of the throat, of the lungs, also depraved concoction*  
 in ventriculo, exhalando fœtidum vaporem, possunt corrumpere olfactum.  
*in the stomach, by exhaling a fœtid vapour, may corrupt smell.*  
 Fortasse interdum depravatur a vitiis cerebri que nervorum,  
*Perhaps sometimes it is depraved from disorders of the brain and of the nerves,*  
 ratio quorum est magis obscura.  
*the reason of which is more obscure.*

## CAP. VIII.

## CHAP. VIII.

*De auditu; sonis; et vitiis auditus.*  
 Of hearing; sounds; and the disorders of hearing.

222. Hic sensus excitatur tremoribus aëris quos sonantia  
*This sense is excited by the tremors of the air which the sounding*  
 corpora faciunt. Externa cartilaginosa auris, et uterque meatus auris,  
*bodies cause. The external cartilaginous ear, and both meatus of the ear,*  
 colligunt hos (sc. tremores), deferunt ad tympanum, et simul  
*collect these, carry them to the tympanum, and at the same time*  
 intendunt, quo feriant membranam tympani majore  
*increase their intensesness, that they may strike the membrana tympani with greater*  
 vi. Hæc membrana, ipsa commota et tremens, commovet malleum  
*force. This membrane, itself moved and trembling, moves the malleus*  
 annexum sibi, et facit ferire incudem junctam sibi, propriis  
*annexed to it, and causes it to strike the incus joined to it, the proper*  
 musculis mallei juvantibus simul. Vero incus impertit  
*muscles of the malleus assisting at the same time. But the incus imparts*  
 suum motum orbiculari ossi et stapedi, qui iterum trahitur,  
*its own motion to the orbicular bone and stapes, which again is drawn,*  
 tum hoc motu, tum quoque actione sui musculi, ita ut  
*as well by this motion, as also by the action of its own muscle, so that*  
 posterior pars baseos ejus impellatur in ovalem fenestram que  
*the posterior part of the base of it is driven into the oval window and*  
 vestibulum ipsum. Porro, tremores membranæ tympani  
*the vestibule itself. Moreover, the tremors of the membrana tympani*

tio quævis oris, dentium, gutturis, pulmonis, prava etiam in ventriculo concoctio, vaporem fœtidum exhalando, olfactum corrumpere possunt. Depravatur interdum fortasse a vitiis cerebri nervorumque, quorum ratio magis obscura est.

CAP. VIII.—*De auditu, sonis, et vitiis auditus.*

222. Hic sensus excitatur tremoribus aëris, quos corpora sonantia faciunt. Hos auris externa, cartilaginosa, et meatus auris uterque,

colligunt, ad tympanum deferunt, et simul intendunt, quo majore vi membranam tympani feriant. Hæc membrana, ipsa commota et tremens, malleum sibi annexum commovet, et junctam sibi incudem ferire facit; juvantibus simul propriis mallei musculis. Incus vero suum motum ossi orbiculari et stapedi impertit, qui iterum, tum hoc motu, tum quoque actione sui musculi, ita trahitur, ut pars posterior ejus baseos in fenestram ovalem, ipsumque vestibulum, impellatur. Porro, tremores membranæ



communicantur simul cum aëre delato per  
*are communicated at the same time with the air carried (transmitted) through*  
*Eustachianam tubam in tympanum; qui aër demum ferit*  
*the Eustachian tube to the tympanum; which air at last strikes*  
*membranam rotundæ fenestræ, quâ pervenitur (impus. ponitur) in*  
*the membrane of the round window, by which it is come (there is a passage) into*  
*labyrinthum seu intimam aurem. Igitur tremores perveniunt*  
*the labyrinth or innermost ear. Therefore the tremors come*

duplice modo, ut videtur, ad labyrinthum, qui totus (sc. labyrinth.)  
*in a twofold manner, as it appears, to the labyrinth, which entire (the entire of*  
*obductus mollissimâ et admodum sentiente nervosâ membranâ,*  
*which) covered with a very soft and very sentient nervous membrane,*  
*et plenus pellucidâ subrubrâ aquulâ, aptissimâ ad suscipiendos*  
*and full of a pellucid reddish little water, very fit to receive*  
*et propagandos omnes tremores, est ultimum organum auditûs.*  
*and propagate all tremors, is the chief (immediate) organ of hearing.*

223. Neque sane est quicquam notum certâ fide  
*Nor truly is any thing known with certain confidence (with certainty)*  
*de actionibus singularum partium internæ auris, præterquam*  
*of the actions of the individual parts of the internal ear, except*  
*ossicula ipsa esse aptissima ad suscipiendos et reddendos*  
*that the little bones themselves are very fit to receive and to return*  
*vel propagandos tremores, et ideo (ossicula) conferre ad auditum:*  
*or propagate tremors, and that thus they contribute to hearing:*  
*ita ut soni perveniant, per dentes, et maxillam, et petrosum os,*  
*so that sounds can come, through the teeth, and maxilla, and petrous bone,*  
*ad ultimam nervosam partem organi, et sic homo, fere surdus,*  
*to the ultimate nervous part of the organ, and thus a man, almost deaf,*  
*neque audiens per aëra, fruatur quodammodo musicâ.*  
*nor hearing through the air, may enjoy in some degree music.*

Potius confitendum est (sup. nobis) multum obscuri subesse  
*We must rather confess that much of obscurity exists*  
*hic, et actionem et usus multarum partium quæ sunt in aure*  
*here, and that the action and uses of many parts which are in the ear*  
*adhuc parum intelligi.*  
*are as yet little understood.*

224. Soni sunt fortes vel debiles, graves vel acuti. Magnitudo vel  
*Sounds are loud or low, grave or acute. The magnitude or*  
*claritas soni pendet a vi seu magnitudine tremorum quos*  
*loudness of sound depends upon the force or magnitude of the tremors which*  
*sonans corpus impertit aëri; gravitas a numero tremorum*  
*the sounding body imparts to the air; heaviness upon the number of tremors*

tympani, cum aëre per tubam *Eustachianam* in  
 tympanum delato, simul communicantur; qui  
 demum aër fenestræ rotundæ membranam ferit,  
 qua in labyrinthum, seu aurem intimam, per-  
 venit. Duplice igitur, ut videtur, modo,  
 tremores ad labyrinthum perveniunt, qui totus  
 mollissima et admodum sentiente nervosa  
 membrana obductus, et aquula pellucida, sub-  
 rubra, ad omnes tremores suscipiendos et pro-  
 pagandos aptissima plenus, ultimum auditus  
 organum est.

223. Neque sane quicquam certa fide de sin-  
 gularum auris internæ partium actionibus no-

tum est, præterquam ossicula ipsa ad tremores  
 suscipiendos et reddendos vel propagandos ap-  
 tissima esse, et ideo ad auditum conferre: ita  
 ut per dentes et maxillam, et petrosum os, soni  
 ad ultimam nervosam organi partem perve-  
 niant, et sic homo fere surdus, neque per aëra  
 audiens, musica quodammodo fruatur. Potius  
 confitendum est, multum hic subesse obscuri,  
 et actionem et usus multarum partium, quæ in  
 aure sunt, parum adhuc intelligi.

224. Soni sunt fortes vel debiles, graves vel  
 acuti. Soni magnitudo vel claritas pendet a  
 vi seu magnitudine tremorum, quos corpus so-

qui absolvuntur dato tempore. Tamen, sunt certi  
*which are performed in a given time. Nevertheless, there are certain*  
 fines, citra et ultra quos est vel nullus sonus vel acerrimus,  
*limits, this side and beyond which there is either no sound or a very shrill one,*  
 et ingratisimus auri, que vix tolerabilis.  
*and very unpleasant to the ear, and scarcely tolerable.*

225. Porro, vis soni intenditur repercussu  
*Moreover, the strength of sound is increased by the repercussion (reverberation)*  
 multorum corporum, quæ suscipiunt et reddunt tremores a  
*of the many bodies, which receive and return the vibrations from*  
 tremente aëre: itaque reflexi soni, quotquot concordant cum  
*the vibrating air: therefore the reflected sounds, as many as agree with*  
 primario (sono) feriunt aures unâ cum eo, que faciunt eum  
*the primary strike the ears together with it, and make it*  
 fortiolem: hinc vox (sup. est) debilior sub pleno Jove quam in  
*stronger: hence the voice is weaker in the open air than in*  
 cubiculo. Quod si, reflexi soni perveniunt ad aures post certo  
*a chamber. But if, reflected sounds come to the ears after a certain*  
 intervallo, audiuntur distincti a primario, et sic echo fit.  
*interval, they are heard distinct from the primary, and thus echo is caused.*

226. Varietas sonorum est immensa, quippe, quorum vel levissimæ  
*The variety of sounds is immense, as being things of which even the slightest*  
 mutationes et conjunctiones percipiuntur ab acutâ et doctâ aure.  
*changes and combinations can be perceived by the acute and taught ear.*

Vis eorum (sonorum) quoque in animum hominis, et ideo in  
*The power of them also upon the mind of man, and therefore upon*  
 corpus, est insignis. Inspirant varios affectus animi, imprimis  
*the body, is remarkable. They inspire various affections of the mind, especially*  
 tristes et lætos; que multi hominem hauriunt puras et suavissimas  
*the sad and joyful; and many men drink pure and very sweet*  
 voluptates ex hoc inexhausto fonte. Vero auris, quæ vocatur  
*pleasures from this unexhausted fountain. But the ear, which is called*  
 musica, non datur omnibus: ratio cuius rei hactenus  
*musical, is not given to all: the explanation of which thing hitherto*  
 latet. Pendet nullo modo ab acutiore vel obtusiore auditu.  
*lies hid. It depends in no way upon a more acute or more obtuse hearing.*

Semi-surdi sunt nonnunquam satis periti et amantissimi musicæ,  
*Half-deaf persons are sometimes sufficiently skilled and very fond of music,*  
 quâ (musica) audientes bene sæpe fruuntur parum; et vir, auditu  
*which those hearing well often enjoy little; and a man, the hearing*  
 manente integro, amisit subito, et sine nota causâ,  
*remaining perfect, has lost suddenly, and without a known (obvious) cause,*

nans aëri impertit; gravitas a numero tremorum qui dato tempore absolvuntur. Sunt tamen certi fines, quos citra et ultra, vel nullus sonus est, vel acerrimus, et auri ingratisimus, vixque tolerabilis.

225. Porro, vis soni intenditur repercussu multorum corporum, quæ tremores a tremente aëre suscipiunt et reddunt. Soni itaque reflexi, quotquot eum primario concordant, una cum eo aures feriunt, eumque fortiolem faciunt: hinc vox sub pleno Jove debilior quam in cubiculo. Quod si, certo post intervallo, reflexi soni ad aures perveniunt, a primario distincti audiuntur, et sic echo fit.

226. Sonorum immensa varietas est: quippe quorum vel levissimæ mutationes et conjunctiones, ab acuta et docta aure, percipiuntur. Insignis quoque eorum vis est in animum hominis, et ideo in corpus. Varios animi affectus, tristes imprimis et lætos, inspirant; multique hominem ex hoc inexhausto fonte puras et suavissimas voluptates hauriunt. Auris vero, quæ vocatur musica, non omnibus datur; cuius rei ratio hactenus latet. Nullo modo pendet ab acutiore vel obtusiore auditu. Semi-surdi nonnunquam musicæ satis periti sunt et amantissimi, quæ bene audientes parum sæpe fruuntur: et vir, auditu integro manente, au-

suam musicam aurem, quam habebat eximiam. Neque est ulla ratio  
*his musical. ear, which he had excellent. Nor is there any reason*  
 cur imputemus talem defectum inæquali auditui per binas aures.  
*why we should impute such a defect to an unequal hearing by both ears.*

Facultas ipsa est donum Naturæ, acquirenda nullo studio: vero  
*The faculty itself is a gift of Nature, to be acquired by no study: but*  
 acuitur et roboratur in mirum modum cultû, et  
*it is sharpened, and is strengthened in a wonderful manner by cultivation, and*  
 usû non secus ac reliquæ facultates hominis.  
*by use not otherwise than as the other faculties of man.*

227. Auditus fere omnium sensuum vitiatur sæpissime, quod profecto  
*Hearing nearly of all the senses is disordered oftenest, which truly*  
 nil mirum; scilicet, quia habet delicatissimum organum, et  
*(is) no way wonderful; that is, because it has a very delicate organ, and*  
 compositum ex plurimis et valde minutis partibus.  
*composed (made up) of very many and very minute parts.*

228. Auditus sæpe fit acutior justo, vel a nimis  
*Hearing often becomes more acute than proper, either from a too*  
 irritabili generali habitû corporis, qualem hystericæ aut puerperæ fœminæ  
*irritable general habit of body, such as hysterical or puerperal women*  
 sæpe habent; vel a cerebro ipso sentiente nimis, quod  
*often have; or from the brain itself feeling too much (being too sensitive), which*  
 observatur haud raro in febris; tum quoque in phrenitide, et  
*is observed not unfrequently in fevers; as also in phrenitis, and*  
 aliquando, licet rarius, in verâ insaniâ; vel ab aure ipsâ  
*sometimes, though more rarely, in true insanity; or from the ear itself*  
 habente se male, et affectâ inflammatione, dolore, nimia  
*having itself badly, and being affected with inflammation, pain, too great*  
 tensione.  
*tension.*

229. Hic sensus obtunditur vel plane aboletur; ita ut æger  
*This sense is blunted or completely abolished; so that the sick*  
 vel audiat graviter, vel fiat omnino surdus, fere similibus  
*either hears heavily, or becomes totally deaf, almost from similar*  
 causis, et diversis tantum gradû seu magnitudine; et, imprimis,  
*causes, and differing only in degree or extent; and, in the first place,*  
 a defectû externæ auriculæ, aut vel altero vel utroque meatu  
*from defect of the external little ear, or either one or both meatus*  
 obstructo muco, cerumine, pure, externis rebus; que  
*being obstructed with mucus, ear-wax, pus, external things; and*  
 concretionem ejûs, qualis observata est post suppurationem,  
*by the growing together of it, such as has been observed after suppuration,*

rem suam musicam, quam eximiam habebat, subito et sine nota causa amisit. Neque ratio ulla est cur defectum talem inæquali per binas aures auditui imputemus. Facultas ipsa Naturæ donum est, nullo studio acquirenda: cultu vero et usu, non secus ac reliquæ hominis facultates, mirum in modum acuitur et roboratur.

227. Auditus fere omnium sensuum sæpissime vitiatur; quod profecto nil mirum; scilicet, quia organum habet delicatissimum, et ex plurimis et valde minutis partibus compositum.

228. Sæpe acutior justo fit auditus, vel a generali corporis habitu nimis irritabili, qualem

fœminæ hystericæ aut puerperæ sæpe habent; vel a cerebro ipso nimis sentiente, quod in febris haud raro observatur; tum quoque in phrenitide, et aliquando, licet rarius, in verâ insania; vel ab aure ipsa male se habente, et inflammatione, dolore, tensione nimia, affecta.

229. Obtunditur vel plane aboletur hic sensus, ita ut æger vel graviter audiat, vel omnino surdus fiat, similibus fere causis et gradu tantum seu magnitudine diversis; et imprimis a defectu auriculæ externæ, aut meatu vel altero vel utroque, muco, cerumine, pure, rebus, externis, obstructo; ejusque concretionem, qualis post suppurationem, nonnunquam post varisiam,

nonnunquam post variolam, vel propter membranam  
*sometimes after variola (small-pox), or on account of the membrana*  
 tympani factam rigidam, aut relaxatam, aut erosam, aut ruptam;  
*tympani (having) become stiff, or relaxed, or eroded, or broken;*  
 vel tympanum ipsum vel Eustachianam tubam obstructam aliquo  
*or the tympanum itself or the Eustachian tube obstructed in some*  
 modo; vel propter aliquem ossiculorum, aut membranarum  
*manner; or on account of some one of the little bones, or of the membranes*  
 aut musculorum labyrinthi ipsius affectum concretionem, spasmo,  
*or of the muscles of the labyrinth itself affected by a growing together, by spasm,*  
 paralyti, torpore; et, denique, propter varia vitia cerebri ve  
*paralysis, torpor; and, lastly, on account of various disorders of the brain or*  
 nervorum, fabricam organi ipsius omnino salvam. Hinc  
*of the nerves, the mechanism of the organ itself being wholly sound. Hence*  
 surditas (sup. est) sæpe morbus nervosi generis, invadens subito  
*deafness is often a disease of the nervous system, attacking suddenly*  
 et decedens sponte. Hinc quoque (sup. est) familiaris senibus,  
*and going off spontaneously. Hence also it is common to old men,*  
 quibus omnes solidæ partes rigent, omnes nervosæ (partes) sentiunt  
*in whom all the solid parts grow stiff, all the nervous ones feel*  
 minus.

230. Laborantes febre, imprimis illo genere febris quod  
*Persons labouring under fever, especially that kind of fever which*  
 (genus) insignis debilitas et stupor solent comitari, sæpe  
*remarkable debility and stupor are accustomed to accompany, often*  
 fiunt surdi; quod forsitan aliquando accedens cum aliis signis  
*become deaf; which perhaps sometimes coming on with the other symptoms*  
 cerebri valde oppressi, que virium ægri exhaustarum,  
*of the brain being very much oppressed, and of the strength of the sick being exhausted,*  
 erit malum signum. Vero, plerumque, est optimi ominis, quamvis  
*will be a bad sign. But, for the most part, it is of the best omen, although*  
 etiam aliquis sopor comitetur. Ratio hujus rei (sup. est)  
*even some drowsiness should accompany it. The cause of this thing is*  
 satis obscura, neque alia fortasse quam quod talis surditas  
*sufficiently obscure, nor other perhaps than that such deafness*  
 pendeat a statu cerebri, morbidum certe, sed suam naturam vix  
*depends upon a state of the brain, morbid truly, but in its nature scarcely*  
 periculoso; cum auditus, acutior justo, fit propter  
*dangerous; whereas hearing, more acute than proper, takes place on account of*

observata est; vel propter membranam tympani rigidam factam, aut relaxatam, aut erosam, aut ruptam; vel tympanum ipsum vel tubam Eustachianam aliquo modo obstructam; vel propter ossiculorum, aut membranarum, aut musculorum aliquem labyrinthi ipsius, concretionem, spasmo, paralyti, torpore, affectum; et denique propter varia cerebri nervorum vitia, salva omnino ipsius organi fabrica. Hinc sæpe morbus nervosi generis surditas, subito invadens et sponte decedens. Hinc quoque senibus familiaris, quibus omnes partes solidæ rigent, omnes nervosæ minus sentiunt.

230. Febre laborantes, illo imprimis febris genere, quod debilitas insignis et stupor comitari solent, sæpe surdi fiunt: quod forsitan aliquando, cum aliis signis cerebri valde oppressi, viriumque ægri exhaustarum accedens, malum signum erit. Plerumque vero optimi ominis est, quamvis etiam sopor aliquis comitetur. Hujus rei ratio satis obscura; neque alia fortasse, quam quod talis surditas pendeat a statu cerebri morbidum certe, sed sua natura vix periculoso; cum acutior justo auditus fit propter aliquid inflammationis cerebro obrepentis, quæ semper valde periculosa est.

aliquid inflammationis obrepentis cerebro, quæ est semper valde  
*some degree of inflammation creeping in to the brain, which is always very*  
 periculosa.  
*dangerous.*

231. Auditus sæpe depravatur potissimum hac ratione, ut soni,  
*Hearing often is depraved chiefly in this manner, that sounds,*  
 veluti tympani, campanæ, lapsus aquarum, audiantur, cum nullus  
*as of a drum, of a bell, of the falling of waters, are heard, when no*  
 tremor est in aëre, neque sanus homo audit quidquam.  
*vibration is in the air, nor does a healthy man hear any thing.*  
 Hoc malum vocatur tinnitus aurium, cujus varia genera observata  
*This disorder is called ringing of the ears, of which different kinds have been*  
 sunt. Plerumque leve et fugax malum, vero nonnunquam  
*observed. For the most part a slight and transient disorder, but sometimes*  
 pertinax, diuturnum, molestissimum, vexat diu que noctu.  
*obstinate, long continued, very troublesome, torments by day and by night.*

232. Aures sæpe tinnunt à levissimâ causâ, obstruente pro parte  
*The ears often ring from a very slight cause, obstructing in part*  
 meatum ipsum vel Eustachianam tubam, ita ut imperfectus interruptus  
*the meatus itself or Eustachian tube, so that an imperfect interrupted*  
 aditus concedatur aëri, quo fit ut hic (aër) feriat membranam  
*entrance is afforded to the air, by which it happens that this strikes the membrana*  
 tympani, vel fortasse interiores parte, sinæqualiter et nimio impetu:  
*tympani, or perhaps the interior parts, unequally and with too much impetus*  
 hinc bombi, species tinnitûs, audiuntur inter hlandum, etiam a  
*hence hummings, a species of ringing, are heard during the day, even by*  
 sanissimo homine.  
*the healthiest man.*

233. Frequentior et molestior tinnitus comitatur multos morbos,  
*A more frequent and more troublesome ringing accompanies many diseases,*  
 tum febres tum affectiones nervosi generis, partim ab aucto  
*as well fevers as affections of the nervous system, partly from increased*  
 impetû sanguinis versus caput, que sensû nervosi generis  
*impetus of blood towards the head, and the sensibility of the nervous system*  
 aucto simul, ita ut ictus arteriarum  
*being increased at the same time, so that the strokes (pulsations) of the arteries*  
 ipsarum audiantur; partim ab aucto sensu et mobilitate  
*themselves are heard; partly from increased sensibility and mobility*  
 nervorum et musculorum labyrinthi auris; quo fit ut  
*of the nerves and of the muscles of the labyrinth of the ear; by which it happens that*  
 partes quæ debebant quiescere donec essent excitatæ  
*parts which ought to remain quiet until they had been excited*

231. Depravatur sæpe auditus hac potissimum  
 ratione, ut soni, veluti tympani, campanæ,  
 lapsus aquarum, audiantur, cum nullus in aëre  
 tremor est, neque sanus homo quidquam audit.  
 Hoc malum tinnitus aurium vocatur, cujus  
 varia genera observata sunt. Leve plerumque  
 et fugax malum: nonnunquam vero pertinax,  
 diuturnum, molestissimum, diu noctuque vexat.  
 232. Tinnunt sæpe aures a levissima causa,  
 meatum ipsum vel tubam Eustachianam pro  
 parte obstruente, ita ut imperfectus, interruptus  
 aëri aditus concedatur; quo fit ut hic mem-

branam tympani, vel fortasse partes interiores,  
 inæqualiter, et impetu nimio, feriat. Hinc  
 bombi, tinnitus species, etiam a sanissimo ho-  
 mine, inter hlandum audiuntur.

233. Frequentior et molestior tinnitus multos  
 morbos, tum febres, tum nervosi generis  
 affectiones, comitatur: partim ab aucto san-  
 guinis caput versus impetu, auctoque simul  
 nervosi generis sensu, ita ut ipsarum arteriarum  
 ictus audiantur; partim ab aucto nervorum et  
 musculorum auris labyrinthi sensu et mobili-  
 tate; quo fit, ut partes quæ debebant quiescere

tremoribus aëris, concipiant motus suâ sponte, que  
 by the vibrations of the air, take on motions of their own accord, and  
 impertiantur eosdem (motus) aliis partibus, jam nimis sentientibus.  
 impart the same to other parts, already too sentient.

234. Tinnitus oritur quoque a vehemente affectû animi: interdum  
 Ringing arises also from a violent affection of the mind: sometimes  
 nascitur a ventriculo habente se male: interdum  
 it arises from the stomach having itself badly: sometimes  
 a rheumatico malo afficiente caput et aures, vel à gravedine,  
 from a rheumatic disorder affecting the head and ears, or from stuffing in  
 quæ solet afficere tubam (sc. Eustachianam): vero  
 the head, which is accustomed to affect the tube: but  
 nonnunquam tinnitus solus invadit, profecto non exiguum malum.  
 sometimes ringing alone seizes, truly a no slight disorder:

235. Tamen, variæ causæ, tum hujus tum aliorum  
 Nevertheless, the various causes, as well of this as of the other  
 vitiorum auditûs sæpe dignoscuntur difficillime, non magis propter  
 disorders of hearing often are distinguished very difficultly, not more on account of  
 abditum situm organi quam propter parum accuratam  
 the hidden situation of the organ than on account of the little accurate  
 notitiam quam habemus actionum variorum partium ejûs. Vero  
 knowledge which we have of the actions of the various parts of it. But  
 ex utrâque causâ fit ut multiplices affectiones auditûs  
 from both cause it happens that the manifold affections of the hearing  
 sanentur neque certè neque facilè.  
 are caused neither certainly nor easily.

## CAP. IX.

## CHAP. IX.

De visu, que varietatibus et vitiis ejûs.  
 Of vision, and the varieties and disorders of it.

236. Radii, dimanantes vel reflexi ab omni puncto lucentis  
 The rays, flowing or reflected from every point of a shining  
 vel illuminati corporis, quod contemplamur, incidunt in corneam,  
 or illuminated body, which we look at, fall upon the cornea,  
 membranam oculi: (ii, sc. radii) qui sunt valde obliqui reflexi, vel  
 a membrane of the eye: those which are very oblique reflected, or

donec aëris tremoribus excitatæ essent, sua sponte motus concipiant, eosdemque aliis partibus, jam nimis sentientibus, impertiantur.

234. Oritur quoque tinnitus a vehemente animi affectu: interdum a ventriculo male se habente nascitur: interdum a malo rheumatico caput et aures afficiente, vel a gravedine quæ tubam afficere solet: nonnunquam vero tinnitus solus invadit, malum profecto non exiguum.

235. Variæ tamen causæ, tum hujus tum aliorum auditus vitiorum, sæpe difficillime dignos-

cuntur, non magis propter abditum organi situm, quam propter notitiam variarum ejûs partium actionum, quam parum accuratam habemus. Ex utraque vero causa fit, ut multiplices auditus affectiones neque certe neque facile sanentur.

CAP. IX.—De visu, ejusque varietatibus et vitiis.  
 236. Radii, ab omni puncto corporis lucentis vel illuminati quod contemplamur dimanantes, vel reflexi, in corneam oculi membranam incidunt: qui valde obliqui sunt, reflexi, vel in ucea

suffocati in *uveâ*, vel pigmento nigro quod oblinat *ciliares*  
*extinguished in the uvea, or the pigmentum nigrum which lines the ciliary*  
*processus, nunquam perveniunt ad interiores partes oculi: vero radii*  
*processes, never come to the interior parts of the eye: but the rays*  
 qui incidunt rectius in corneam transmissi per illam  
*which fall more directly upon the cornea transmitted through that*  
 pellucidam membranam et aquosum humorem qui jacet proxime  
*pellucid membrane and the aqueous humour which lies next it*  
 perveniunt, jam haud parum refracti, ad *crystallinam* lentem.  
*come, already not a little refracted, to the crystalline lens.*

Vi hujus lentis et vitrei humoris, qui est proximus,  
*By the power of this lens and of the vitreous humour, which is next it,*  
 refringuntur adhuc magis, et demum colliguntur in punctum, seu  
*they are refracted still more, and at length are collected into a point, or*  
*focum, ut vocatur, depicturi super retinam pulcherrimam, distinctam,*  
*focus, as it is called, to depict upon the retina a very beautiful, distinct,*  
 quamvis inversam, imaginem corporis unde profluxerant.  
*although inverted, image of the body whence (from which) they had flowed.*

237. Vero hæc delicatissima nervosa membrana est ultimum organum  
*But this very delicate nervous membrane is the immediate organ*  
 visus; et ex inversâ imagine corporis depictâ super  
*of vision; and from the inverted image of the body painted upon*  
 eam (sc. retinam) homo sanus (sup. secundum) cerebrum que opticum  
*it a man healthy as to the brain and the optic*  
 nervum, videt corpus ipsum erectum, distinctum, que expressum  
*nerve, sees the body itself erect, distinct, and expressed*  
 propriis coloribus.  
*in its proper colours.*

238. Varii humores oculi dantur à Naturâ moliente  
*The various humours of the eye are given by Nature contriving*  
 nihil frustra, quamvis unus sufficisset ad refringendos radios,  
*nothing in vain, although one would have sufficed to refract the rays,*  
 et colligendos in focum, que exprimentam imaginem in  
*and to collect them into a focus, and to express the image upon*  
 retinam, potissimum, ut videtur, hoc consilio, ut præca-  
*the retina, chiefly, as it appears, with this design, that it might*  
 veretur ab alieno colore, quem una et simplex  
*be guarded from (to prevent) a foreign colour, which a single and simple*  
 lens solet dare, propter radios lucis refractos  
*lens is accustomed to produce, on account of the rays of light (being) refracted*  
 inæqualiter; et sic homo posset judicare de veris coloribus  
*unequally; and thus man might judge of the true colours*

vel pigmento nigro, quod *processus ciliares* obli-  
 nit, suffocati, ad interiores oculi partes nun-  
 quam perveniunt: qui vero rectius in *corneam*  
 incidunt radii, per pellucidam illam membra-  
 nam, et qui proxime jacet humorem aquosum  
 transmissi, ad *lentem crystallinam* jam haud  
 parum refracti perveniunt. Vi hujus *lentis*, et  
 vitrei humoris qui proximus est, magis adhuc  
 refringuntur, et in punctum, seu *focum*, ut vo-  
 catur, demum colliguntur, pulcherrimam, dis-  
 tinctam, quamvis inversam, corporis unde  
 profluxerant imaginem super *retinam* depicturi.  
 237. Hæc vero delicatissima nervosa mem-  
 brana, ultimum visus organum est; et ex ima-

gine corporis inversa super eam depicta, homo,  
 cerebrum nervumque opticum sanus, corpus  
 ipsum, erectum, distinctum, propriisque col-  
 oribus expressum, videt.

238. Varii dantur oculi humores a Natura  
 nihil frustra moliente, quamvis unus ad radios  
 refringendos, et in *focum* colligendos, imagi-  
 nemque in *retinam* exprimentam sufficisset,  
 hoc potissimum, ut videtur, consilio, ut ab  
 alieno colore, quem una et simplex *lens* dare  
 solet, propter radios lucis inæqualiter refractos  
 præcaveretur: et sic homo, qua oportebat ac-  
 curatione, de veris corporum coloribus judicare

corporum accuratione quâ oportebat. Enim con-  
*of bodies with the accuracy which it behoved (was necessary). For it is well*  
 stat, certissimis experimentis, lentem compositam certa  
*established, by most certain experiments, that a lens constructed in a certain*  
 ratione carere hoc non levi incommodo simplicioris (sc. lentis).  
*manner wants this no slight disadvantage of a more simple one.*

Varia densitas singulorum humorum variis partibus  
*The various density of the individual humours in the various parts*

oculi videtur conferre haud parum ad eundem finem:  
*of the eye seems to contribute not a little to the same end (object):*

quâ fortasse variâ refringente vi, diversa facilitas  
*by which perhaps various refracting power, the different facility*

radiorum ipsorum ad refringendum compensatur.  
*of the rays themselves to be refracted is compensated.*

239. Neque profecto est minima utilitas vitrei  
*Nor truly is it the least utility (least important use) of the vitreous*

humoris, qui omnium efficit longe maximam partem humorum oculi,  
*humour, which of all forms by far the greatest portion of the humours of the eye,*

implere globum oculi, que distendere probe retinam, ita ut  
*to fill up the globe of the eye, and to distend properly the retina, so that*

repræsentet fere concavam sphaeram, quo plura  
*it may represent (as to represent) almost a concave sphere, that the several*

puncta ejus accipiant distinctas et accuratas imagines visibillum  
*points of it may receive distinct and accurate images of visible*

rerum: nam si fundus oculi fuisset planior vel fere cujuslibet  
*objects: for if the bottom of the eye had been flatter or almost of any*

alius figuræ quam rotundæ, tantum unum punctum retinæ, puta  
*other figure than round, only one point of the retina, to wit*

centrum ejus, propter inæqualem distantiam variarum partium  
*the centre of it, on account of the unequal distance of the various parts*

ejus (sc. retinæ) a centro oculi, habuisset distinctum visum.  
*of it from the centre of the eye, would have had distinct vision.*

Vero radii qui incidissent in alia puncta, vel  
*But the rays which would have (had) fallen upon the other points, either*

nondum satis refracti, vel postquam essent semel collecti  
*not yet sufficiently refracted, or after they were once collected*

in focum, dimanantes iterum, corrupissent visum multum,  
*into a focus, diverging again, would have (had) corrupted vision much,*

confusâ imagine depictâ super retinam.  
*a confused image being painted upon the retina.*

240. Oculus est rotundus, ut radii transeuntes per eum  
*The eye is round, that the rays passing through it*

posset. Certissimis enim experimentis constat  
*lentem, certa ratione compositam, hoc non levi*  
 simplicioris incommodo carere. Ad eundem  
 finem haud parum conferre videtur, varia sin-  
 gulorum oculi humorum variis partibus densi-  
 tas: qua fortasse varia vi refringente, diversa  
 ipsorum radiorum ad refringendum facilitas  
 compensatur.

239. Neque profecto minima humoris vitrei,  
 qui omnium oculi humorum longe maximam  
 partem efficit, utilitas est, globum oculi im-  
 plere, retinamque probe distendere, ita ut fere  
 sphaeram concavam repræsentet, quo plura ejus

puncta imagines rerum visibillum distinctas  
 et accuratas accipiant: nam si planior fuisset  
 oculi fundus, vel cujuslibet fere alius figuræ  
 quam rotundæ, propter inæqualem variarum  
 ejus partium a centro oculi distantiam, unum  
 tantum retinæ punctum, puta centrum ejus,  
 distinctum visum habuisset. Qui vero in alia  
 puncta incidissent radii, vel nondum satis re-  
 fracti, vel postquam in focum semel collecti  
 essent, dimanantes iterum, imagine confusa  
 super retinam depicta, visum multum corru-  
 pissent.

240. Rotundus est oculus, ut radii per eum



colligantur in justum focum, priusquam incidant in retinam.  
*may be collected into a proper focus, before that they can fall upon the retina.*

Ratio est par convexæ prominentis corneæ, quæ fere  
*The explanation is similar of the convex prominent cornea, which commonly*  
 tanto magis prominēt, quanto oculus est datus planior  
*is so much the more prominent, as the eye has been given flatter*  
 animali. Quin et rotunditas oculi confert haud parum ad  
*to the animal. Moreover the roundness of the eye contributes not a little to*  
 liberrimum et rapidissimum motum ejūs.  
*the very free and very rapid motion of it.*

241. Mira conspiratio seu consensus observatur inter binos  
*A wonderful agrcement or consent is observed between the two*  
 oculos, que inter varias partes oculi. Alter oculus, suâ  
*eyes, and between the various parts of the eye. The one eye, of its own*  
 sponte, sequitur motum alteriūs, hæc ratione, ut axes  
*accord, follows the motion of the other, for this reason, that the axes*  
 utriūsque sint semper paralleli, et dirigantur, non nisi conatū  
*of both may be always parallel, and be directed, only by the effort*  
 hominis, illo quidem levi, et facto per instinctum et quasi  
*of the man, that indeed slight, and made by instinct and as it were*  
 sponte, in idem punctum corporis quod contemplatur; quo  
*spontaneously, to the same point of the body which it looks at; by which*  
 fit, ut imago ejūs exprimat prope centrum utriūsque retinæ;  
*it happens, that an image of it is expressed near the centre of both retina,*  
 nam ibi loci visus est fere semper perfectissimus.  
*for in that part vision is almost always most perfect.*

242. Pupilla patula in tenebris, luce admissa vel  
*The pupil open (dilated) in the dark, the light being admitted or*  
 factâ vividore, contrahitur statim; et hoc est plane tri-  
*made more vivid, is contracted immediately; and this is evidently to be at-*  
 tribuendum consensui inter retinam et musculum, qui regit  
*tributed to the consent between the retina and the muscle, which regulates*  
 pupillam, que vel arctat vel amplificat eam (sc. pu-  
*the pupil, and either straitens or enlarges (contracts or dilates) it,*  
 pillam) neque omnino irritationi musculi ipsiūs. Nam isto musculo  
*and not at all to irritation of the muscle itself. For that muscle*  
 prorsus sano, si est nullus visus, nulla contractio  
*being perfectly healthy, if there is no vision, no contraction*  
 pupillæ fit. Quin et musculi pupillarum utriūsque oculi  
*of the pupil takes place. Moreover the muscles of the pupils of both eyes*

ranseunt in justum focum prius colligantur  
 uam in retinam incidant. Par ratio est  
 orneæ convexæ, prominentis quæ fere tauto  
 angis prominēt, quanto planior oculus ani-  
 mali datus est. Quin et rotunditas oculi ad  
 liberrimum et rapidissimum ejus motum haud  
 arum confert.

241. Mira conspiratio vel consensus inter  
 binos oculos, interque varias oculi partes, ob-  
 servatur. Alter oculus motum alterius sua  
 sponte sequitur, hæc ratione, ut axes utriusque  
 semper paralleli sint; et non nisi hominis  
 onatu, levi quidem illo, et per instinctum

et quasi sponte facto, in idem punctum cor-  
 poris, quod contemplatur, dirigantur; quo fit,  
 ut imago ejus prope centrum utriusque retinæ  
 exprimat; nam ibi loci fere semper perfec-  
 tissimus est visus.

242. Pupilla in tenebris patula, admissa vel  
 vividore facta luce, statim contrahitur: et  
 hoc consensui inter retinam et musculum qui  
 pupillam regit, eamque vel arctat vel ampli-  
 ficat, plage tribuendum est, neque omnino irri-  
 tationi ipsius musculi. Nam sano prorsus  
 musculo isto, si nullus visus est, nulla fit  
 pupillæ contractio. Quin et musculi pupil-

conspirant, ita ut luce admissâ ad alterum oculum, pupillæ  
*agree, so that the light being admitted to one eye, the pupils*  
 utriusque contrahantur simul.  
*of both are contracted at the same time.*

243. Pupilla contrahitur quoque, si intuemur quid accurate  
*The pupil is contracted also, if we look at any thing accurately*  
 proprius oculo quam soliti limites distincti visûs, hoc  
*nearer to the eye than the usual limits of distinct vision, with this*  
 consilio, ut videtur, ut superflui et maxime obliqui radii, et  
*design, as it appears, that the superfluous and most oblique rays, and*  
 quos (radios) refringentes vires oculi vix potuissent colligere  
*which the refracting powers of the eye scarcely had been able to collect*  
 in justum focum, excludantur. Ratio  
*(could have collected) into a proper focus, may be excluded. The reason*  
 videtur esse par, quod infantibus et junioribus sit (pro habeat)  
*seems to be similar, that infants and young people have*

pupilla admodum patula, senibus fere contractor,  
*the pupil very open (dilated), old men generally more contracted,*  
 quibus (senibus) oculi solent fieri planiores. Nondum  
*in whom the eyes are accustomed to become flatter. It is not yet*  
 constat pro certo, num oculus accomodet semet aliis  
*determined for certain, whether the eye can accommodate itself by other*  
 modis quoque, ad varias distantias rerum quas contemplatur.  
*methods also, to the different distances of the objects which it views.*

Vero nonnulli putarunt hunc esse usum ciliarium processuum;  
*But some have thought that this was the use of ciliary processes;*  
 nempe ut dimoveant lentem à solitâ sede,  
*namely that they might remove (to remove) the lens from its usual seat (position),*  
 et trahant longius à retinâ, quo radii refringantur magis,  
*and draw it further from the retina, that the rays may be refracted more,*  
 priusquam incident in eam (retinam). Autem est certissimum, oculum,  
*before that they fall upon it. But it is very certain, that the eye,*

vel his viribus tum musculi qui regit pupillam, tum  
*either by the powers as well of the muscle which regulates the pupil, as*  
 ciliarium processuum, vel aliis minus cognitis, mutari quodammodo,  
*of the ciliary processes, or by others less known, is changed in some degree,*  
 et intra certos limites, accommodari ad varias distantias  
*and within certain bounds, is accommodated to the various distances*  
 rerum quas contemplatur.  
*of the objects which it looks at.*

244. Disputatum est diu que multum inter physiologos,  
*It has been disputed a long time and a great deal between physiologists,*

larum utriusque oculi conspirant; ita ut, admissa ad alterum oculum luce, utriusque simul pupillæ contrahantur.

243. Contrahitur quoque pupilla, siquid oculo proprius quam soliti limites distincti visus accurate intuemur; hoc, ut videtur, consilio, ut radii superflui et maxime obliqui, et quos vires oculi refringentes in justum focum vix potuissent colligere, excludantur. Par videtur esse ratio, quod pupilla infantibus et junioribus admodum patula, senibus fere contractor sit, quibus oculi planiores fieri solent. Nondum pro certo constat, num aliis quoque modis,

oculus ad varias rerum quas contemplatur distantias, semet accomodet: hunc vero nonnulli putarunt esse usum processuum ciliarium; nempe ut lentem a solita sede dimoveant, et longius a retina trahant, quo magis refringantur radii, priusquam in eam incident. Certissimum autem est, oculum, vel his viribus tum musculi qui pupillam regit, tum processuum ciliarium, vel aliis minus cognitis, quodammodo mutari, et ad varias rerum quas contemplatur distantias, intra certos limites, accommodari.

244. Diu multumque disputatum est inter

*mathematicos, metaphysicos, quo pacto fiat, ut ab mathematicians, metaphysicians, by what means it happens, that from*  
*inversâ imagine depictâ super retinam, videamus rem*  
*an inverted image painted upon the retina, we should see the object*  
*ipsam erectam: et cur à duplici imagine, nimirum unâ expressâ*  
*itself erect: and why from a double image, namely one expressed*  
*in utroque oculo, una res tantum spectetur.*  
*in each eye, a single object only should be seen.*

245. Res ipsæ parum utiles vetant medicum descendere.  
*The things themselves no way useful forbid the physician to descend*  
*in hanc arenam, ubi tot viri magni nominis*  
*into this arena (dispute), where so many men of great name (reputation)*  
*exercuerunt semet non sine laude. Tamen juvat scire,*  
*have exercised themselves not without praise. Nevertheless it is useful to know,*  
*esse ventum (impers.) tandem ad hoc, simplicem legem esse*  
*that it is come at length to this, that the simple law has been*  
*latam a Natura de hac re, scilicet, ut omne visibile*  
*laid down by Nature concerning this thing, namely, that every visible thing*  
*spectetur secundum directionem rectæ lineæ transeuntis*  
*should be seen according to (in) the direction of a right line passing*  
*per centrum oculi, a puncto retinæ super quod*  
*through the centre of the eye, from the point of the retina upon which*  
*(sc. punctum) ejûs imago fuerit depictâ. Experimenta neque argumenta*  
*its image was painted. Experiments nor arguments*  
*nondum prolata sunt, quæ ostendant dictam directionem esse*  
*have not yet been set forth, which shew that the said direction is*  
*veram mathematicâ accuratione: sed neque ullus error, vel*  
*true with mathematical accuracy: but neither any error, even*  
*levissimus, detectus est in hac re. Igitur oportet concludamus,*  
*the slightest, has been detected in this matter. Therefore we must conclude,*  
*ex experimentis jam institutis, directionem quâ visibile*  
*from the experiments already instituted, that the direction in which a visible*  
*punctum spectatur esse vel hanc vel quam proximam huic.*  
*point is seen is either this or the nearest possible to this (direction).*  
*Igitur homo sic constitutus, nimirum lege lata videndi*  
*Therefore man thus constituted, namely by a law laid down of seeing*  
*hujusmodi, si imago fuisset erecta, vidisset rem ipsam*  
*of this kind, if the image should be erect, would see the object itself*  
*inversam; et pari ratione quæ depinguntur inversæ, videt*  
*inverted; and for a similar reason what are painted inverted, he sees*  
*easdem erectas.*  
*the same erect.*

*physiologos, mathematicos, metaphysicos, quo pacto fiat, ut, ab inversa super retinam depicta imagine, rem ipsam erectam videamus: et cur a duplici imagine, una nimirum in utroque oculo expressa, una tantum res spectetur.*

245. Res ipsæ parum utiles vetant medicum in hanc arenam descendere, ubi tot magni nominis viri non sine laude semet exercuerunt. Scire tamen juvat, ad hoc tandem ventum esse, simplicem de hac re latam esse a Natura legem, scilicet, ut omne visibile spectetur secundum directionem rectæ lineæ a puncto retinæ, super quod depicta fuerit ejus imago, per cen-

trum oculi traeseuntis. Nondum prolata sunt experimenta neque argumenta, quæ ostendant dictam directionem, mathematica accuratione, esse veram: sed neque error ullus, vel levissimus, in hac re detectus est. Oportet igitur ex jam institutis experimentis concludamus, directionem, qua punctum visibile spectatur, esse vel hanc, vel huic quam proximam. Homo igitur sic constitutus, hujusmodi nimirum videndi lege lata, si imago erecta fuisset, rem ipsam inversam vidisset; et pari ratione, quæ inversæ depinguntur, easdem erectas videt.

246. Nec est verum, quod videretur primo intuitu simplicius  
 Nor is it true, what might seem at first sight more simple  
 et clarius, rem spectari secundum verum situm et  
 and more clear, that an object is seen according to the true situation and  
 directionem quem habet; vel secundum directionem radiorum  
 direction which it has; or according to (in) the direction of the rays  
 lucis incidentium aut in corneam, aut in retinam: enim  
 of light falling either upon the cornea, or upon the retina: for  
 facili experimento omne corpus potest spectari, non suo  
 by an easy experiment every body may be seen, not in its own  
 loco, vel pluribus locis eodem tempore; et radii lucis  
 place, or in several places at the same time; and the rays of light  
 dimanantes à quovis puncto, vel quum primum incidunt in  
 emanating from any point, either when first they fall upon  
 oculum, vel postquam, refracti a variis humoribus, perveniunt  
 the eye, or after that, refracted by the various humours, they come  
 ad fundum oculi, habent tot diversas directiones, ut si  
 to the bottom of the eye, have so many different directions, that if  
 visus penderet inde omne visibile spectatum variis  
 vision depended thence (upon that) every visible (object) seen in different  
 directionibus eodem tempore, videretur multiplex et confusum.  
 directions at the same time, would seem multiplied and confused.

247. Quæstio de simplice visu a duplici imagine primo  
 The question concerning simple vision from a double image at first  
 proposita parum accurate, redacta est postea ad majorem  
 propounded little accurately, was reduced afterwards to greater  
 accuratorem: neque profecto est verum, visum esse semper simplicem  
 accuracy: nor indeed is it true, that vision is always single  
 in sanissimo homine. Est simplex vel duplex, prout oculi  
 in the most healthy man. It is single or double, according as the eyes  
 fuerint conversi variâ ratione in rem quam spectamus.  
 shall be turned in a different manner upon the object which we look at.  
 Si axes binorum oculorum fuerint directi in idem punctum,  
 If the axes of both eyes should be directed to the same point,  
 duplex imago ejus puncti, nimirum una (imago) expressa in  
 the double image of that point, namely one expressed in  
 centro utriusque retinae, efficit simplicem visum. Porro, quotquot  
 the centre of both retinae, causes single vision. Moreover, whatever  
 res sunt sitæ pari distantia ab oculo ad utrumque  
 objects are situated at an equal distance from the eye on either  
 latus talis puncti, spectantur simul simplices: scilicet, imagines  
 side of such point, are seen at the same time single: that is, the images

246. Nec verum est, quod primo intuitu simplicius et clarius videretur, rem spectari secundum verum quem habet situm et directionem; vel secundum directionem radiorum lucis, aut in corneam aut in retinam incidentium; facili enim experimento spectari potest corpus omne, loco non suo vel pluribus locis eodem tempore; et radii lucis a puncto quovis dimanantes, vel quum primum in oculum incidunt, vel postquam, a variis humoribus refracti, ad fundum oculi perveniunt, tot diversas directiones habent, ut si visus inde penderet, omne visibile, variis eodem tempore direc-

tionibus spectatum, multiplex et confusum videretur.

247. Quæstio de simplice visu a duplici imagine, parum accurate primo proposita, postea ad majorem accuratorem redacta est: neque profecto verum est, visum in homine sanissimo semper esse simplicem. Simplex vel duplex est, prout oculi varia ratione in rem quam spectamus conversi fuerint. Si axes binorum oculorum in idem punctum directi fuerint, duplex imago ejus puncti, una nimirum in centro utriusque retinae expressa, simplicem visum efficit. Porro, res quotquot pari ab oculo dis-

quarum depictæ super utramque retinam, habent similem situm  
*of which painted upon each retina, have a similar situation*  
 comparatum cum centro ejus (retinæ). Igitur centra binarum  
*compared with the centre of it. Therefore the centres of the two*  
 retinarum, et puncta in iis quæ (puncta) habent similem situm,  
*retinæ, and the points in them which have a similar position,*  
 quod (attinet) ad centrum, nempe, supra vel infra, vel  
*as (relates) to the centre, namely, above or below, or*  
 dextrorsum vel sinistrorsum dicuntur consentire, vel dare simplicem  
*on the right or on the left are said to consent, or to produce simple*  
 visum. Vero res positæ propius vel remotiùs ab oculo, quam  
*vision. But objects placed nearer or more remotely from the eye, than*  
 punctum in quod axes oculorum conveniunt, possunt spectari  
*the point in which the axes of the eyes meet, can be seen*  
 simul cum illo (puncto), que visus earum (rerum) est  
*at the same time with it, and the vision of them is*  
 duplex. Ostenditur facile imagines earum rerum occupare partes  
*double. It is shewn easily that the images of those objects occupy parts*  
 utriusque retinæ quæ (partes) ponuntur dissimiliter quod ad centrum:  
*of each retina which are situated dissimilarly as to the centre:*  
 nempe (imagines) depingi in dextra parte (centri) alteriùs oculi,  
*that is are painted on the right side of the one eye,*  
 in sinistra alteriùs. Igitur partes retinarum, positæ  
*on the left of the other. Therefore the parts of the retinæ, situated*  
 dissimiliter quod ad centra, non consentiunt, hoc est efficiunt  
*dissimilarly as to the centre, do not consent, that is they cause*  
 duplicem visum ejusdem rei, imago cujus fuerit depicta  
*a double vision of that same object, the image of which was painted*  
 super utramque (retinam).  
*upon both.*

248. Quædam varietates seu leviora vitia hujus sensûs, quæ vix  
*Certain varieties or slighter defects of this sense, which scarcely*  
 habentur morbosa, observantur sæpe. Dicuntur Myopes, qui  
*are considered diseased, are observed often. They are called Myopes, who*  
 habent brevem visum, scilicet, qui vident nil clare et accurate,  
*have short sight, that is, who see nothing clearly and accurately,*  
 nisi admoveatur proxime ad oculum. Hoc fit propter  
*except it be moved very close to the eye. This takes place on account of*  
 radios lucis refractos nimis, collectos in focum nimis  
*the rays of light being refracted too much, being collected into a focus too*  
 cito, et dimanantes iterum a foco priusquam perveniant ad  
*soon, and diverging again from the focus before that they arrive at*

tantia ad utrumque latus talis puncti sitæ sunt, simplices simul spectantur: quarum scilicet imagines super retinam utramque depictæ, similem cum centro ejus comparatum situm habent. Centra igitur binarum retinarum, et puncta in iis quæ similem quod ad centrum situm habent, supra, nempe, vel infra, vel dextrorsum, vel sinistrorsum, consentire dicuntur, vel simplicem visum dare. Res vero propius vel remotiùs ab oculo positæ, quam punctum in quod axes oculorum conveniunt, simul cum illo spectari possunt, earumque duplex visus est. Facile ostenditur imagines earum rerum partes retinæ utriusque occupare, quæ dissimi-

liter quod ad centrum ponuntur: nempe, in dextra parte alterius oculi, in sinistra alterius, depingi. Partes igitur retinarum, dissimiliter quod ad centra positæ, non consentiunt; hoc est, duplicem ejusdem rei, cujus super utramque imago depicta fuerit, visum efficiunt. 248. Varietates quædam, seu vitia leviora, hujus sensus, quæ vix morbosa habentur, sæpe observantur. Myopes dicuntur, qui visum brevem habent, scilicet, qui nil clare et accurate vident, nisi proxime ad oculum admoveatur. Hoc fit propter radios lucis nimis refractos, in focum nimis cito collectos, et iterum a foco dimanantes, priusquam ad retinam perveniant;

retinam ; quo fit ut depingant indistinctam imaginem  
*the retina ; by which it happens that they paint an indistinct image*  
 super eam. Frequentissima causa hujus vitii est, nimia convexitas  
*upon it. The most frequent cause of this defect is, a too great convexity*  
 totiùs oculi, vel cujusdam humoris ejus, veluti corneæ  
*of the whole eye, or of some one humour of it, as of the cornea*  
 prominentis nimis, &c. quæ refringit nimis  
*being prominent too much (too prominent), &c. which refracts too much*  
 radios lucis transeuntes per oculum. Incommodum, familiare  
*the rays of light passing through the eye. This inconvenience, common*  
 junioribus, sublevatur aliquando, ut fertur, dum senescunt :  
*to younger persons, is relieved sometimes, as it is said, whilst they are growing old*  
 (as they grow old) : quod tamen est minime perpetuum. Quum  
*(as they grow old) : which however is by no means invariable. When*  
 levius vitium hujusmodi observatur primo, potest vinci  
*a slighter defect of this kind is observed at first, it may be conquered*  
 quodammodo, consuetudine contemplandi remotas res, que cohibendi  
*in some degree, by the practice of looking at remote objects, and of restraining*  
 oculos a valde minutis et vicinis rebus, non secus ac  
*the eyes from very minute and close objects, not otherwise than as*  
 idem vitium (potest) acquiri contrario usû : nimirum  
*the same defect may be acquired by the opposite practice : doubtless*  
 quia oculus quodammodo accommodat sese ad distantias rerum  
*because the eye in some manner accommodates itself to the distances of the objects*  
 quas contemplatur. Concavum vitrum, quod facit radios dimanare  
*which it looks at. A concave glass, which causes the rays to diverge*  
 plus priùsqum incidant in oculum, est simplicissimum et certissimum  
*more before that they fall upon the eye, is the most simple and certain*  
 auxilium *Myopibus.*  
*remedy for Myopes.*

249. Vocantur *Presbyopes*, qui habent longum visum, confusum  
*They are called Presbyopes, who have long sight, confused*  
 vicinarum rerum, distinctum satis remotiorum. Hoc vitium  
*of close objects, distinct enough of more remote things. This defect*  
 ac alterum agnoscit contrarias causas; imprimis (agnoscit) nimis  
*and the other acknowledges contrary causes; in the first place a too*  
 planum oculum, quo spatium non datur refringendis radiis :  
*flat eye, by which space (room) is not afforded for refracting the rays :*  
 hinc malum, familiare senibus, etiam iis (senibus) qui viderant  
*hence this disorder, common to old men, even those who had seen*

quo fit ut indistinctam super eam imaginem depingant. Causa hujus vitii frequentissima est, nimia totius oculi vel humoris ejus cujusdam convexitas, veluti corneæ nimis prominentis, &c. quæ radios lucis per oculum transeuntes nimis refringit. Incommodum, junioribus familiare, dum senescunt, aliquando, ut fertur, sublevatur: quod tamen minime perpetuum est. Quum primo levius hujusmodi vitium observatur, consuetudine res remotas contemplandi, oculosque a valde minutis et vicinis rebus cohibendi quodammodo vinci, non secus ac contrario usu idem vitium acquiri, potest:

nimirum, quia oculus quodammodo ad rerum, quas contemplatur, distantias sese accommodat (243). Vitrum concavum, quod radios plus facit dimanare priusquam in oculum incidant, simplicissimum est, et certissimum *Myopibus* auxilium.

249. *Presbyopes* vocantur, qui visum longum habent, vicinarum rerum confusum, remotiorum satis distinctum. Contrarias hoc vitium ac alterum agnoscit causas; oculum imprimis nimis planum, quo spatium refringendis radiis non datur; hinc senibus, etiam iis qui florentibus annis bene viderant, malum familiare, re-

bene florentibus annis, solet sublevari usu  
*well in their flourishing years (age), is accustomed to be relieved by the use*  
 convexi vitri, ratione haud obscurâ.  
*of a convex glass, for a reason not obscure (for an obvious).*

250. Dicuntur Hemeralopes, qui vident tantum interdiu, scilicet,  
*They are called Hemeralopes, who see only by day, that is to say,*  
 vividâ luce; vero crepusculo, aut nocte, vel per lunam, vel  
*in a strong light; but by twilight, or at night, or by the moon, or*  
 per lucernas, sunt pene vel penitus cæci. Vitium hujusmodi, in  
*by candles, are almost or entirely blind. A defect of this sort, in*  
 quibusdam exemplis visum est oriri à nimis contractâ et rigidâ  
*some examples has seemed to arise from a too contracted and stiff*  
 pupillâ, neque admittente sat debilioris lucis in oculum; autem  
*pupil, and not admitting enough of the weaker light into the eye; but*  
 in aliis (exemplis) a deficiente sensû retinæ ipsiûs; et  
*in others from deficient sensibility of the retina itself; and*  
 aliis causis adhuc magis obscuris, veluti cum prehenderit multos  
*from other causes still more obscure, as when it has seized many*  
 homines eodem tempore et loco, quod interdum observatum est.  
*persons at the same time and place, which sometimes has been observed.*

251. Dicuntur Nyctalopes, qui vident noctu melius quam interdiu,  
*They are called Nyctalopes, who see by night better than by day,*  
 hoc est, valde debili luce, quam vividiore; genus vitii  
*that is, in a very weak light, than a stronger; a kind of defect*  
 rarum hominibus, imputandum nimis sentienti retinæ, nimis patulæ  
*unfrequent to men, to be imputed to a too sentient retina, to a too open*  
 pupillæ, minus valenti ad debitam contractionem. Etiam sanissimi  
*pupil, not adequate to the due contraction. Even the most healthy*  
 (homines) patiuntur incommodum hujusmodi, sed leve et fugax,  
*suffer an inconvenience of this sort, but slight and transient,*  
 qui postquam versati sunt diu in tenebris, subito  
*who after that they have been engaged a long time in the dark, suddenly*  
 prodeunt denuo ad lucem.  
*go forth again to the light.*

252. Interna superficies totiûs oculi sublinitur nigro  
*The internal surface of the entire eye is coated with the black*  
 pigmento, quod (pigmentum) pertinet ad choroideam tunicam et  
*pigment, which belongs to the choroid coat and*  
 ciliaria ligamenta; fortasse hoc consilio, ut oculus fiat  
*the ciliary ligaments; perhaps with this design, that the eye may become*  
 perfectissima camera obscura, et imago depicta super retinam  
*a most perfect camera obscura, and the image painted upon the retina*

ione haud obscura, usu vitri convexi sublevari solet.

250. Hemeralopes dicuntur, qui interdiu tantum, scilicet in vivida luce, vident; crepusculo vero, aut nocte, vel per lunam, vel per lucernas, pene vel penitus cæci sunt. Hujusmodi vitium, in quibusdam exemplis, oriri visum est a pupilla nimis contracta et rigida, neque satis debilioris lucis in oculum admittente; in aliis autem, a deficiente ipsius retinæ sensu; et aliis magis adhuc obscuris causis, veluti cum multos homines eodem tempore et loco prehenderit, quod interdum observatum est.

251. Nyctalopes dicuntur, qui noctu quam interdiu, hoc est, luce valde debili, quam vividiore, melius vident: rarum hominibus vitii genus, retinæ nimis sentienti, pupillæ nimis patulæ, ad debitam contractionem minus valenti, imputandum. Hujusmodi incommodum, sed leve et fugax, sanissimi etiam patiuntur, qui postquam diu in tenebris versati sunt, denuo ad lucem subito prodeunt.

252. Sublinitur totiûs oculi interna superficies pigmento nigro, quod ad choroideam tunicam et ligamenta ciliaria pertinet; hoc fortasse consilio, ut oculus perfectissima camera ob-

evadat accuratior, corrupta nullis reflexis radiis. Tamen, *may become more accurate, being corrupted by no reflected rays. Nevertheless,*  
 constat esse quosdam miseros, vulgo dictos albos *it is established that there are certain miserable beings, commonly called white*  
*Æthiopes, quibus rubra choroidea data est non secus ac*  
*Æthiopians, to whom a red choroid has been given not otherwise than*  
 albis cuniculis. Vero homines instructi tali choroideâ vident *to white rabbits. But persons furnished with such a choroid see*  
 parum vel nihil interdû. *little or not at all by day.*

253. Vero animalia quæ quærunt prædam sub nocte, genus *But animals which seek their prey by night, the tribe of the*  
 felis, bubo, et similia, habent coloratam splendenter choroideam, *cat, the owl, and the like, have a coloured shining choroid,*  
 quæ reflectit bene radios lucis. Hoc modo habent, ut quidam *which reflects well the rays of light. By this means they have, as some*  
 putant, visum parum distinctum sed qui sufficiat ad *think, a vision little distinct (indistinct) but which suffices to*  
 captandam prædam etiam in tenebris, quod tamen est nondum *take their prey even in the dark, which nevertheless has not yet*  
 bene explicatum. His animalibus pupilla datur mobilissima, *been well explained. To these animals the pupil is given very mobile,*  
 dilatans sese a tenuissimâ que vix visibili rimâ in magnum *dilating itself from the smallest and scarcely visible chink into a large*  
 circulum, secundum lumen quod est, et retina, ut videtur *circle, according to the light which exists, and the retina, as it seems*  
 valde sentiens. Quædam ex his animalibus, instar albi Æthiops, *very sensitive. Some of these animals, like the white Æthiopian,*  
 vident minus sole fulgente. An est (pro habet) omnibus par *see not so well the sun shining. Whether have all a like*  
 vitium? Non videtur. An corrigitur arctissimâ contractione *defect? Does not appear. Or is it corrected by the very close contraction*  
 pupillæ, quâ (sc. contractione) parum lucis admittitur in oculum? *of the pupil, by which little light is admitted into the eye?*  
 An est credibile choroideam ipsam reflectere plus ve minus *Or is it credible that the choroid itself reflects more or less (of)*  
 lucis, prout sit opus tali auxilio, et illam *light, as there may be need of such assistance, and that that*  
 facultatem reflectendi lucem pendere iterum a influxu sanguinis *faculty of reflecting light depends again upon an influx of blood*  
 in membranam plenam vasculorum, quem (sc. influxum) animal *into a membrane full of vessels, which (sc. influxum) the animal*

secura fiat, et imago super retinam depicta accuratior evadat, nullis radiis reflexis corrupta. Constat tamen miseros esse quosdam, albos Æthiopes vulgo dictos, quibus choroidea rubra, non secus ac cuniculis albis, data est. Homines vero tali choroideâ instructi interdû parum vel nihil vident.

253. Animalia vero, quæ sub nocte prædam quærunt, genus felis, bubo, et similia, choroideam habent coloratam, splendenter, quæ radios lucis bene reflectit. Hoc modo, ut quidam putant, visum parum distinctum, sed qui ad prædam captandam sufficiat, etiam in tenebris habent; quod tamen nondum bene explicatum

est. His quoque animalibus pupilla datur mobilissima, a tenuissima vixque visibili rima, in magnum circulum, secundum lumen quod est, sese dilatans, et retina, ut videtur, valde sentiens. Quædam ex his animalibus, albi Æthiops instar, fulgente sole minus vident. An omnibus par vitium est? Non videtur. An arctissima pupillæ contractione corrigitur, quæ parum lucis in oculum admittitur? An credibile est plus minusve reflectere lucis choroideam ipsam, prout tali auxilio opus sit, et facultatem illam lucem reflectendi pendere iterum a sanguinis in membranam vasculorum plenam influxu, quem animal quodammodo regat?



quodammodo regat? Validior motus sanguinis, et ideo  
*in some measure can govern? A stronger motion of the blood, and consequently*  
 variis affectibus animi, facit oculos omnium animalium, et  
*various affections of the mind, causes the eyes of all animals, and*  
 hominis ipsius, splendescere: deficiens (motus) hebetat; demum  
*of man himself, to shine: deficient renders them dull; finally*  
 cessans penitus, prorsus extinguit splendorem eorum.  
*ceasing entirely, wholly extinguishes the splendour of them.*

254. Visus est obnoxius multis et gravibus vitiis. Interdum  
*Vision is liable to many and severe disorders. Sometimes*  
 acuitur ultra modum, ita ut æger vel vident nihil  
*it is sharpened beyond bounds, so that the sick either can see nothing*  
 distincte, vel non sine magno dolore, pari ratione ac alii  
*distinctly, or not without great pain, for the like reason as the other*  
 sensus, à nimis sentiente generali habitu corporis, à singulari  
*senses, from a too sensitive general habit of body, from a particular*  
 statu cerebri, familiari phreniticis, vel etiam aliis febricitantibus,  
*state of brain, common to phrenitis, or even other persons suffering*  
 tantibus, veluti inflammatione cerebri vel membranarum ejus;  
*from fever, as in inflammation of the brain or of the membranes of it;*  
 vero sæpius fimus impatientes lucis a conditione oculi  
*but more often we become impatient of light from the condition of the eye*  
 ipsius. Inflammatio tunicæ adnatæ, et anterioris partis  
*itself. Inflammation of the tunica adnata, and of the anterior part*  
 scleroticæ, solet serpere ad posteriores partes oculi; et  
*of the sclerotic, is accustomed to creep to the posterior parts of the eye; and*  
 ideo ad choroideam et retinam ipsam, hinc impatientia  
*consequently to the choroid and the retina itself, hence intolerance*  
 lucis, dolor, que magna irritatio, nonnunquam inducens vel  
*of light, pain, and great irritation, sometimes bringing on or*  
 augens delirium.  
*increasing delirium.*

255. Visus sæpe obtunditur vel plane aboletur ætate ipsâ, cum  
*Vision often is blunted or wholly abolished by age itself, as well*  
 ob oculum factum planiorem, aquoso humore non bene  
*on account of the eye become flatter, the aqueous humour not being well*  
 suppleto, et corneâ et lente vel vitreo humore marcescentibus;  
*supplied, and the cornea and lens or vitreous humour wasting;*  
 tum quoque propter corneam factam siccam et obscuram, quod  
*as also on account of the cornea become dry and obscure, which*  
 est imputandum motui sanguinis languenti, et plurimis  
*is to be imputed to the motion of the blood languishing, and to many (of the)*

Validior sanguinis motus, et ideo varii animi affectus, oculos omnium animalium, et hominis ipsius, splendescere facit: deficiens hebetat; penitus demum cessans eorum splendorem prorsus extinguit.

254. Multis et gravibus vitiis obnoxius est visus. Acuitur interdum ultra modum, ita ut æger vel nihil distincte vident, vel non sine magno dolore, pari ratione ac alii sensus, a generali corporis habitu nimis sentiente, a singulari cerebri statu, phreniticis, vel etiam aliis febricitantibus, familiari, veluti inflammatione cerebri vel ejus membranarum; sæpius

vero a conditione ipsius oculi, lucis impatientes fimus. Inflammatio tunicæ adnatæ, et partis anterioris scleroticæ, ad posteriores partes oculi serpere solet; et ideo ad choroideam, et retinam ipsam; hinc lucis impatientia, dolor, magna que irritatio, delirium nonnunquam inducens vel augens.

255. Obtunditur sæpe visus, vel plane aboletur, ipsa ætate, cum ob oculum planiorem factum, aquoso humore non bene suppleto, et corneâ, et lente, vel vitreo humore marcescentibus: tum quoque propter corneam siccam et obscuram factam, quod languenti sanguinis mo-

minoribus vasis obstructis, conclusis, excæcatis; tum propter  
 minuter vessels being obstructed, closed, obliterated: as well on account of  
 lentem flavescens, factam instar electri, et retinam ipsam  
 the lens becoming yellow, rendered like amber, and the retina itself  
 minus sentientem: nam senectus minuit omnem sensum.  
 less sensitive: for old age diminishes every kind of sensibility.

256. Interdum visus aboletur prorsus, cerebro, optico nervo, vel  
 Sometimes vision is abolished entirely, by the brain, optic nerve, or  
 retina, læsis variis modis, fabricâ oculi ipsius  
 retina, being injured in various ways, the structure of the eye itself

salva. Vitium hujusmodi vocatur amaurosis, vel gutta serena:  
 being sound. A disorder of this kind is called amaurosis, or gutta serena:  
 facile distinguendum (sc. vitium) dilatata et immota pupilla,  
 easily to be distinguished by the dilated and immoveable pupil,

humoribus manentibus pellucidis; fere tribuendum compressioni,  
 the humours remaining pellucid; mostly to be attributed to compression.

congestionem sanguinis, stupori nervi. Si pars tantum retinae  
 congestion of blood, stupor of the nerve. If a part only of the retina  
 torpet, nigrae maculae conspiciuntur in rebus quas spectamus,  
 is torpid, black spots are seen in the things which we look at,

et muscae volitantes ante oculos, frequens signum in febribus, sed  
 and muscae volitantes before the eyes, a frequent sign in fevers, but  
 pessimum, et vix non lethale.  
 the very worst, and scarcely not deadly (all but mortal).

257. Visus porro haud raro aboletur quavis partium,  
 Vision moreover not unfrequently is abolished by any of the parts,  
 per quas radii debent transire et refringi, facta  
 through which the rays ought to pass and to be refracted, having become  
 obscura aut opaca; veluti si cornea obsessa maculis evaserit  
 obscure or opaque: as if the cornea beset with spots shall have become

impervia luci; vel aquosus humor fuerit corruptus sanguine,  
 impervious to light; or the aqueous humour should be corrupted with blood,

sero, pure; vel si lens, quod saepe accidit, et dicitur cataracta,  
 serum, pus; or if the lens, which often happens, and is called cataract,

adepta fuscum colorem, vel vitreus humor corruptus  
 having acquired a brownish colour, or the vitreous humour corrupted

simili modo, vel denique omnes humores oculi soluti,  
 in a similar manner, or finally all the humours of the eye dissolved,

confusi, mixti inflammatione, suppuratione, vel non transmittant  
 confused, mixed by inflammation, by suppuration, either do not transmit

lucem, vel sinant transire parcius et inaequaliter:  
 the light, or permit it to pass through more sparingly and unequally:

tui imputandum est, et plurimis vasis minori-  
 bus obstructis, conclusis, excæcatis; tum propter  
 lentem flavescens, instar electri factam,  
 et ipsam retinam minus sentientem. Nam om-  
 nem sensum senectus minuit.

256. Interdum visus prorsus aboletur, cerebro,  
 nervo optico, vel retina, variis modis læsis, salva  
 ipsius oculi fabrica. Hujusmodi vitium amauro-  
 sis, vel gutta serena vocatur: dilatata et im-  
 mota pupilla, humoribus pellucidis manen-  
 tibus, facile distinguendum; compressioni,  
 congestionem sanguinis, stupori nervi fere tri-  
 buendum. Si pars tantum retinae torpet, ma-  
 culæ nigrae in rebus quas spectamus conspici-

untur, et muscae ante oculos volitantes, signum  
 in febribus frequens, sed pessimum, et vix non  
 lethale.

257. Visus porro haud raro aboletur partium  
 quavis, per quas radii transire et refringi de-  
 bent, obscura aut opaca facta; veluti si cornea  
 maculis obsessa luci impervia evaserit; vel hu-  
 mor aquosus sanguine, sero, pure, corruptus  
 fuerit: vel si lens, quod saepe accidit, et cata-  
 racta dicitur, fuscum colorem adeptam, vel hu-  
 mor vitreus simili modo corruptus, vel omnes  
 denique oculi humores inflammatione, suppu-  
 ratione, soluti, confusi, mixti, lucem vel non  
 transmittant, vel parcius et inaequaliter tran-

quo fit ut vel nulla, vel obscura, distorta, imperfecta, whence it happens that either none, or an obscure, distorted, imperfect, et male colorata imago depingatur super retinam. and badly coloured image is depicted upon the retina.

258. Externa impedimenta visûs quod ad oculum, scilicet, The external impediments of (to) vision as regards the eye, that is, vitia palpebrarum, que vicinarum partium, tumentium, the disorders of the palpebræ, and of the neighbouring parts, swelling, concrecentium, inflammatarum, egent nullâ explicatione; neque profecto growing together, inflamed, require no explanation; nor truly est vitium sensûs ipsiûs, si quis non viderit, nullâ is it a disorder of the sense itself, if a person should not see, no luce admissâ ad oculum. light being admitted to the eye.

259. Visus aliquando depravatur, et res spectantur non Vision sometimes is depraved, and objects are seen not suo colore, vel etiam, quod rarius accidit, alienis in their own colour, or even, which more rarely happens, in a strange figurâ et situ. Hoc fit si humores fuerint tincti form and position. This takes place if the humours should be tinged insolito colore, ut fertur accidere in regio morbo, with an unusual colour, as is said to happen in the royal disease (jaundice), quod tamen est valde dubium, vel a sanguine elapso ex which however is very doubtful, or from the blood having escaped from propriis vasis, et mixto cum aquoso humore. Mira its proper vessels, and being mixed with the aqueous humour. A wonderful depravatio, vel constans et perpetuus defectus visûs, observatus est depravation, or constant and perpetual defect of vision, has been observed non semel in hominibus alioquin sanissimis, et not once (more than once) in men otherwise the most healthy, and videntibus bene; nempe, ut nequeant distinguere certos colores; seeing well; namely, that they cannot distinguish certain colours; viridem, causâ exempli, a rubro (colore). Alia green, for the sake of example (for example), from red. Another depravatio est, quum, nullâ luce admissâ ad oculum, conspicimus depravation is, when, no light being admitted to the eye, we see flammeas aureas scintillas, guttulas, varios colores. Plerumque fiery golden sparks, little drops, various colours. For the most part leve et fugax genus mali, familiare præditis valde this slight and transient kind of evil, common to those endowed with a very sentiente et mobili constitutione corporis, oritur, ut videtur, sentient and mobile constitution of body, arises, as it seems,

ire sinant. Quo fit ut vel nulla, vel obscura, distorta, imperfecta, et male colorata imago super retinam depingatur.

258. Impedimenta visus, quod ad oculum, externa, vitia scilicet palpebrarum partiumque vicinarum, tumentium, concrecentium, inflammatarum, nulla explicatione egent: neque profecto ipsius sensus vitium est, si quis non viderit, nulla luce ad oculum admissâ.

259. Depravatur visus aliquando, et res colore non suo, vel etiam, quod rarius accidit, gura et situ alienis, spectantur. Hoc fit si humores insolito colore tincti fuerint, ut in

morbo regio fertur accidere, quod tamen valde dubium est, vel a sanguine ex propriis vasis elapso et cum aquoso humore mixto. Mira depravatio, vel defectus visus constans et perpetuus, in hominibus alioquin sanissimis, et bene videntibus, non semel observatus est; nempe, ut certos colores, viridem, exempli causa, a rubro, distinguere nequeant. Alia depravatio est, quum, nulla ad oculum admissa luce, scintillas, guttulas flammeas, aureas, colores varios conspicimus. Leve plerumque et fugax mali genus, constitutione corporis valde sentiente et mobili præditis familiare, a levi,

a levi impulsu in retinam imprimis (ab impulsu)  
*from a slight impulse upon the retina in the first place*  
 arteriarum micantium vehementius solito, aut inordinate: ab  
*of the arteries beating more violently than usual, or inordinately: from*  
 digito ipso premente oculum, palpebris clausis, flammeus  
*the finger itself pressing the eye, the palpebræ being shut, a fiery*  
 circulus conspicitur. Fortasse ratio est par scintillæ quam  
*circle is seen. Perhaps the reason is similar of the spark which*  
 laborantes comitali morbo aliquando vident, crescentem in  
*those suffering from falling sickness sometimes see, increasing into*  
 immensum et splendidum jubar, mox antequam corruant  
*an immense and splendid sunbeam, soon (immediately) before they fall down*  
 convulsi. Homines, reduces ad vitam postquam fuissent  
*convulsed. Persons, brought back to life after that they had been*  
 strangulati, aut mersi sub aquis, testantur se vidisse  
*strangled, or sunk under the waters, testify that they saw*  
 simile jubar. Nimirum respirazione cohibitâ, venæ  
*a similar beam. Doubtless respiration being restrained (suppressed), the veins*  
 capitis, turgentes sanguine, feriunt et comprimunt totum cerebrum,  
*of the head, swelling with blood, strike and compress the entire brain,*  
 que nervosas partes quæ sunt in capite. Porro  
*and the nervous parts which are in (within) the head. Moreover*  
 scintillæ istiusmodi observantur, haud secundo omine, ab iis  
*sparks of this kind are observed, with no favourable omen, by those*  
 laborantibus febre, quibus phrenitis aut ferox delirium imminet:  
*labouring under fevers, whom phrenitis or fierce delirium overhang*  
 tum quoque ab iis quibus graviora mala capitis  
*(threaten): as also by those upon whom the severer disorders of the head*  
 paralysis, apoplexia, epilepsia, instant. An perceptio  
*paralysis (palsy), apoplexy, epilepsy, impend. Whether is the perception*  
 lucis, ubi est nulla lux, recte tribuitur nervosis fibris  
*of light, where there is no light, rightly attributed to the nervous fibres*  
 ipsis retinæ, concipientibus motum sponte?  
*themselves of the retina, conceiving (taking on) motion of their own accord?*  
 260. Distinctus sed falsus visus, nimirum, rerum visibilium quæ  
*Distinct but false vision, namely, of objects visible which*  
 sunt non, quod genus vitii, utcunque mirum et difficile  
*are (exist) not, which kind of disorder, however wonderful and difficult*  
 explanatu videatur, est non valde rarum, debet imputari  
*to explain it may seem, is not very rare, ought to be imputed*

ut videtur, impulsu in retinam oritur, arteriarum imprimis vehementius solito aut inordinate micantium: ab ipso digito oculum premente, clausis palpebris, circulus flammeus conspicitur. Par fortasse ratio est scintillæ, quam vident aliquando morbo comitali laborantes, in immensum et splendidum jubar crescentem mox antequam convulsi corruant. Simile jubar se vidisse testantur homines, ad vitam reduces postquam strangulati, aut sub aquis mersi fuissent. Cohibita nimirum respirazione, venæ capitis sanguine turgentes, totum cerebrum, partesque nervosas quæ in ca-

pite sunt, feriunt, et comprimunt. Observantur porro istiusmodi scintilla, haud secundo omine, ab iis quibus febre laborantibus phrenitis aut ferox delirium imminet; tum quoque ab iis quibus graviora capitis mala, paralysis, apoplexia, epilepsia, instant. An ipsis fibris nervosis retinæ, motum sponte concipientibus, perceptio lucis, ubi nulla lux est, recte tribuitur?

260. Visus distinctus, sed falsus, rerum visibilium nimirum quæ non sunt, quod genus vitii, utcunque mirum et explanatu difficile videtur, non valde rarum est, læso cerebro,

cerebro læso, insanæ, delirio, non oculo laboranti  
*to the brain being injured, to insanity, delirium, not to the eye suffering*  
 ullo modo.  
*in any manner.*

261. Frequens vitium visûs est distortio oculorum, quæ apud  
*A frequent defect of vision is distortion of the eyes, which among*  
 medicos vocatur strabismus. Strabo est (is) qui habet axes  
*physicians is called squinting. A squinter is he who has the axes*  
 oculorum obliquos præter solitum, neque directos ad idem  
*of the eyes oblique beyond what is usual, nor directed to the same*  
 punctum: hinc imperfectus, incertus visus, aliquando duplex, que  
*point: hence imperfect, uncertain vision, sometimes double, and*  
 ideo confusus, et sæpe ingens deformitas. Plerumque  
*consequently confused, and often a great deformity. For the most part*  
 congenitum malum, haud raro corrigitur conatibus quos  
*a congenital disorder, not unfrequently it is corrected by the efforts which*  
 infans, nondum conscius sui vitii, facit ad reddendum visum  
*the infant, not yet conscious of its defect, makes to render vision*  
 jucundiorum et accuratiorum. Idem (vitium) discitur facillime  
*more pleasant and accurate. The same is learned very easily*  
 imitatione, quæ multum regit omnes homines, imprimis infantes,  
*by imitation, which much governs all men, especially infants,*  
 etiam inscios: haud dediscitur ita facile.  
*although ignorant of it: it is not unlearned so easily.*

262. Est verisimile causam tanti vitii sæpissime inesse  
*It is probable that the cause of so great a defect very often exists in*  
 musculis oculorum, qui male conformati vel corrupti paralyti,  
*the muscles of the eyes, which badly formed or destroyed by paralysis,*  
 rigiditate, contractione, nequeant regere oculos ordinate et æqualiter.  
*stiffness, contraction, cannot govern the eyes regularly and equally.*

263. Hoc vitium inducitur nonnunquam epilepsiâ, in quâ vehementis-  
*This disorder is brought on sometimes by epilepsy, in which very violent*  
 simæ convulsiones omnium musculorum, et imprimis oculorum, fiunt;  
*convulsions of all the muscles, and especially of the eyes, take place;*  
 unde fortasse eorum distortionem et lacerationes, aut alia immedicabilia  
*whence perhaps their distortions and lacerations, or other irremediable*  
 mala.  
*diseases.*

264. Nonnunquam comitatur quosdam morbos capitis, præsertim  
*Sometimes it accompanies certain diseases of the head, especially*  
 hydropem. Distortio oculorum inducta est aliquando à magnâ  
*dropsy. Distortion of the eyes has been brought on sometimes by great*

insanæ, delirio, non oculo ullo modo laboranti,  
 imputari debet.

261. Frequens visus vitium est oculorum dis-  
 tortio, quæ strabismus apud medicos vocatur.  
 Strabo est, qui axes oculorum præter solitum  
 obliquos habet, neque ad idem punctum direc-  
 tos. Hinc visus imperfectus, incertus, aliquando  
 duplex, ideoque confusus, et sæpe ingens defor-  
 mitas. Malum plerumque congenitum, haud  
 raro conatibus, quos infans nondum conscius  
 sui vitii, facit ad visum jucundiorum et accu-  
 ratiorum reddendum, corrigitur. Idem, imita-  
 tione, quæ omnes homines, imprimis infantes,

etiam inscios, multum regit, facillime discitur.  
 Haud ita facile dediscitur.

262. Causam tanti vitii musculis oculorum  
 sæpissime inesse verisimile est, qui male con-  
 formati, vel paralyti, rigiditate, contractione,  
 corrupti, oculos ordinate et æqualiter regere  
 nequeant.

263. Inducitur nonnunquam hoc vitium epi-  
 lepsiâ, in qua vehementissimæ omnium muscu-  
 lorum, et oculorum imprimis, convulsiones  
 fiunt. Unde fortasse eorum distortionem et lac-  
 erationes, aut alia mala immedicabilia.

264. Morbos quosdam capitis, hydropem, præ-

vi illatâ capiti; aliquando, sed rarissime, accedit subito,  
*violence done to the head; sometimes, but very seldom, it comes on suddenly,*  
 sine notâ causâ.  
*without a known cause.*

265. Est vel alterius vel utriusque oculi: distortio quorum (oculorum) potest esse major (vel) minor quaquaversum.  
*It is either of one or of both eyes: the distortion of which may be greater or less every way.*

266. Sunt (li) qui persuaserunt sibi malum oriri nonnunquam a vitio retinarum; veluti si solita puncta earum (retinarum), scilicet, centra, et posita (sc. puncta) similiter quod ad centra, non consentiunt: enim ibi erit contorsio, (ut) duplex visus ne fiat. Hæc quoque videtur esse ratio quod eadem (contorsio) augeatur in horrendum modum, cum strabo admovet rem prope oculum, ut contempletur. Vel si centrum alterius aut utriusque retinæ sentiret parum vel nihil, ut homo videret foret necesse ut contorqueret oculos: sic, verbi gratia, si opticus nervus non adisset oculum obliquè, sed occupasset centrum retinæ, omnes vel fuisset strabones, vel habuissemus duplicem visum.  
*There are they who have persuaded themselves that the disorder arises sometimes from disease of the retina; as if the usual points of them (retinarum), that is, the centres, and the points situated similarly as regards the centres, do not consent: for then (in that case) there will be contorsion, that double vision may not take place. This also seems to be the reason that the same is increased in a horrible manner, when the squinter applies an object near the eye, that he may view it. Or if the centre of one or of both retina should perceive little or not at all, that the man might see it would be necessary that he should twist the eyes: thus, for example, if the optic nerve had not entered the eye obliquely, but had occupied the centre of the retina, we all either should have (had) been squinters, or should have had double vision.*

267. Placuit medicis referre quendam molestissimum sensum, quem vocamus vertiginem ad visum, quamvis, revera, pertineat æque ad tactum, vel potius ad conscientiam; enim malum fugatur neque in tenebris neque palpebris clausis.  
*It has pleased physicians to refer a certain very troublesome sensation, which we call vertigo (giddiness) to vision, although, in truth, it may belong equally to touch, or rather to consciousness; for the disorder can be banished neither by darkness nor by the eyelids being shut.*

268. Malum vocatur vertigo, siquando credimus (nos) videre  
*The disorder is called vertigo, if at any time we believe that we see*

sertim, nonnunquam comitatur. A magna vi capiti illata aliquando inducta est oculorum distortio; aliquando, sed rarissime, sine nota causa subito accedit.

265. Est vel alterius vel utriusque oculi: quorum, distortio, major, minor, quaquaversum esse potest.

266. Sunt qui sibi persuaserunt malum nonnunquam oriri a vitio retinarum; veluti si solita earum puncta, centra scilicet, et similiter quod ad centra posita non consentiunt: contorsio enim ibi erit, ne visus duplex fiat. Hæc quoque videtur esse ratio quod eadem horrendum in modum augeatur, cum strabo rem prope

oculum admovet, ut contempletur. Vel si centrum alterius aut utriusque retinæ parum vel nihil sentiret, ut videret homo, necesse foret ut oculos contorqueret: sic, verbi gratia, si nervus opticus non oblique oculum adisset, sed centrum retinæ occupasset, omnes vel strabones fuisset, vel duplicem habuissemus visum.

267. Sensum quendam molestissimum, quem vertiginem vocamus, medicis placuit ad visum referre, quamvis revera ad tactum, vel potius ad conscientiam, æque pertineat; neque enim in tenebris, neque clausis palpebris, malum fugatur.

aut sentire nosmetipsos et vicinas res, quamvis revera  
 or perceive ourselves and the neighbouring things, although in reality  
 immotas, titubare, circumferri, tremere, vel moveri ullo  
 immoveable, to stagger, to be carried round, to tremble, or to be moved in any  
 modo. Si vertigo est gravior, neque potest æger videre, præ  
 way. If the vertigo is severer, neither can the sick see, by reason of  
 caligine, velut, obductâ oculis, neque incedere aut stare  
 of the mist, as it were, spread over his eyes, nor walk or stand  
 firmiter, quippe cui vires quæ regunt artus deficient:  
 firmly, as being one to whom the strength which govern the limbs fail:  
 nausea solet comitari vertiginem, que altera inducere  
 nausea is accustomed to accompany vertigo, and the one to bring on  
 alteram.  
 the other.

269. Vertigo observatur comes et signum et prænumcia multorum  
*Vertigo is observed the companion and sign and forerunner of many*  
 et quorundam gravium morborum: apoplexiæ, epilepsiæ, hysteriæ, profluvii  
 and certain severe diseases: of apoplexy, epilepsy, hysteria, a profluvium  
 sanguinis è naribus vel aliis partibus, suppressorum mensium, magnæ  
 of blood from the nostrils or other parts, of suppressed menses, of great  
 plenitudinis corporis, febrium, tum (sup. earum) quas debilitas, tum  
 fullness of body, of fevers, as well of those which debility, as  
 (earum) quas auctus impetus sanguinis versus caput,  
 of those which an increased impetus of blood towards the head,  
 comitatur. Vis quoque illata capiti; raro vis quæ  
 accompanies. Violence also done to the head; seldom the violence which  
 infertur oculis ipsis, nisi quatenus afficiat totum  
 is done to the eyes themselves, except inasmuch as it may affect the whole  
 caput, inducit vertiginem. Ingens et subita jactura sanguinis que  
 head, brings on vertigo. A great and sudden loss of blood and  
 aliorum humorum, debilitas, syncope, varii morbi intestinorum,  
 of other humours, debility, syncope, various diseases of the intestines,  
 imprimis ventriculi, multa venena admissa in corpus, præsertim  
 especially of the stomach, many poisons admitted into the body, especially  
 narcotica, opium et similia, et vinum et omnis meracior potus,  
 the narcotics, opium and the like, and wine and all stronger drink,  
 solent inducere vertiginem: hinc (est) signum omnigenæ  
 are accustomed to bring on vertigo: hence (it is) a sign of every kind  
 ebrietatis. Varii motus quoque creant vertiginem hominibus  
 of drunkenness. Various motions also cause vertigo to men  
 inassuetis: veluti rotatio capitis vel universi corporis,  
 unaccustomed to them: as the rotation of the head or of the whole body,

268. Vertigo vocatur malum, siquando nosmetipsos et res vicinas, quamvis revera immotas, titubare, circumferri, tremere, vel ullo modo moveri, videre aut sentire credimus. Si gravior est vertigo, neque videre potest æger, præ caligine velut oculis obducta, neque firmiter incedere aut stare, quippe cui vires quæ regunt artus deficient. Vertiginem nausea solet comitari, alteroque alteram inducere.

269. Multorum et gravium quorundam morborum comes, et signum, et prænumcia observatur vertigo; apoplexiæ, epilepsiæ, hysteriæ, sanguinis profluvii et naribus vel aliis partibus, mensium suppressorum, magnæ corporis pleni-

tudinis, febrium, tum quas debilitas, tum quas auctus caput verus sanguinis impetus, comitatur. Vis quoque capiti illata, raro quæ ipsis oculis infertur vis, nisi quatenus totum caput afficiat, vertiginem inducit. Ingens et subita sanguinis aliorumque humorum jactura, debilitas, syncope, varii morbi intestinorum, ventriculi imprimis, venena multa in corpus admissa, narcotica præsertim, opium, et similia, et vinum, et omnis potus meracior, vertiginem inducere solent. Hiuc ebrietatis omnigenæ signum. Varii quoque motus inassuetis hominibus vertiginem creant: veluti rotatio capitis vel universi corporis, jactatio maritima, præsertim

maritima jactatio, præsertim si navis fuerit parva et mare turgidum, *sea tossing, especially if the ship should be small and the sea rough,* et similia. In his et similibus exemplis, insoliti et inordinati *and the like. In these and similar examples, unusual and irregular* motus sanguinis excitantur, et communicantur cum nervosis partibus *motions of blood are excited, and are communicated with the nervous parts* quæ sunt in capite; vel hæ male affectæ per consensum *which are in the head; or these badly affected through consent (sympathy)* cum aliis partibus, dant confusum sensum, quasi rotationis. *with other parts, give a confused sensation, as if of rotation.*

270. Quin vertigo oritur aliquando et ex animo affecto certâ *But vertigo arises sometimes also from the mind being affected in a certain* ratione, veluti conspectu rapidæ rotationis vel prærupti lapsus *manner, as from the sight of rapid rotation or a broken fall* aquarum, vel horrendi præcipitii, vel etiam sine ullo visu, ab intensâ *of waters, or horrible precipice, or even without any sight, from intense* et veloce cogitatione. *and rapid thinking.*

271. Vertigo, plerumque comes et signum aliorum morborum, *Vertigo, mostly the attendant and sign of other diseases,* nonnunquam, tamen, princeps vel solus morbus, rediens per intervalla, *sometimes, however, the chief or only disease, returning at intervals,* paulatim ingravescens, impedit et labefacit functiones pariter animi *gradually becoming severe, hinders and enfeebles the functions alike of mind* atque corporis: neque potuit firmissimum et vividissimum ingenium *and of body: nor could the very strong and very vivid mind* Swiftii resistere tanto malo. *of Swift resist so great a disorder.*

si navis parva, et mare turgidum, fuerint, et similia. In his et similibus exemplis, insoliti et inordinati motus sanguinis excitantur, et cum partibus nervosis quæ in capite sunt communicantur; vel hæ per consensum cum aliis partibus male affectæ, sensum confusum, quasi rotationis, dant.

270. Quin et ex animo, certa ratione affecto, veluti conspectu rotationis rapidæ, vel prærupti aquarum lapsus, vel præcipitii horrendi, vel

etiam sine ullo visu a cogitatione intensa et veloce, vertigo aliquando oritur.

271. Aliorum morborum plerumque comes et signum, nonnunquam tamen princeps vel solus vertigo morbus, per intervalla rediens, paulatim ingravescens, functiones animi pariter atque corporis impedit et labefacit: neque firmissimum et vividissimum Swiftii ingenium tanto malo potuit resistere.



CAP. X.

CHAP. X.

*De sensibus qui dicuntur interni, memoriâ, imaginatione, iudicio, que*  
 Of the sensus which are called internal, memory, imagination, judgment, and  
*varietatibus et vitiis eorum.*  
 the varieties and disorders of them.

272. Præter sensus, seu facultates, jam descriptos, homo possidet  
*Besides the senses, or faculties, already described, man possesses*  
 et alios; qui vocantur interni, ideo, quod fungantur suis  
*also others; which are called internal, for this cause, that they perform their*  
 muneribus sine impulsu vel externâ ope; et organa quæ  
*functions without impulse or external aid; and the organs which*  
 inserviunt maxime iis (sc. muneribus) interna, abdita, inaccessa externis  
*serve most to them internal, hidden, inaccessible to external*  
 rebus agant propriis viribus.  
*things act by their own proper powers.*

273. Perceptio excitata externâ re, fugax et peritura  
*The perception excited by an external object, transient and perishable*  
 suâ naturâ, desinit brevi: quod, si eadem res fuerit  
*in its nature, ceases in a short time: but, if the same object should be*  
 admota denuo organo, non modo renovat perceptionem, sed homo  
*applied again to the organ, it not only renews the perception, but the man*  
 simul reminiscitur pristini sensû quem habuit:  
*(individual) at the same time remembers the former sensation which he had:*  
 scilicet, novit se habuisse eundem (sc. sensum) antea.  
*that is, he knows that he had (experienced) the same before.*

274. Hæc, prima et simplicissima species memoriæ, contingit primæ  
*This, the first and most simple kind of memory, belongs to the first*  
 ætati, quippe quam infans semestris ostendat, dum agnoscit  
*age, as being that which the infant six months old shews, whilst it knows*  
 parentes aut nutricem, declinat ignotos homines. Hæc facultas vocatur  
*its parents or nurse, shuns unknown persons. This faculty is called*  
 recordatio, causâ distinctionis, et videtur esse principium et  
*recollection, for the sake of distinction, and seems to be the beginning and*  
 fundamentum perfectioris memoriæ.  
*foundation of more perfect memory.*

275. Quin et nihil omnino admoto ad organa externorum  
*Moreover, nothing at all being applied to the organs of the external*

CAP. X.—*De sensibus qui dicuntur interni, memoriâ, imaginatione, iudicio: eorumque varietatibus et vitiis.*

272. Præter jam descriptos sensus, seu facultates, homo et alios possidet; qui ideo interni vocantur, quod siue impulsu, vel ope externa, suis fungantur muneribus; et organa quæ iis maxime inserviunt, interna, abdita, externis rebus inaccessa, propriis viribus agant.

273. Perceptio re externa excitata, sua natura fugax et peritura, brevi desinit: quod si eadem res organo denuo admota fuerit, non

modo perceptionem renovat, sed homo simul pristini quem habuit sensus reminiscitur: novit, scilicet, se eundem antea habuisse.

274. Hæc prima et simplicissima memoriæ species primæ ætati contingit, quippe quam infans semestris ostendat, dum parentes aut nutricem agnoscit, ignotos homines declinat. Hæc facultas recordatio vocatur, distinctionis causa, et principium et fundamentum perfectioris memoriæ videtur esse.

275. Quin et nihil omnino ad organa sensuum externorum admoto, nullaque juvante

sensuum, que nullâ externâ causâ juvante, et internis causis sæpe  
*senses, and no external cause assisting, and the internal causes often*  
 parum perspectis, sensus percepti diu ante oblit, *little*  
*understood, sensations perceived a long time before (long since) forgotten*  
 sopiti, renovantur, reviviscunt homini invito, nec opinanti.  
*lulled, are renewed, revive to the man against his will, nor imagining it.*

Invita recordatio hujusmodi accedit adhuc proprius ad perfectam  
*Involuntary recollection of this sort approaches still nearer to perfect*  
 memoriã.  
*memory.*

276. Illa facultas dicitur vera et optima memoria quâ (sc. facultate)  
*That faculty is called the true and best memory by which*

revocamus, detinemus, contemplamur, dimittimus, ad nostrum arbitrium,  
*we recall, we detain, we contemplate, we dismiss, at our will,*

varias præteritas cogitationes, veluti sensus, perceptiones, &c.  
*various by-gone (passed) thoughts, as sensations, perceptions, &c.,*

eodem ordine quo fuerant receptæ.  
*in the same order in which they had been received.*

277. Hæc (sc. facultas) est nulla, prima ætate: accedit atque augetur  
*This is none, at the first age: it comes on and is increased*

paulatim. Fit promptissima, validissima, tenacissima, puerili  
*by degrees. It becomes most ready, strongest, most tenacious, at puerile*

ætate; viget juvenili et virili (sc. ætate); senili  
*age (boyhood); it is in full vigour in juvenile and virile (manhood); in old age*

solet fatiscere nonnihil; summa senectute dilabitur, et tandem  
*it is accustomed to fail somewhat; in extreme old age it decays, and at length*

aboletur; et fere hac ratione, ut, adhuc tenacissima  
*is abolished; and commonly for this reason, that, as yet very tenacious*

veterum (sc. rerum) quas reconderat florente ætate, dimittat  
*of the old things which it had stored up in flourishing age, it dismisses*

novas res facile; vero annis ingravescentibus omnes res, novæ atque  
*new things easily; but the years weighing on all things, new and*

antiquæ pariter, delentur penitus è memoriã.  
*old alike, are blotted entirely from the memory.*

278. Datur promptior et tenacior aliis hominibus  
*It is given more ready and more tenacious (retentive) to some men,*

debilior aliis: augetur incredibiliter cultu et usu, modo  
*weaker to others; it is increased incredibly by cultivation and use, provided*

hi fuerint non nimii. Est plus minus vivida aut prompta  
*these have been not too great. It is more (or) less vivid or ready*

variis hominibus, que iisdem (hominibus) variis temporibus:  
*in various men, and in the same (men) at different times:*

externa causa, et internis sæpe causis parum  
 perspectis, sensus diu ante percepti, oblit, so-  
 piti, homini invito nec opinanti renovantur,  
 reviviscunt. Hujusmodi recordatio invita pro-  
 prius adhuc ad perfectam memoriã accedit.

276. Vera et optima memoria dicitur facultas  
 illa, qua varias cogitationes præteritas, veluti  
 sensus, perceptiones, &c. eodem quo fuerant  
 receptæ ordine, ad arbitrium nostrum revocamus,  
 detinemus, contemplamur, dimittimus.

277. Hæc, prima ætate, nulla est: paulatim  
 accedit atque augetur. Puerili ætate, promp-

tissima, validissima, tenacissima fit; juvenili  
 et virili viget; senili nonnihil fatiscere solet;  
 summa senectute dilabitur, et tandem aboletur;  
 et fere hac ratione, ut novas res dimittat facile,  
 veterum, quas florente ætate reconderat, ad-  
 huc tenacissima; ingravescentibus vero annis,  
 omnes res, novæ pariter atque antiquæ, e me-  
 moria penitus delentur.

278. Aliis hominibus promptior et tenacior,  
 aliis debilior datur: cultu et usu, modo hi non  
 nimii fuerint, incredibiliter augetur. Variis  
 hominibus, iisdemque variis temporibus, plus

ita ut fungatur suo officio vel admodum lentè vel fere  
*so that it performs its duty either very slowly or almost*  
 incredibili velocitate. Multum hic pendet a secunda aut adversâ  
*with incredible velocity. Much here depends upon the good or bad*  
 valetudine quâ homo utitur; à statu animi, vel commoti  
*health which the man enjoys; upon the state of the mind, either disturbed*  
 gravi affectu, vel fruentis placidâ quiete, et attententis accurate  
*by a severe affection, or enjoying calm quiet, and attending accurately*  
 ad suas cogitationes. Tum ratio corporis est quoque habenda,  
*to its thoughts. Then the habit of body is also to be considered,*  
 magis ve minus sentientis aut mobilis; motus sanguinis  
*(whether) more or less sentient or mobile; the motion of the blood*  
 quoque facit multum hic, incitator aut languescens: veluti  
*also does much here, (whether) more hastened or languid: as*  
 ab exercitatione, febre, dolore, torpore, sopore, &c. Memoria solet  
*from exercise, fever, pain, torpor, sopor, &c. Memory is accus-*  
 esse rapidior pueris, junioribus, et præter solitum vividis;  
*tomed to be more rapid in boys, young men, and in the unusually lively:*  
 et hæc est (sc. causa), inter alias causas, cur hi polleant minus  
*and this is one, among other causes, why these excel less*  
 firmo aut certo iudicio.  
*in a sound or certain judgment.*

279. Memoria viget inter somnum, saltem leviolem; sed parum  
*Memory is active during sleep, at least lighter; but no way*  
 accurata, neque paret voluntati, neque profert res suo  
*accurate, neither does it obey the will, nor puts forth things in their*  
 ordine, ut solet sano et vigilantî homini.  
*order, as is accustomed in a healthy and waking man.*

280. Memoria potissimum retinet plerasque novas res, sæpe repetitas,  
*Memory powerfully retains most new things, often repeated,*  
 ingratas, vel quæ afficiant mentem ullo modo magis solito (sc. modo).  
*unpleasant, or which can affect the mind in any manner more than the usual.*

Ordo rerum juvat præ omnibus, que solemus  
*Arrangement of things (subjects) assists before all things, and we are accustomed*  
 uti eo (sc. ordine) tanquam præsentissimo auxilio ad revocandam  
*to use it as if the most immediate aid to recall*  
 quamlibet rem in memoriam. Memoria est fons et origo  
*any thing into the memory. Memory is the fountain and origin*  
 omnigenæ scientiæ et iudicii, et igitur ordo  
*of every kind of knowledge and of judgment, and therefore arrangement*  
 fere maxima pars, nimirum sine quo (sc. ordine) foret  
*commonly the great part, doubtless without which there would be*

minus vidua aut prompta est: ita ut vel lente admodum vel incredibili fere velocitate suo fungatur officio. Multum hic pendet a secunda aut adversa qua homo utitur valetudine; a statu animi, vel gravi affectu commoti, vel placida quiete fruentis, et ad suas cogitationes accurate attententis. Tum quoque corporis ratio habenda est, magis minusve sentientis aut mobilis; sanguinis motus quoque multum hic facit, incitator, aut languescens: veluti ab exercitatione, febre, dolore, torpore, sopore, &c. Pueris, junioribus, et præter solitum vividis, rapidior solet esse memoria; et hæc

inter alias causas est, cur hi iudicio minus firmo aut certo polleant.

279. Viget inter somnum, saltem leviolem, memoria; sed parum accurata, neque voluntati paret, neque res suo ordine, ut sano et vigilantî homini solet, profert.

280. Plerasque res novas, sæpe repetitas, jucundas, ingratas, vel quæ mentem ullo modo magis solito afficiant, memoria potissimum retinet. Juvat, præ omnibus, ordo rerum, eoque tanquam auxilio præsentissimo uti solemus, ad rem quamlibet in memoriam revocandam. Scientiæ omnigenæ, et iudicii, memoria fons

aut nulla memoria aut foret vaga et prorsus inutilis, qualis  
*either no memory or it would be vague and altogether useless, such as*  
 contingit somniantibus et delirantibus.  
*happens to persons dreaming and raving.*

281. Memoria minuitur aut turbatur, aut deletur prorsus,  
*Memory is diminished or disturbed, or is destroyed altogether,*  
 variis morbis, imprimis (lis) qui afficiunt cerebrum, apoplexia,  
*by various diseases, especially those which affect the brain, apoplexy,*  
 paralyti, epilepsia, tumoribus intra caput, externa vi illatâ  
*palsy epilepsy, by tumours within the head, by external violence done*  
 eidem (sc. capiti), febris, imprimis quibus impetus sanguinis versus  
*to the same, by fevers, especially in which the force of the blood towards*  
 caput est auctus, aut cerebrum valde affectum, quâcunque ratione.  
*the head is increased, or the brain very much affected, in whatever manner.*

282. Memoria rarissime depravatur, ita ut representet res menti  
*Memory very rarely is depraved, so that it represents things to the mind*  
 non suo ordine: quod, si tale vitium acciderit, est  
*not in their own order: but, if such a disorder should happen, it is*  
 referendum ad læsam imaginationem vel delirium.  
*to be referred to injured imagination or delirium.*

283. Imaginatio est facultas quâ homo ad suum arbitrium conjungit,  
*Imagination is a faculty by which man at his pleasure combines,*  
 dividit, et disponit novo ordine, varias res quas reconderat  
*separates, and disposes in a new order, the different things which he had laid up*  
 memoria; veluti si, mixtis et compositis formis viri  
*in the memory; as if, having mixed and compounded the forms of a man*  
 et equi, mulieris et piscis, fixerit sibi Centaurum  
*and of a horse, of a woman and of a fish, he should form to himself a Centaur*  
 aut Sirenem.  
*or Siren.*

284. Imaginatio est vividior quam memoria, et habet  
*Imagination is more vivid than memory, and has (exercises)*  
 latius imperium in animum que affectus ejus, et  
*a more extensive control over the mind and the affections of it, and*  
 nervosum genus; quamvis memoria ipsa possideat nonnihil  
*the nervous system; although memory itself may possess something*  
 vis hujusmodi.  
*of a power of this sort.*

285. Cogitationes, quas innumeras hæc facultas suggerit, vix unquam  
*The thoughts, which innumerable this faculty suggests, scarcely ever*  
 confunduntur, in sano homine, cum præteritis rebus quas  
*are confounded, in the healthy man, with the passed things which*

et origo est, et igitur ordo fere maxima pars, nimirum, siue quo, aut nulla foret memoria, aut vaga et prorsus inutilis, qualis somniantibus et delirantibus contingit.

281. Minuitur aut turbatur memoria, aut prorsus deletur, variis morbis, imprimis qui cerebrum afficiunt, apoplexia, paralyti, epilepsia, tumoribus intra caput, vi externa eidem illata, febris, imprimis quibus auctus est caput versus sanguinis impetus, aut cerebrum quâcunque ratione valde affectum.

282. Rarissime depravatur memoria, ita ut res ordine non suo menti representet: quod si

tale vitium acciderit, ad læsam imaginationem vel delirium referendum est.

283. Imaginatio est facultas qua homo varias res, quas memoria reconderat, ad arbitrium suum conjungit, dividit, et novo ordine disponit; veluti si mixtis et compositis, viri et equi, mulieris et piscis, formis, Centaurum aut Sirenem sibi fixerit.

284. Imaginatio quam memoria vividior est, et latius imperium in animum, ejusque affectus, et genus nervosum, habet: quamvis memoria ipsa nonnihil hujusmodi vis possideat.

285. Cogitationes, quas hæc facultas sugge-

memoria contemplatur, multo minus cum rebus veris et presentibus  
*the memory contemplates, much less with the things true and present*  
 quas sensus percipiunt: neque sanus, sobrius, et vigilans homo  
*which the senses perceive; nor does a healthy, sober, and waking man*  
 credit res quas imaginatio fingit ad suum arbitrium aut  
*believe that the things which imagination forms at its pleasure either*  
 esse aut unquam fuisse veras. Si talis error acciderit, est  
*are or even were true. If such an error should happen, it is*  
 habendus pro morbo.  
*to be considered as a disease.*

286. Imaginatio, parva infanti, maxima juveni, temperatio  
*Imagination, small in the infant, greatest in the young man, more moderate*  
 viro, fere reprimitur seni: eadem (sc. imag.) vividior  
*in the man, commonly is repressed in the old man: the same is more vivid*  
 hilaribus, irritabilibus, mobilibus, et sentientibus præter solitum  
*in the cheerful, the irritable, the mobile, and those feeling beyond usual*  
 acriter; fere nulla torpidis, frigidis, stupidis. Neque facultas utilis  
*acutely; almost none in the torpid, the cold, the stupid. Nor a faculty useful*  
 poetis solis; quippe species cujus fingat quærat, detegat,  
*to the poets alone; as being a species of which can suppose, can seek, can detect,*  
 similitudines et convenientias rerum, non observatas a vulgo  
*similitudes and agreements of things, not observed by the commonalty*  
 hominum, perducens primo ad conjecturas, tandem, ope judicii,  
*of men, conducting at first to conjectures, at length, by means of the judgment,*  
 ad veram scientiam. Forsitan huic debemus pariter *Newtonum* ac *Homerum*.  
*to true knowledge. Perhaps to this we owe alike a Newton and a Homer.*

287. Hoc est commune imaginationi et memoriæ, quod  
*This (the following) is common to imagination and memory, that*  
 habent tantum imperium in perceptiones visus et auditus:  
*they have so great control over the perceptions of sight and of hearing:*  
 neque profecto possunt renovare aut accurate aut fortiter perceptiones  
*nor truly can they renew either accurately or strongly the perceptions*  
 aliorum externorum sensuum.  
*of the other external senses.*

288. Judicium est facultas quâ contemplamur, comparamus  
*Judgment is the faculty by which we contemplate, we compare*  
 perceptiones et omnigenas cogitationes, sensus, memoriæ, imaginationis,  
*the perceptions and all kinds of thoughts, of sensations, of memory, of imagination,*  
 detegimus similitudines et differentias earum, que inde deducimus  
*we detect the similitudes and differences of them, and thence we deduce*  
 varias conclusiones. Hæc facultas est debilis infanti et puero; firmior  
*various conclusions. This faculty is weak in the infant and in the boy; stronger*

rit innumeras, vix unquam in sano homine, cum rebus præteritis quas memoria contemplatur, multo minus cum rebus veris et presentibus, quas sensus percipiunt, confunduntur neque sanus homo, sobrius, et vigilans, res quas imaginatio ad suum arbitrium fingit, aut esse veras, aut unquam fuisse, credit. Si talis error acciderit, pro morbo habendus est.

286. Imaginatio infanti parva, juveni maxima, viro temperatio, seni fere reprimitur; eadem hilaribus, irritabilibus, mobilibus, et præter solitum acriter sentientibus, vividior; torpidis, frigidis, stupidis, fere nulla. Neque solis poetis utilis facultas: quippe cujus spe-

cies, rerum similitudines et convenientias, a vulgo hominum non observatas, fingat, quærat, detegat, ad conjecturas primo, ad veram scientiam, ope judicii, tandem perducens. Huic forsitan *Newtonum* pariter ac *Homerum* debemus.

287. Imaginationi et memoriæ hoc commune est, quod in perceptiones visus et auditus tantum imperium habent: neque profecto aliorum sensuum externorum perceptiones, aut accurate aut fortiter renovare possunt.

288. Judicium facultas est, qua perceptiones et cogitationes omnigenas, sensus, memoriæ, imaginationis, contemplamur, comparamus, earum similitudines et differentias detegimus,

et certior consistente ætate, corrumpitur paulatim ætate et  
*and more certain in stable age, is corrupted gradually by age and*  
 quotquot morbis minuunt memoriam; nam, sine memoria, nullum  
*whatever diseases diminish memory; for, without memory, no*  
 iudicium potest esse.  
*judgment can be.*

289. Omnes hæ facultates sunt tam pure mentis, ut primo  
*All these faculties are so purely of the mind, that at first*  
 intuitu haud quicquam corporei videatur inesse iis: tamen, morbi  
*sight not any thing corporeal seems to be in them: however, diseases*  
 qui impediunt eas docent certum statum cerebri requiri  
*which hinder them teach that a certain state of the brain is acquired*  
 ut exerceantur bene; que id (sc. cerebrum) esse primum  
*that they be exercised well; and that it is the primary (chief)*  
 organum internorum sensuum. Nec desunt philosophi et  
*organ of the internal senses. Nor are there wanting philosophers and*  
 medici non parvi nominis, qui negant ullam mutationem in mente  
*physicians of no small name, who deny that any change in the mind*  
 aut cogitationem fieri, quem certa mutatio cerebri, et quæ  
*or thought takes place, which a certain change of the brain, and which*  
 respondet eidem (sc. cogitationi) non comitetur. Res parum  
*answers (corresponds) to the same does not accompany. A thing no way*  
 certa, parum utilis, neque reducenda facile ad experimentum. Enim  
*certain, no way useful, nor to be reduced easily to experiment. For*  
 tantum abest ut habeamus ullam scientiam  
*so much is it from that we have (so far are from having) any knowledge*  
 mutationum quæ fiunt in cerebro, vel modi quo variæ  
*of the changes which take place in the brain, or of the manner in which the various*  
 partes ejus operantur, dum memoria, imaginatio, iudicium, exercentur,  
*parts of it operate, whilst memory, imagination, judgment, are exercised,*  
 ut ne quidem sana conjectura fuerit prolata hactenus  
*that not even a rational conjecture has been set forth hitherto*  
 de his rebus.  
*concerning these things.*

290. Igitur oportet morbos functionis, ratio cuius in  
*Therefore it behoves that the diseases of a function, the nature of which in*  
 sanitate obscuratur tam atra caligine, esse parum intellectos. Tamen,  
*health is observed with so black a mist, be little understood. Nevertheless,*  
 habet suos morbos, graves, molestos, miserandos, dignos omni  
*it has its own diseases, severe, troublesome, wretched, worthy every*

variasque inde conclusiones deducimus. Hæc facultas infanti et puero debilis est; consistente ætate, firmior et certior; ætate paulatim corrumpitur, et morbis quotquot memoriam minuunt; nam sine memoria nullum potest esse iudicium.

289. Omnes hæ facultates tam pure mentis sunt, ut primo intuitu haud quicquam corporei iis inesse videatur: docent tamen morbi qui eas impediunt, certum cerebri statum, ut bene exerceantur, requiri: idque sensuum internorum primum esse organum. Nec desunt philosophi et medici non parvi nominis, qui negant ullam in mente mutationem vel cogita-

tionem fieri, quam certa et quæ eidem respondet cerebri mutatio non comitetur. Res parum certa, parum utilis, neque facile ad experimentum reducenda (120, et seq.) Tantum enim abest, ut ullam mutationum quæ in cerebro fiunt, vel modi quo variæ ejus partes operantur, dum memoria, imaginatio, iudicium exercentur, scientiam habeamus, ut ne quidem sana de his rebus conjectura hactenus fuerit prolata.

290. Functionis igitur, cuius ratio in sanitate tam atra caligine obscuratur, morbos parum intellectos esse oportet. Suos tamen morbos habet, graves, molestos, miserandos, omni attentione dignos: nimirum qui mentem ipsam,

attentione, qui (sc. morbi) nimirum vitient et reddant inutilem  
*attention, which doubtless can vitiate and render useless*

mentem ipsam, quâ (sc. mente) præstamus cæteris animalibus.  
*the mind itself, by which we excel other animals.*

291. Mens alienatur siquando homo confundit cogitationes  
*The mind is alienated if at any time a man confounds the thoughts*  
 memoriæ aut imaginationis cum perceptionibus externorum sensuum, et  
*of memory or imagination with the perceptions of the external senses, and*  
 sic credit adesse quæ sunt non, vel nunquam fuere; vel si  
*thus believes to be present what are not, or never were: or if*  
 fert male sanum iudicium de rebus, et alienum a communi  
*he forms an unsound judgment about things, and different from the common*  
 sensu hominum. Autem hoc rarissime accidit, si unquam. Captus mente  
*sense of men. But this very rarely happens, if ever. An insane person*

solet ferre sanum iudicium a falsis  
*is accustomed to bear (draw) a sound (legitimate) judgment (conclusion) from false*

principiis: neque ratiocinatur male; sed furens potius decipitur,  
*principles (premises): nor does he reason badly; but raving rather is deceived,*

qui, credens se Jovem, posceret fulmina Jovis.  
*who, believing himself Jove, would demand the thunderbolts of Jove.*

292. Alienatio mentis vocatur, generatim, vesania: si est ex febre,  
*Alienation of mind is called, generally, vesania: if it is from fever,*

delirium; citra febrem, generalis furor appellatur insania: vero minus  
*delirium; without fever, general madness is called insanity; but a less*

generalis dementia, scilicet de unâ ve alterâ re, mente  
*general madness, that is about one or another (one or two) thing, the mind*

sanâ de omnibus aliis, vocatur melancholia; cum qui insignis  
*being sane upon all others, is called melancholy; with which a remarkable*

tristitia aliquando conjungitur. Tamen, nullus accuratus limes  
*sadness sometimes is conjoined. However, no accurate boundary*

existit inter sanam mentem et vesaniam. Omnis hilaritas præter  
*exists between a sound mind and vesania. All hilarity beyond*

solitum vergit ad insaniam; et mæstus et meticulosus animus  
*usual verges to insanity; and the sad and fearful mind*

appropinquat ad melancholiam.  
*approaches to melancholy.*

293. Delirium varii generis comitatur febres aliquando leve,  
*Delirium of various character accompanies fevers sometimes slight,*

discessurum facile, et vix mali ominis, sæpe, tamen, grave,  
*about to depart easily, and scarcely of bad omen, often, however, severe,*

et pessimi ominis, postulat magnam curam et attentionem.  
*and of the worst omen, requires great care and attention.*

qua cæteris animalibus præstamus, vitient, et inutilem reddant.

291. Alienatur mens, siquando homo cogitationes memoriæ aut imaginationis cum perceptionibus sensuum externorum confundit, et sic, quæ non sunt, vel nunquam fuere, adesse credit; vel si iudicium de rebus male sanum, et a communi hominum sensu alienum, fert. Hoc autem rarissime, si unquam, accidit. Iudicium sanum mente captus ferre solet a falsis principiis: neque male ratiocinatur, sed potius decipitur furens, qui, Jovem se credens, Jovis fulmina posceret.

292. Mentis alienatio vesania generatim vo-

catur; si ex febre est, delirium; citra febrem, generalis furor insania appellatur; dementia vero minus generalis, scilicet de re una alterave, sanæ de omnibus aliis mente, melancholia vocatur: quicum insignis aliquando tristitia conjungitur. Nullus tamen existit limes accuratus inter sanam mentem et vesaniam. Omnis præter solitum hilaritas ad insaniam vergit; et mæstus et meticulosus animus ad melancholiam appropinquat.

293. Delirium varii generis febres comitatur: aliquando leve, facile discessurum, et vix mali ominis: sæpe tamen grave, et pessimi ominis, magnam curam et attentionem postulat.

294. Delirium est ferox vel mite. Rubor vultus, dolor capitis, *Delirium is furious or mild. Redness of countenance, pain of the head,* ingens pulsus arteriarum, tinnitus aurium, oculi rubri, inflammati, *violent pulsation of the arteries, ringing of the ears, the eyes red, inflamed,* truces, micantes, impatientes lucis, præcedunt et comitantur *fierce, shining, impatient (intolerant) of light, precede and accompany* ferox (sc. delirium), et vel nullus somnus vel dira quies rupta *the furious, and either no sleep or dreadful rest broken (disturbed)* horrendis somniis; soliti mores exuti, novi induti, pro *by horrible dreams; the accustomed manners put off, new ones put on, for* mitibus (sc. moribus), morosi et immansueti, iracundia; alienatio animi *the mild, morose and savage, anger; alienation of mind* primo observanda inter somnum et vigiliam fides data imaginationi, *at first (is) to be observed between sleep and waking belief given to the imagination,* perceptiones ex externis sensibus nullæ vel neglectæ, et cogitationes *the perceptions from the external senses none or neglected, and the thoughts* memoriæ prolatæ sine ordine; demum furor, et nonnunquam *of the memory set forth with order; at length fury, and sometimes* insolita et incredibilis vis artuum, (sup. accedunt), ita ut *an unusual and incredible power of the limbs, come on, so that* plures homines vix possint compescere unum ægotantem (sc. hominem.) *several men scarcely are able to restrain one sick person.*

295. Mite delirium, contra, observatur sæpe cum debili pulsu, *The mild delirium, on the other hand, is observed often with a weak pulse,* pallido collapso vultu, vertigine a erecto situ, prostratis viribus. *pallid collapsed countenance, vertigo from the erect posture, prostrated strength.* Dolor capitis quoque adest, sed minus acutus quam in altero *Pain of the head also is present, but less acute than in the other* genere; raro iracundia, sæpe stupor, aliquando insignis mæror et *kind; seldom anger, often stupor, sometimes remarkable grief and* metus (sup. adsunt:) alienatio mentis observatur primo in semisomni, *fear (are present:) alienation of mind is observed at first in half sleep,* pellenda pro tempore, aliquando luce admissa, amicis *to be driven away for a time, sometimes by light being admitted, by friends* alloquentibus; æger mussitat multum sibi, parum curat quæ *talking to him; the sick mutters much to himself, little regards what* fiunt circum; tandem, factus stupidus, percipit neque *things are doing about him; at length, become stupid, he perceives neither* famem, nec sitim quâ (sc. siti) fauces arescunt, nec alias *the hunger, nor the thirst with which his fauces parch, nor the other* solitas propensiones, quo fit ut urina et stercus elabantur, *usual propensities, whence it happens that the urine and fæces escape,*

294. Delirium ferox est vel mite. Ferox præcedunt et comitantur, vultus rubor, capitis dolor, ingens arteriarum pulsus, aurium tinnitus, oculi rubri, inflammati, truces, micantes, lucis impatientes, et vel nullus somnus, vel dira quies horrendis somniis rupta, mores soliti exuti, novi induti, pro mitibus morosi et immansueti, iracundia; animi alienatio, primo inter somnum et vigiliam observanda, imaginationi fides data, perceptiones ex sensibus externis nullæ vel neglectæ, et cogitationes memoriæ sine ordine prolatæ, furor demum, et nonnunquam insolita et incredibilis vis ar-

tuum, ita ut plures homines unum ægotantem vix possint compescere.

295. Mite, contra, delirium, cum pulsu sæpe debili, vultu pallido, collapso, vertigine a situ erecto, prostratis viribus, sæpe observatur. Dolor capitis quoque adest, sed minus acutus quam in altero genere; raro iracundia, sæpe stupor, aliquando mæror insignis et metus: in semisomni primo observatur mentis alienatio, admissa luce, alloquentibus amicis, pro tempore aliquando pellenda; æger multum sibi mussitat, quæ circum fiunt parum curat; tandem stupidus factus, neque famem, nec sitim



ægro inscio. Malum ingravescens, desinit in subsultus  
*the patient being unconscious. The disorder weighing on, terminates in subsultus*  
 tendinum, tremores, convulsiones, defectiones animi, mortem. Alterum  
*tendinum, tremblings, convulsions, faintings, death. The other*  
 genus delirii quoque, viribus ægri deficientibus, mutatur  
*kind of delirium also, the strength of the patient failing, changed*  
 sæpe in hoc (sc. genus).  
*often into this.*

296. Signa quæ comitantur utrumque (sc. genus) docent insolitum,  
*The signs which accompany both teach that an unusual,*  
 inordinatum, inæqualem, motum sanguinis per cerebrum, mutare  
*inordinate, unequal, motion of the blood through the brain, changes*  
 statum ejus qui (sc. status) requiritur ad sanam mentem: est  
*the state of it which is required to sound mind: it is*  
 verisimile satis inflammationem vel magis vel minus generalem et  
*probable enough that inflammation either more or less general and*  
 vehementem, aliquando subesse, quamvis generalia signa inflammationis  
*violent, sometimes exists, although the general signs of inflammation*  
 in corpore fuerint levia, inspectiones cadaverum docent,  
*in the body should be slight, the inspections of dead bodies teach,*  
 quæ (sc. inspectiones) sæpe ostenderunt insolitum ruborem vel  
*which often have shewn an unusual redness either*  
 totius cerebri vel partis ejus; et effusionem, suppurationem, &c.  
*of the entire brain or of part of it; and effusion, suppuration, &c.*  
 intra caput.  
*within the head.*

297. Verum, status cerebri potest affici multum, et delirium  
*But, the state of the brain may be affected much, and delirium*  
 induci ab aliis causis et, præter motum sanguinis. In multis  
*be induced from other causes also, besides the motion of the blood. In many*  
 febris, veluti in iis quas (sc. febres) insignis debilitas comitatur  
*fevers, as in those which a remarkable debility accompanies*  
 ab initio ipso, nervosum genus ipsum laborat  
*from the beginning itself (very beginning), the nervous system itself suffers*  
 prius et magis quam motus sanguinis: bene multa vitia  
*before and more than the motion of the blood: the very many disorders*  
 cujus, non secus ac sanæ actiones non erunt obvia  
*of which, in like manner as the healthy actions will not be obvious*  
 sensibus. Vero signa læsionis plane ostendunt inæqualem,  
*to the senses. But the signs of lesion plainly shew that an unequal,*  
 inordinatam actionem ejus (sc. gen. nervosi), vel incitationem ut multi  
*inordinate action of it, or excitation as many*

qua fauces arescunt, percipit, nec alias solitas propensiones; quo fit, ut urina et stercus, inscio ægro, elabantur. Ingravescens malum, in subsultus tendinum, tremores, convulsiones, animi defectiones, mortem, desinit. Alterum quoque delirii genus, deficientibus ægri viribus, in hoc sæpe mutatur.

296. Docent quæ utrumque comitantur signa, insolitum, inordinatum, inæqualem sanguinis per cerebrum motum, statum ejus qui ad sanam mentem requiritur mutare: inflammationem cerebri, vel magis vel minus generalem et vehementem, aliquando subesse satis verisimile

est, quamvis generalia inflammationis in corpore signa levia fuerint: docent cadaverum inspectiones, quæ sæpe ostenderunt insolitum, vel totius cerebri, vel partis ejus, ruborem; et effusionem, suppurationem, &c. intra caput.

297. Verum et ab aliis causis, præter sanguinis motum, cerebri status multum affici potest, et delirium induci. In multis febris, veluti in iis quas insignis debilitas ab ipso initio comitatur, genus ipsum nervosum prius et magis quam sanguinis motus laborat: ejus vitia bene multa, non secus ac sanæ actiones, sensibus non obvia erunt. Signa vero læsionis

vocant, fieri. Hæc est quoque ratio delirii  
*call it, is made (takes place). This is also the explanation of the delirium*  
 a venenis.  
*from poisons.*

298. Ex dictis, ratio redditur non plene quidem,  
*From what has been said, the explanation is rendered not fully indeed,*  
 sed aliquatenus, cur delirium (sup. est) varii generis, vehementiæ,  
*but to some extent, why delirium (is) of various kind, of violence,*  
 ominis; cur sæpe (est) auctum motu, luce strepitu, affectibus  
*of omen; why often it is increased by motion, light, noise, affections*  
 animi, stimulantibus medicamentis, calore: cur tollatur nunc  
*of the mind, stimulating medicines, heat: why it is removed at one time*  
 sanguine misso ex venis, et tenui diæta, nunc vino  
*by blood being let from the veins, and spare diet, at another by wine*  
 et stimulantibus; cur aliquando levetur vel compescatur  
*and stimulating things; why sometimes it is abated or restrained*  
 visu et colloquio amicorum et adstantium, que conspectu  
*by the sight and conversation of friends and bystanders, and by the sight*  
 rerum bene notarum; cur sæpe ingravescat si æger  
*of things well known; why often it becomes severe if the patient*  
 detineatur in lecto, evasurum (sit) mitius si surrexerit, et  
*be detained in bed, will become milder if he should rise, and*  
 sederit paulisper erectus.  
*should sit a little while erect.*

299. Ratio melancholiæ et insaniam obtegitur multo densioribus  
*The cause of melancholy and of insanity is observed by much thicker*  
 tenebris; scilicet quæ sunt sine febre aut motu  
*darkness; as being things which are (exist) without fever or the motion*  
 sanguinis turbato ullo modo, sæpe hereditariæ, pendentes, ut  
*of the blood being disturbed in any manner, often hereditary, depending, as*  
 videtur, a prima et congenita fabrica corporis, præsertim  
*it appears, upon the original and congenital conformation of the body, especially*  
 cerebri, vitium cujus (sc. cerebri) tamen posset non detegi  
*of the brain, the disease of which nevertheless could not be detected*  
 a subtilissimo anatomico: quæ recurrunt per intervalla sæpe longa,  
*by the most minute anatomist: which return at intervals often long,*  
 quibus (sc. intervallis) homines videntur frui sana mente in sano  
*in which the persons seem to enjoy a sound mind in a sound*  
 corpore; et quæ denique sæpe oriuntur a malis mentis,  
*body; and which finally often arise from the disorders of the mind,*  
 nimirum gravibus affectibus, effectus quorum (sc. malorum mentis) in  
*doubtless grievous affections, the effects of which upon*

plane ostendunt inæqualem, inordinatum ejus actionem, vel incitationem, ut multi vocant, fieri. Delirii a venenis hæc quoque ratio est.

298. Ex dictis, ratio non plene quidem sed aliquatenus redditur, cur varii generis vehementiæ, ominis, delirium; cur sæpe motu, luce, strepitu, animi affectibus, medicamentis stimulantibus, calore, auctum; cur nunc misso ex venis sanguine, et tenui diæta, nunc vino et stimulantibus tollatur; cur aliquando visu et colloquio amicorum et adstantium, rerumque bene notarum conspectu, levetur vel compescatur; cur sæpe ingravescat si æger in lecto

detineatur, mitius evasurum si surrexerit, et paulisper erectus sederit.

299. Melancholiæ et insaniam ratio multo densioribus tenebris obtegitur: scilicet, quæ sine febre sunt, aut motu sanguinis ullo modo turbato; sæpe quoque hereditariæ, a prima et congenita corporis, et præsertim cerebri, fabrica, ut videtur, pendentes, cujus tamen vitium a subtilissimo anatomico non detegi posset: quæ per intervalla recurrunt, sæpe longa, quibus homines mente sana in corpore sano frui videntur: et quæ denique a malis mentis, gravibus nimirum affectibus, sæpe oriuntur, quorum

cerebrum, et ratio quâ nocent adeo, sunt prorsus  
*the brain, and the manner in which they hurt so much, are altogether*  
 ignota.  
*unknown.*

300. Tamen, est notum varia vitia cerebri, obstructiones,  
*Nevertheless, it is known that various disorders of the brain, obstructions,*  
 tumores, vel ipsius vel calvariae, prementis in id (sc. cerebrum),  
*tumours, either of itself or of the calvaria, pressing upon it,*

vim illatam capiti, et ut medici scriptores ferunt duritiem,  
*violence done to the head, and as medical writers say hardness,*  
 siccitatem cerebri ipsius, et quaedam irritamenta, stimulantia nervosum  
*dryness of the brain itself, and certain irritants, stimulating the nervous*  
 genus, inducere malum. Et profecto tanta est irritatio  
*system, bring on the disorder. And truly so great is the irritation*

captis mente, ut sæpe per longum tempus dormiant parum, vel  
*to persons insane, that often for a long time they can sleep little, or*  
 nihil, neque sopiantur facile solitis remediis.  
*not at all, nor can they be lulled easily by the usual remedies.*

301. Sed neque hæc scientia de morbis cerebri et mentis,  
*But neither does this knowledge of the diseases of the brain and mind,*  
 quamvis exigua et imperfecta, caret suis difficultatibus: nam læsione  
*although little and imperfect, want its own difficulties: for injury*  
 cerebri vel cujusvis partis ejus factâ, tumore, osse crescente  
*of the brain or of any part of it being done, by tumour, by bone growing*  
 in mucronem et irritante (sc. cerebrum), &c. nemo prædixerit  
*into a point and irritating it, &c. no one could (have) foretell*

quidnam mali talis læsio factura sit: epilepsiam,  
*what kind of disorder such a lesion would cause: (whether) epilepsy,*  
 apoplexiam, hemiplegiam, stuporem, melancholiam, furorem, dolorem capitis,  
*apoplexy, hemiplegia, stupor, melancholy, madness, pain of the head,*  
 aut nil præter solitum. Enim, exempla non desunt hominum, qui  
*or nothing unusual. Moreover, examples are not wanting of men, who*  
 convaluerunt et vixerunt diu post haud exiguam partem cerebri  
*have got well and lived a long time after no small part of the brain*  
 amissam; vel qui, magna parte cerebri corruptâ, perceperunt  
*being lost; or who, a great part of the brain being corrupted, have perceived*  
 nil incommodi, donec tandem corruerint subito, convulsi  
*no inconvenience, until at length they have fallen down suddenly, convulsed*  
 et moribundi.  
*and dying.*

302. Aliud vitium interiorum sensuum, omnino diversum ab his,  
*Another disorder of the internal senses, altogether differing from these,*

effectus in cerebrum, et ratio qua adeo nocent, prorsus ignota sunt.

300. Notum tamen est varia cerebri vitia, obstructiones, tumores, vel ipsius, vel calvariae, in id prementis, vim capiti illatam, et, ut ferunt scriptores medici, cerebri ipsius duritiem, siccitatem, et irritamenta quaedam genus nervosum stimulantia, malum inducere. Et profecto tanta irritatio mente captis est, ut sæpe per longum tempus parum vel nihil dormiant, neque solitis remediis facile sopiantur.

301. Sed neque hæc, quamvis exigua et imperfecta, de cerebri et mentis morbis, scientia,

suis difficultatibus caret: nam facta cerebri vel partis ejus cujusvis læsione, tumore, osse in mucronem crescente et irritante, &c. nemo prædixerit quidnam mali talis læsio factura sit; epilepsiam, apoplexiam, hemiplegiam, stuporem, melancholiam, furorem, dolorem capitis, aut nil præter solitum. Non desunt enim exempla hominum, qui post amissam haud exiguam cerebri partem, convaluerunt, et diu vixerunt; vel qui, corrupta magna cerebri parte, nil incommodi perceperunt, donec tandem subito corruerint convulsi et moribundi.

302. Superest et aliud sensuum interiorum

et superest, scilicet fatuitas. Fatui sunt (ii) qui habent  
*also remains, namely fatuity. Fatuous persons are they who have*  
 nullum iudicium de rebus, et memoriam, aut nullam aut imparem  
*no judgment about things, and memory, either none or unequal*  
 muneribus vitæ. Quædam fatuitas revera est communis, naturalis  
*to the duties of life. A certain fatuity truly is common, natural*  
 omnibus infantibus neque morbosa: quod si permanserit ultra infantiam,  
*to all infants nor diseased: but if it should remain beyond infancy,*  
 tum est gravis morbus, et plerumque insanabilis. Fatuitas  
*then it is a severe disease, and for the most part incurable. Fatuity*  
 agnoscit similes causas ac alia vitia internorum sensuum,  
*acknowledges similar causes as the other disorders of the internal senses,*  
 quantum hæc (sc. causæ) possint detegi oculis vel scalpello:  
*as far as these can be detected by the eyes or by the scapel:*  
 observatur frequens comes et effectus epilepsiæ. Hæc (sc. fatuitas),  
*it is observed the frequent companion and effect of epilepsy. This,*  
 si duxerit originem a causis sitis extra caput, veluti a  
*if it have drawn its origin from causes situated without the head, as from*  
 vermibus hospitantibus in intestinis, vermibus expulsis, que  
*worms boarding and lodging in the intestines, the worms being expelled, and*  
 epilepsiâ sanatâ, mens aliquando accedit fatuo.  
*the epilepsy cured, the mind sometimes comes to the fatuous person.*

303. Est haud absimile fatuitatem infantum, et defectum  
*It is not unlikely that the fatuity of infants, and that the defect*  
 memoriæ, que ideo iudicii, qui accidit senibus, oriri a  
*of memory, and therefore of judgment, which happens to old men, arise from*  
 statu cerebri nimis duri et rigidi in his, vero nimis mollis in  
*a state of brain too hard and rigid in the latter, but too soft in*  
 illis.  
*the former.*

vitium, ab his omnino diversum, fatuitas scilicet. Fatui sunt qui iudicium de rebus nullum, et memoriam aut nullam, aut vitæ muneribus imparem, habent. Fatuitas quædam revera omnibus infantibus communis, naturalis, neque morbosa est: quod si ultra infantiam permanserit, tum morbus est gravis, et plerumque insanabilis. Similes ac alia sensuum internorum vitia fatuitas agnoscit causas, quantum hæc oculis vel scalpello detegi

possint: epilepsiæ frequens comes et effectus observatur. Hæc, si a causis extra caput sitis originem duxerit, veluti a vermibus in intestinis hospitantibus, expulsis vermibus, sanataque epilepsia, mens fatuo aliquando accedit.

303. Haud absimile est, fatuitatem infantum, et memoriæ, ideoque iudicii defectum, qui senibus accidit, a statu cerebri in his nimis duri et rigidi, illis vero nimis mollis, oriri.

CAP. XI.

CHAP. XI.

*De motu musculorum.*  
Of the motion of muscles.

304. Ea conditio musculorum vocatur mobilitas quâ,  
*That condition of the muscles is called mobility (irritability) in which,*  
stimulo admoto, fibræ eorum contrahant se.  
*a stimulus being applied, the fibres of them contract themselves.*

305. Varii stimuli existunt; imprimis, omne mechanicum acre  
*Various stimuli exist; in the first place, every mechanical sharp thing*  
scilicet, quicquid pungit, secat, vellit, lacerat, distendit,  
*(irritant) that is, whatever pricks, cuts, pulls, lacerates, distends,*  
excitat contractionem fibrarum musculorum; tum quoque multa  
*excites the contraction of the fibres of the muscles; as well also many*  
*chemica acria derivata ex animalibus, et frugibus, et fossilibus*  
*chemical acrids derived from animals, and fruits, and fossil*  
*rebus; etiam frigus, calor, electrica scintilla; demum, varii status*  
*things; also cold, heat, the electric spark; lastly, various states*  
*sive actiones animi, de quibus erit postea sermo,*  
*or actions of the mind, of which there will be afterwards a discourse,*  
sunt annumeranda cum his.  
*are to be reckoned among these.*

306. Quidam ex his stimulis, imprimis distentio, videntur afficere  
*Some of these stimuli, especially distention, seem to affect*  
solidas partes quæ, causâ distinctionis, vocantur mortuæ,  
*the solid parts, which, for the sake of distinction, are called dead (ones),*  
et inducere aliquid contractionis in iis. Vero contractio earum  
*and to induce something (of) contraction in them. But the contraction of them*  
*(mortuar. part.) differt multum ab illâ de quâ nunc agitur. Enim*  
*differs much from that of which it is now treated. For*  
*est parva, et lenta, et constans, nec fit priusquam*  
*it is small, and slow, and constant, nor does it take place before that*  
*distendens vis fuerit sublata, scilicet quam nequit*  
*the distending force has been removed, as being that which it cannot*  
superare.  
*overcome.*

307. Vero contractio musculorum est subita et validissima, sæpe  
*But the contraction of the muscles is sudden and very powerful, often*

CAP. XI.—*De motu musculorum.*

304. Mobilitas vocatur ea musculorum conditio, qua, admoto stimulo, fibræ eorum se contrahant.

305. Varii existunt stimuli; omne imprimis acre mechanicum, quicquid scilicet pungit, secat, vellit, lacerat, distendit, contractionem fibrarum musculorum excitat; tum quoque multa acria chemica, ex animalibus, et frugibus, et fossilibus rebus derivata: frigus etiam, calor, scintilla electrica, varii demum animi status sive actiones

(de quibus postea sermo erit) cum his annumeranda sunt.

306. Quidam ex his stimulis, distentio imprimis, partes solidas, quæ, distinctionis causa, mortuæ vocantur (76, et seq.) afficere videntur, et aliquid contractionis in iis inducere. Multum vero differt contractio earum ab illa de qua nunc agitur. Parva enim est, et lenta, et constans, nec prius fit quam vis distendens sublata fuerit, scilicet quam superare nequit.

major distendente vi, quippe quam vincit aliquando; greater than the distending force, as being that which it overcomes sometimes; porro, habet alternam relaxationem. Igitur, illa mobilitas moreover, it has an alternate relaxation. Therefore, that mobility (irritability) quæ est propria fibris solis musculorum, potest facile distingui which is peculiar to the fibres alone of the muscles, can easily be distinguished from the elasticity in which, more or less perfect, omnes solidæ partes corporum animalium pollent. of the bodies of animals excel.

308. Ratio contractionis musculorum, diu que multum quæsita  
The cause of the contraction of muscles, long and much sought for frustra, adhuc latet; autem fere hic est modus, in vain, as yet lies hid; but for the most part this (the following) is the manner, hæc lex ejusdem, si spectetur attente in fasciculo fibrarum this the law of the same, if it be observed attentively in a bundle of fibres exsecto e corpore. Totus tremit, fit brevior, et crassior, et cut out from the body. The whole trembles, becomes shorter, and thicker, and durior, et rugosus, et interdum pallidus, dum musculus contrahitur; harder, and wrinkled, and sometimes pale, whilst the muscle is contracted; tum relaxatur, fit planus, levis, mollis, et iterum longus, et demum then it is relaxed, becomes flat, smooth, soft, and again long, and at length integrat suam contractionem. renews its contraction.

309. Vero multum abest ut musculi semper agant eodem  
But it is very far from that the muscles always act in the same modo in vivo et integro corpore. Enim longi musculi trunci manner in the living and sound body. For the long muscles of the trunk corporis, et artuum, non modo contrahuntur, ad arbitrium of the body, and of the limbs, not only are contracted, at the pleasure hominis, sed manent contracti diu: quamvis profecto relictis sibi, of a man, but remain contracted a long time: although truly left to themselves, brevi relaxarentur. Porro, cavi musculi, scilicet fibræ, quæ they shortly would be relaxed. Moreover, the hollow muscles, namely the fibres, which circumdant cava organa corporis, nequeunt ostendere suam surround the hollow organs of the body, cannot shew their relaxationem; veluti in corde, arteriis, intestinis, vesicâ; quamvis relaxationem; as in the heart, arteries, intestines, bladder; although functiones harum partium, quoque bene intellectæ, demoustrant the functions of these parts, also well understood, demonstrate alternam relaxationem succedere contractioni. Postremo, illi musculi that alternate relaxation succeeds to contraction. Finally, those muscles

307. Contractio musculorum vero subita est, et validissima, vi distendente sæpe major, quippe quam aliquando vincit; porro, alternam relaxationem habet. Facile igitur distingui potest mobilitas illa, quæ solis fibris musculorum propria est, a vi resiliendi, qua, plus minusve perfecta, omnes solidæ partes corporum animalium pollent.

308. Contractionis musculorum ratio, diu multumque frustra quæsita, adhuc latet: ejusdem autem hic fere modus, hæc lex est, si in fasciculo fibrarum e corpore exsecto attente spectetur. Tremunt totus, brevior fit, et crassior, et durior, et rugosus, et pallidus interdum,

dum contrahitur musculus: tum relaxatur, fit planus, levis, mollis, et longus iterum, et demum suam contractionem integrat.

309. Multum vero abest, ut semper in vivo et integro corpore eodem modo agant musculi. Longi enim musculi trunci corporis et artuum, ad arbitrium hominis, non modo contrahuntur, sed diu contracti manent: quamvis profecto sibi relictis brevi relaxarentur. Porro, cavi musculi, fibræ scilicet quæ cava corporis organa circumdant, relaxationem suam ostendere nequeunt; veluti in corde, arteriis, intestinis, vesicâ: quamvis harum quoque partium functiones, bene intellectæ, alternam relaxationem

qui claudunt varia ostia quibus præponuntur, et solent  
*which close the various passages before which they are put, and are accustomed*  
 vocari sphincteres, nunquam, ut videtur, penitus relaxantur in  
*to be called sphincters, never, as it appears, are entirely relaxed in*  
 sano homine.  
*the healthy man.*

310. Fabricâ, et situ, et finibus diversorum musculorum, et  
*The fabric, and situation, and terminations of the different muscles, and*  
 (eorum) conjunctione et nexu cum aliis partibus, probè perspectis,  
*(their) union and connexion with other parts, being clearly perceived,*  
 variæ actiones illorum, que varii usus in corpore, Intelligentur  
*the various actions of them, and (their) various uses in the body, will be understood*  
 facillimè; que simul erit perspicuum, omnes actiones,  
*very easily; and at the same time it will be evident, that all the actions,*  
 quibus inserviunt, absolvi communi motu illorum, scilicet,  
*to which they serve, are performed by the common motion of them, namely,*  
 vel simplice, contractione, vel hac repetitâ et junctâ cum alternâ  
*either by simple contraction, or by this repeated and joined with an alternate*  
 relaxatione. Sic longus musculus, dum agit, oportet faciat partes  
*relaxation. Thus a long muscle, whilst it acts, must cause the parts*  
 quibus adnectitur appropinquare; vero cavus musculus oportet  
*to which it is fastened to approximate; but a hollow muscle must*  
 fiat arctior, et propellat quicquid continet quâ porta  
*become more contracted, and propel whatever it contains where a passage*  
 datur; vero sphincter claudat ostium cui præponitur. Et  
*is afforded; but the sphincter closes the passage before which it is placed. And*  
 profecto hi sunt usus musculorum.  
*truly these are the uses of the muscles.*

311. Musculi fere desinunt in tenuem, firmam, validam, et  
*Muscles commonly terminate in a thin, firm, strong, and*  
 splendentem substantiam, (si fuerit comparata cum mole musculi  
*shining substance, (if it be compared with the bulk of the muscle*  
 ipsius); quàm veteres scriptores vocarunt nervum, vero recentiores  
*itself); which the old writers have called nerve, but more modern (ones),*  
 causa distinctionis ab alio genere nervorum, tendinem. Autem  
*for the sake of distinction from another kind of nerves, tendon. But*  
 fabricatio hujusmodi datur musculosis partibus a Summo  
*a structure of this kind is given to the muscular parts by the Supreme*  
 Opifice corporis, plane hoc consilio, quo adnectantur  
*Constructor of the body, evidently with this design, that they may be joined*  
 facilius et elegantius ossibus que cæteris partibus quibus est  
*more easily and neatly to the bones and the other parts with which it is*

contractioni succedere, demonstrent. Postremo, musculi illi qui varia quibus præponuntur ostia claudunt, et sphincteres vocari solent, nunquam in sano homine, ut videtur, penitus relaxantur.

310. Perspectis probe diversorum musculorum fabrica, et situ, et finibus, et cum aliis partibus conjunctione et nexu, variæ illorum actiones, variæque in corpore usus, facillime intelligentur; simulque perspicuum erit omnes quibus inserviunt actiones, communi illorum motu, scilicet vel simplice contractione, vel hac cum alternâ relaxatione junctâ et repetitâ, absolvi. Sic longus musculus, dum agit, oportet par-

tes quibus adnectitur appropinquare faciat; cavus vero musculus oportet arctior fiat, et quicquid continet qua datur porta propellat; sphincter vero ostium cui præponitur claudat. Et hi profecto musculorum usus sunt.

311. Musculi fere desinunt in substantiam tenuem (si cum mole ipsius musculi comparata fuerit) firmam, validam, splendentem; quam veteres nervum, recentiores vero scriptores, distinctionis causa ab alio nervorum genere (110) tendinem vocarunt. Hujusmodi autem fabricatio partibus musculosis, hoc plane consilio, a Summo corporis Opifice datur, quo facilius et elegantius ossibus, cæterisque quibus opus est

opus; et quo plures musculi inserti in punctis ipsis necessary; and that the more muscles (being) inserted in the points themselves ossium quibus oportet, moveant et regnant varios artus of the bones in which it is necessary, may move and govern the different limbs et universum corpus quam optime. Vero tendo agit nihil, and the whole body in the best manner possible. But the tendon does nothing, et potest haberi pro fune in machina, qua (fune) motus and may be considered as a cord in the machine, by which the motions cujusvis partis communicantur cum aliis et remotis partibus. of any one part are communicated to other and remote parts.

312. Disputatum est multum, que diu, num moles It has been debated much, and for a long time, whether the size musculi augetur aut minueretur donec contractus esset. Differentia of a muscle was increased or diminished whilst it was contracted. The difference reverà, siqua sit, est adeo parva, ut neque reducatu facile truly, if any there be, is so small, that neither can it be reduced easily ad mensuram, neque hactenus constat pro certo qualis sit. to measure, nor to this time can it be established for certain what sort it be.

313. Musculi agunt immani que vix credibili vi. Ingentia The muscles act with great and scarcely credible power. The great pondera quæ tollant docent, quamvis absit multum ut tota weights which they can raise teach, although it is far from that the whole vis fibrarum apte impendatur ad efficiendum istum motum: imforce of the fibres is properly expended for effecting that motion: in primis, ob tendinem insertum proxime centrum the first place, on account of the tendon (being) inserted very near to the centre motus que (ob) eundem (tendinem) decurrentem valde obliquè; tum of motion and the same running down very obliquely; as quoque propter singulas fibras quæ constituunt fasciculos, que also on account of the several fibres which make up the bundles, and demum fasciculos ipsos tendentes admodum oblique ad indeed the bundles themselves running very obliquely to (in reference to) lineam directionis tendinis; quo fit ut magna pars the line of direction of the tendon; by which it happens that a great part virium agentium adeo obliquè, fere contrariè, perdat se. of the powers acting so obliquely, almost oppositely, destroys itself.

Calculis subductis ex his principiis, enormis vis Calculations being drawn (calculating) from these principles, an enormous power musculorum erulur, duplum cujus denique est sumendum pro of the muscles is set forth, the double of which indeed is to be taken as vi quam musculus exerat vel sustineat, quoniam omnis actio the one which a muscle can exert or support, because all action

partibus adnectantur; et quo plures musculi, ipsis ossium punctis quibus oportet inserti, varios artus, et universum corpus, quam optime moveant et regant. Tendo vero nihil agit, et pro fune in machina haberi potest, qua motus partis cujusvis cum aliis et remotis partibus communicantur.

312. Diu multumque disputatum est, musculi num augetur an minueretur moles, donec contractus esset. Differentia, siqua revera sit, adeo parva est, ut neque ad mensuram facile reducatu, neque qualis sit hactenus pro certo constat.

313. Immani vixque credibili vi agunt mus-

culi. Docent ingentia quæ tollant pondera, quamvis multum absit ut tota fibrarum vis apte ad istum motum efficiendum impendatur; in primis ob tendinem proxime centrum motus insertum, eundemque valde oblique decurrentem; tum quoque propter fibras singulas quæ fasciculos constituunt, ipsosque demum fasciculos, oblique admodum tendentes, ad lineam directionis, tendinis; quo fit ut magna pars virium adeo oblique, fere contrarie, agentium, se perdat. Ex his principiis, subductis calculis, enormis vis musculorum erulur, cujus denique duplum sumendum est, pro vi quam musculus exerat, vel sustineat; quoniam actio omnia



istiusmodi est reciproca, et ideo musculus trahitur ad suam  
*of that kind is reciprocal, and therefore the muscle is drawn to its own*  
 originem, tantâ vi quantâ trahit partem cui inse-  
*origin, with as great a force as it draws the part into which it is*  
 ritur. Vel vigesima pars tantæ vis dirumperet et divelleret  
*inserted. Even the twentieth part of so great a force would break and tear in sunder*  
 musculum exsectum à corpore. Igitur, si subest nil erroris hic,  
*a muscle cut out from the body. Therefore, if there is no error here,*  
 oportet vitalem vim musculorum esse miram.  
*it behoves that the vital power of the muscles be wonderful.*

314. Neque profecto Natura videtur consuluisse dispendio  
*Nor truly (does) Nature seem to have consulted the waste*  
 virium tantum quantum elegantiæ et formæ corporis, pulcherrimè  
*of power so much as the elegance and shape of the body, very beautifully*  
 accommodatæ ad omnes motus.  
*accommodated for all (its) motions.*

315. Contractio ipsa quoque musculi est insignis, sed varia  
*The contraction itself also of a muscle is remarkable, but various*  
 variis partibus. Sunt musculi qui fiunt breviores quartâ  
*in various parts. There are muscles which become shorter by a fourth*  
 parte; sunt qui contrahuntur ad quartam partem, in quibusdam  
*part; there are those which are contracted to a fourth part, in some*  
 animalibus ad decimam partem, pristinæ longitudinis.  
*animals to a tenth part, of (their) former length.*

316. Contractiones musculorum peraguntur et repetuntur incredibili  
*The contractions of muscles are performed and repeated with incredible*  
 velocitate. Cursus, præsertim quadrupedum, docent (hoc); vel lingua (docet),  
*velocity. Races, especially of quadrupeds, prove this; or the tongue,*  
 quæ expresserit quadringenta vocabula, fortasse bis mille literas,  
*which will express four hundred words, perhaps twice a thousand letters,*  
 spatio temporis quod solemus vocare minutum, quamvis  
*in a space of time which we are accustomed to call a minute, although*  
 plures contractiones musculorum requirantur ad exprimendas multas literas.  
*many contractions of the muscles are required to express many letters.*

317. Alii musculi facilius concipiunt motus, alii ægrius;  
*Some muscles more easily take on motions, others more difficultly;*  
 tum in variis hominibus, tum quoque in eodem homine habente  
*as well in different men, as also in the same man having*  
 se aliter atque aliter variis temporibus.  
*himself differently at various times.*

istiusmodi reciproca est, et musculus ideo tanta vi ad suam originem trahitur, quanta partem cui inseritur trahit. Tantæ vis vel vigesima pars musculum e corpore exsectum dirumperet et divelleret. Miram igitur, si nil erroris hic subest, oportet esse vim vitalem musculorum.

314. Neque profecto, dispendio virium tantum consuluisse videtur Natura, quantum corporis elegantiam et formam, ad omnes motus pulcherrime accommodatæ.

315. Insignis quoque est ipsa musculi contractio, sed varia variis partibus. Sunt qui quarta parte breviores fiunt musculi; sunt qui ad quartam partem, in quibusdam animalibus ad

decimam partem, pristinæ longitudinis contrahuntur.

316. Incredibili velocitate peraguntur et repetuntur musculorum contractiones. Docent cursus, præsertim quadrupedum; vel lingua, quæ quadringenta vocabula, fortasse bis mille literas, expresserit, spatio temporis quod minutum vocare solemus, quamvis ad multas literas exprimendas plures musculorum contractiones requirantur.

317. Musculi alii facilius, alii ægrius motus concipiunt: tum in variis hominibus, tum quoque in eodem homine variis temporibus, aliter atque aliter se habente.

318. Quin et eædem res, quæ vehementissimè incitant certos musculos ad motus, parum afficiunt alios.  
*But also the same things, which most violently excite certain muscles to motions, little affect others.*

319. Philosophi, attendentes animos motui musculorum, crediderunt se perspexisse varios fontes unde mira vis eorum esset derivata; aliquando ratiocinati subtiliùs quam verè de re simplice satis.  
*Philosophers, applying (their) minds to the motion of muscles, have believed (that) they had discovered the various sources from whence the wonderful power of them was derived; sometimes reasoning more subtly than truly about a thing simple enough.*

320. Musculi, non secus ac omnis solida pars corporum animalium, manifeste possident haud exiguam vim resiliendi; superstitem etiam post mortem; vero, quicquid amplius motùs habent, id omnino pendet a vitâ, et a nexu qui intercedit inter ipsos (musculos) et cerebrum et nervos.  
*Muscles, in like manner as every solid part of the bodies of animals, evidently possess no small elasticity; remaining even after death; but, whatever more of motion they have, that entirely depends upon life, and upon the connexion which subsists between themselves and the brain and nerves.*

321. Tamen, proxima vis musculorum post hanc simplicem vim resiliendi, est (ea) quæ vocatur tonica: nimirum distentio ipsa est stimulus cui omnis musculus paret, et fere omnes musculi vivi hominis distenduntur plus minus ultra naturalem statum, scilicet, eum statum quem, facti suæ spontis, tenerent.  
*However, the next power of the muscles after this simple elasticity, is that which is called tonic: doubtless distention itself is a stimulus which every muscle obeys, and almost all the muscles of the living man are distended more (or) less beyond the natural state, that is, that state which, placed (left) at their liberty, they would keep.*

322. Distentio hujusmodi datur, imprimis, ossibus ipsis quibus adnectuntur crescentibus; tum quoque actione reciprocorum oppositorum musculorum: tum porro pondere quarundam partium quas musculi sustinent; et, denique, plenitudine  
*Distention of this kind is produced, first of all, by the bones themselves to which they are joined growing; as well also by the action of the reciprocal opposed (antagonist) muscles: as also by the weight of certain parts which the muscles support; and, finally, by the fulness*

318. Quin et eædem res quæ certos musculos ad motus vehementissime incitant, alios parum afficiunt.

319. Philosophi motui musculorum animos attendentes, varios se perspexisse fontes crediderunt, unde mira eorum vis derivata esset; subtilius aliquando quam vere de re satis simpliciter ratiocinati.

320. Vim resiliendi haud exiguam, non secus ac omnis pars solida corporum animalium, manifeste possident musculi; etiam post mortem superstitem: quicquid vero motus amplius habent, id a vita omnino pendet, et a nexu qui ipsos inter et cerebrum et nervos intercedit.

321. Proxima tamen post hanc simplicem vim resiliendi, est vis quæ vocatur tonica musculorum: nimirum, distentio ipsa stimulus est, cui omnis musculus paret (305, 306); et omnes fere musculi vivi hominis plus minus distenduntur ultra statum naturalem, eum scilicet statum, quem, suæ spontis facti, tenerent.

322. Hujusmodi distentio datur, imprimis, ipsis quibus adnectuntur crescentibus ossibus; tum quoque actione musculorum oppositorum, reciprocorum: tum porro pondere partium quarundam quas musculi sustinent; et denique plenitudine cavorum organorum aut viscerum,

cavorum organorum aut viscerum quæ musculi circundant, vel  
*of the hollow organs or viscera which the muscles surround, or*  
 quibuscum connectuntur quavis modo.  
*with which they are connected in any way.*

323. *Tonica vis augetur, et simul vigor actionis*  
*The tonic power is increased, and at the same time the vigour of action*  
 musculi, majore distentione: minuitur minore. Hinc effectus  
*of a muscle, by greater distention: it is diminished by less. Hence the effects*  
 plenitudinis vasorum in incitando motu sanguinis intelliguntur:  
*of fulness of vessels in quickening the motion of the blood are understood:*  
 hinc quoque pendet ratio mittendi sanguinis in multis morbis;  
*hereupon also depends the reason of letting blood in many diseases;*  
 quo, nimirum, certius aut præsentius auxilium, ad tempe-  
*than which, without doubt, a more certain or more effectual remedy, to moderate*  
 randum impetum sanguinis, non detur.  
*the impetus of the blood, cannot be offered.*

324. *Autem hæc tonica vis, quatenus pendeat a distentione, habet*  
*But this tonic power, so far as it depends upon distention, has*  
 suos, et quidem satis arctos limites: enim ingens aut  
*its own, and indeed sufficiently narrow limits: for great or*  
 diuturna distentio musculosarum fibrarum abest tantum ut reddat  
*ong continued distention of muscular fibres is so far from that it renders*  
 earum contractionem faciliorem et validiorem, ut  
*(from rendering) their contraction easier and more powerful, that*  
 sæpe minuat vel destruat eandem; et sic musculi, fere,  
*(it) often diminishes or destroys the same; and thus muscles, for the most part,*  
 solvantur, neque recuperaturi (sunt) facile neque subito pristinam  
*are relaxed, nor will they recover easily nor suddenly (their) former*  
 vim.  
*power.*

325. *Porro, musculus distentus nullo modo præter solitum, contrahit*  
*Moreover, a muscle distended (in) no way beyond usual, contracts*  
 se ad contactum cujûsvis stimuli. Medici imposuerunt nomen  
*itself at the contact of any stimulus. Physicians have affixed the name*  
 vim insitam huic conditioni muscutorum.  
*vis insita to this property of muscles.*

326. *Denique, musculo intacto, si stimulus fuerit admotus*  
*Again, the muscle being untouched, if a stimulus (should) be applied*  
 nervo qui adit eum, similes motus excitantur. Vel, si cerebrum  
*to the nerve which goes to it, similar motions are excited. Or, if the brain*  
 ipsum fuerit irritatum, plurimi aut omnes musculi convelluntur.  
*itself be irritated, most of or all the muscles are convulsed.*

quæ musculi circundant, vel quibuscum quavis modo connectuntur.

323. *Vis tonica augetur, et vigor actionis musculi simul, majore distentione: minore, minuitur. Hinc intelliguntur vasorum plenitudinis effectus in motu sanguinis incitando: hinc quoque ratio pendet, sanguinis in multis morbis mittendi; nimirum, quo non detur, ad impetum sanguinis temperandum, certius aut præsentius auxilium.*

324. *Hæc autem vis tonica, quatenus a distentione pendent, suos, et quidem satis arctos limites habet: ingens enim aut diuturna fibra-*

*rum musculosarum distentio tantum abest ut contractionem earum faciliorem et validiorem reddat, ut eandem sæpe minuat vel destruat; et sic musculi fere solvantur, pristinam vim neque facile neque subito recuperaturi.*

325. *Porro, musculus nullo præter solitum modo distentus, ad contactum stimuli cujûsvis se contrahit. Huic muscutorum conditioni nomen vim insitam medici imposuerunt.*

326. *Denique, intacto musculo, si stimulus nervo qui eum adit admotus fuerit, similes motus excitantur. Vel, si cerebrum ipsum irritatum fuerit, plurimi aut omnes musculi con-*

Hæc conditio musculorum appellatur *nervosa vis*, diversa tantum  
*This property of muscles is called nervous power, differing only*  
 sede a vi *insitâ*.  
*in seat from the vis insita.*

327. Postremo, musculis, nervis, cerebro, intactis, clemus  
*Lastly, the muscles, nerves, brain, being untouched, we excite*  
 plurimos musculos ad contractionem voluntate solâ: hæc vis  
*a great many muscles to contraction by the will alone: this power (is)*  
 rectè vocatur *animalis*, quippe quæ contingat animalibus solis.  
*rightly called the animal, as being one which can belong to animals alone.*

328. Tamen, omnes musculi non subjiciuntur imperio voluntatis:  
*However, all the muscles are not subjected to the control of the will:*  
 et plurimæ actiones, et maximi momenti, absolvuntur, homine  
*and a great many actions, and of the greatest moment, are performed, the person*  
 inscio, invito, vel nitente contra Hinc motus  
*being ignorant, unwilling, even endeavouring against (them). Hence the motion*  
 musculorum est vel voluntarius vel involutus.  
*of muscles is either voluntary or involuntary.*

329. Motus omnium musculorum capitis, vultus, oculorum,  
*The motion of all the muscles of the head, countenance, eyes,*  
 oris usque ad pharyngem, cervicis, trunci, artuum, est voluntarius  
*mouth as far as the pharynx, of the neck, the trunk, the limbs, is voluntary*  
 in sano homine, scilicet, potest excitari voluntate solâ; quamvis  
*in a healthy person, that is, can be excited by the will alone; although*  
 citra morbum, isti musculi, homine inscio aut nolente non  
*without disease, those muscles, the person unconscious or unwilling may*  
 nunquam exercentur.  
*sometimes be exercised.*

330. Inviti motus sunt (ii) cordis, arteriarum, secer-  
*The involuntary motions are those of the heart, of the arteries, of the*  
 nentium organorum, totiûs tubi intestinorum, a pharynge ad  
*secreting organs, of the whole tube of the intestines, from the pharynx to*  
 anum, pupillæ oculi, que aliorum sphincterum, (quamvis sane  
*the anus, of the pupil of the eye, and of the other sphincters, (although truly*  
 habeamus nonnihil imperii in plerosque horum,) meatuum  
*we have some (thing of) control upon most of these,) of the passages*  
 urinæ, vesicæ, uteri, bronchiorum.  
*of the urine, of the bladder, the uterus, of the bronchia.*

331. Musculi respirationis occupant ferè medium locum inter  
*The muscles of respiration occupy nearly a middle place between*  
 hos, scilicet, transversum septum, musculi abdominis, et qui  
*those, that is, the transverse septum, the muscles of the abdomen, and (those) which*

velluntur. Hæc musculorum conditio vis *nervosa* appellatur; a vi *insita* sede tantum diversa.

327. Postremo, intactis musculis, nervis, cerebro, sola voluntate plurimos musculos ad contractionem clemus; hæc vis recte *animalis* vocatur, quippe quæ solis animalibus contingat.

328. Non omnes tamen musculi voluntatis imperio subjiciuntur: et plurimæ et maximi momenti actiones, inscio, invito, vel contra nitente homine, absolvuntur. Hinc motus musculorum est vel voluntarius vel involutus.

329. Motus omnium, capitis, vultus, oculorum, oris ad *pharyngem* usque, cervicis, trunci,

artuum musculorum, in sano homine, voluntarius est, scilicet, sola voluntate excitari potest; quamvis nonnunquam citra morbum, inscio aut nolente homine, isti musculi exercentur.

330. Inviti motus sunt cordis, arteriarum, organorum secerentium, totiûs tubi intestinorum, a *pharynge* ad anum, pupillæ oculi, aliorumque *sphincterum* (quamvis sane in plerosque horum nonnihil imperii habeamus), meatuum urinæ, vesicæ, uteri, *bronchiorum*.

331. Medium fere locum hos inter occupant respirationis musculi, septum scilicet transversum, musculi abdominis, et qui inter costas

jacent inter costas, et quotquot musculi ita conjunguntur cum  
*lie between the ribs, and whatever muscles are so connected with*  
 costis, ut contractio horum possit vel firmare, vel elevare,  
*the ribs, that the contraction of them may either fix, or elevate,*  
 vel deprimere eas (costas.)  
*or depress them.*

332. Est vix aut ne quidem vix credibile, vires quas  
*It is scarcely or not even scarcely credible, that powers which*  
 Natura fecit distinctas, posse facile confundi, que sanum  
*Nature made distinct, can easily be confounded, and that a healthy*  
 hominem unquam amisisse imperium in voluntarios motus,  
*man ever should have lost his control upon the voluntary motions,*  
 adeptum esse in involutos.  
*(or) have acquired (it) upon the involuntary.*

333. Singuli motuum, qui peraguntur citra voluntatem, exci-  
*Each of the motions, which are performed without the will, are ex-*  
 tantur quodam stimulo admoto aut musculis ipsis, aut sentienti  
*cited by some stimulus applied either to the muscles themselves, or to a sentient*  
 forsitan distanti parti, quamvis conspiranti per nervosum consensum  
*perhaps distant part, although agreeing through nervous sympathy*  
 cum iis; aut afficiente cerebrum aut mentem ipsam; unde,  
*with them; or affecting the brain or the mind itself; from which,*  
 secundum primam atque congenitam fabricam et constitutionem  
*according to the original and congenital structure and constitution*  
 corporis, certæ partes tantum afficiuntur et ciuntur ad motum.  
*of the body, certain parts only are affected and are excited to motion.*

334. Igitur provida Parens rerum videtur admovisse  
*Therefore the provident Parent of things appears to have applied*  
 incitamenta quæ oportebat iis organis, actiones quorum essent  
*the incitements which it behoved to those organs, the actions of which were*  
 omnino necessariæ ad sustinendam vitam, que reficiendum corpus, vel  
*absolutely necessary to sustain life, and recruit the body, or*  
 ad exercenda certa munera vitæ. Autem homini dedit divisum  
*to exercise certain functions of life. But to man he has given a divided*  
 imperium in ea (munera) quæ partim funguntur vitali munere,  
*control over those which partly perform a vital function,*  
 partim inserviunt aliis officiis minoris momenti neque perpetuis;  
*partly subserve to other offices of less moment nor perpetual;*  
 nempe, permisit reliqua arbitrio ipsius (hominis).  
*finally, he has left the rest at the disposal of himself.*

335. Homo est conscius sibi motuum qui sunt ex voluntate  
*Man is conscious to himself of the motions which are from the will*

acent, et quotquot cum costis ita conjunguntur musculi, ut horum contractio eas vel firmare, vel elevare, vel deprimere possit.

332. Vix aut ne vix quidem credibile est, vires quas Natura fecit distinctas, facile posse confundi, hominemque sanum, imperium in voluntarios motus amisisse, in involutos adeptum esse unquam.

333. Motuum, qui citra voluntatem peraguntur singuli excitantur stimulo quodam, aut ipsis musculis admoto, aut parti sentienti forsitan distanti, quamvis per consensum nervosum cum iis conspiranti; aut cerebrum, aut mentem ipsam afficiente; unde, secundum

primam atque congenitam corporis fabricam et constitutionem, certæ tantum partes afficiuntur, et ad motum ciuntur.

334. Admovisse igitur videtur provida rerum Parens incitamenta quæ oportebat iis organis, quorum actiones ad vitam sustinendam, corpusque reficiendum, vel ad certa vitæ munera exercenda, omnino necessariæ essent. In ea autem quæ partim vitali munere funguntur, partim aliis, minoris momenti neque perpetuis, officiis inserviunt, divisum imperium homini dedit; reliqua demum ipsius arbitrio permisit.

335. Motuum qui ex voluntate sunt, homo sibi conscius est: vix sane unusquisque mus-

vix, sane, uniuscujusque musculi qui juvet, sed (voluntary): scarcely, indeed, of every single muscle which may assist, but voluntatis ipsius, et conatus et motus totius membri, dummodo of the will itself, and of the efforts and motions of the whole limb, provided attendat animum hoc. Iste sensus evadit debilior longâ consuetudine; he apply the mind (to) this. That perception becomes weaker by long habituation; vero nunquam penitus deletur. but never is entirely destroyed.

336. Contra, motus qui sunt inviti vix On the other hand, the motions which are involuntary are scarcely percipiuntur; neque possunt percipi in sano corpore. Quod si perceived; nor can (they) be perceived in the healthy body. But if fuerint vehementes, imperfecti, abnormes, difficiles, aut impediti, they should be violent, imperfect, irregular, difficult, or impeded, tunc quidam molesti sensus, veluti dolor aut anxietas, nascuntur. then certain irksome sensations, as pain or anxiety, arise.

337. Motus medii inter hos, respirationis, nempe, The motions intermediate between these, of respiration, for example, permissi sibi, parum sentiuntur; sed, attentione animi left to themselves, are little perceived; but, the attention of the mind adhibitâ, possunt percipi. Quod, si exercentur ad nostrum being applied, they may be perceived. But, if (they) be exercised at our arbitrium insolito more, tum faciunt majorem sensum; impediti, pleasure in an unusual degree, then they excite a stronger perception; obstructed, miserrimè angunt hominem. they miserably torment the individual.

338. Musculi voluntarii motus redduntur firmiores, mobiliores, The muscles of voluntary motion are rendered firmer, more mobile, et validiores, et fiunt magis torosi justo et valido usu, and stronger, and become more brawny by proper and vigorous exercise, modo hic non fuerit nimis: hinc solemus judicare provided this (shall) not be excessive: hence we are accustomed to judge ab formâ ipsâ de viribus hominis. Res bene perspecta from the form itself of the strength of a man. A thing well understood sculptoribus, qui norunt exprimere quod ad musculos, by sculptors, who know (how) to portray as (relates) to the muscles, Herculem aliâ ratione, Apollinem aliâ, Venerem aliâ. a Hercules in one way, an Apollo in another, a Venus in another.

339. Robur et mobilitas singulorum musculorum augeantur The strength and mobility of the individual muscles are increased usu; quin et, conjunctio plurium musculorum qui conspirant by use; moreover, the combination of the several muscles which concur

culi qui juvet, sed ipsius voluntatis, et conatus, et motus totius membri, dummodo animum hoc attendat. Longa consuetudine sensus iste debilior evadit; nunquam vero penitus deletur.

336. Contra, qui inviti sunt motus, vix percipiuntur; neque in sano corpore percipi possunt. Quod, si vehementes, imperfecti, abnormes, difficiles, aut impediti fuerint, tunc sensus quidam molesti, veluti dolor aut anxietas, nascuntur.

337. Medii hos inter, motus respirationis nempe sibi permissi, parum sentiuntur; sed adhibita animi attentione, percipi possunt. Quod si insolito more ad nostrum arbitrium

exercentur, tum majorem sensum faciunt; impediti hominem miserrime angunt (186, et seq.)

338. Musculi voluntarii motus justo et valido usu, modo hic non nimis fuerit, firmiores, mobiliores, et validiores redduntur, et magis torosi fiunt: hinc, ab ipsa forma, de viribus hominis judicare solemus. Res sculptoribus bene perspecta, qui alia ratione Herculem, quod ad musculos, alia Apollinem, alia Venerem exprimere norunt.

339. Robur et mobilitas singulorum musculorum usu augeantur: quin et plurium, qui ad eundem motum præstandum conspirant, mus-

ad præstandum eundem motum, sæpe repetita, fit facilior, promptior,  
*to perform the same motion, often repeated, becomes easier, readier,*  
 et accuratior consuetudine ipsâ.  
*and more accurate by habit itself.*

340. Vero, si motus fuerint vehementes, insoliti, difficiles, aut  
*But, if the motions should be violent, unusual, difficult, or*  
 diurni, tum vires exhauriuntur, homo defatigatur.  
*long continued, then the powers are exhausted, the individual is wearied out.*

Actiones, qualescunque, exercebat, fiunt debiliores, incertæ,  
*The actions, (of) whatever kind, he was performing, become weaker, uncertain,*  
 et tremulæ; ingratus sensus sui generis, deinde dolor,  
*and tremulous; an unpleasant sensation of its own kind, then pain,*  
 postea rigiditas accedunt laborantibus artubus, debilitas et languor  
*afterwards stiffness are added to the suffering limbs, debility and languor*  
 universo corpori; quæ omnia fortiter suadent requiem et somnum.  
*to the whole body; which all strongly advise rest and sleep.*

Si nulla intermissio laborum intercedat, ingens et universus defectus  
*If no intermission of his labours interposes, a great and universal failure*  
 virium, que interdum subita defectio animi, demum mors ipsa,  
*of the strength, and sometimes sudden fainting, at length death itself,*  
 ultima (adverbialiter reddend. est) imponunt finem iis.  
*last (ly) put an end to them.*

341. Omnino, contra, musculi involuntarii motus neque  
*Altogether, on the other hand, the muscles of involuntary motion neither*  
 possunt roborari usu, quippe quem (usum) semper habeant  
*can be strengthened by use, as being that which always they have*  
 unum que eundem in sano corpore, neque fatigari ullâ exer-  
*one and the same in the sound body, nor be fatigued by any exer-*  
 citatione. Cor ipsum validissimus musculus, quotidie micat  
*cise. The heart itself the most powerful muscle, daily pulsates*

centies millies, nihilo magis fatigatum post octoginta  
*one hundred times a thousand, nothing the more fatigued after eighty*  
 annos. Vero post vehementem, aut insolitum, aut abnormem motum,  
*years. But after violent, or unusual, or irregular motion,*  
 etiam musculi involuntarii motus evadunt quodammodo debiliores;  
*even the muscles of involuntary motion become in some degree weaker;*

vero nunquam habent sensum defatigationis.  
*but never have a feeling of fatigue.*

342. Musculi respirationis, demum, permitti sibi, non  
*The muscles of respiration, indeed, left to themselves, are not*  
 defatigantur; recti imperio voluntatis, non secus ac  
*fatigued; (when) ruled by the control of the will, not otherwise than as*

eulorum conjunctio, sæpe repetita, ipsa consue-  
 tudine, facilior, promptior, et accuratior fit.

340. Si vero motus vehementes, insoliti, diffi-  
 ciles, aut diurni fuerint, tum vires exhauri-  
 untur, homo defatigatur. Actiones, quales-  
 cunque, exercebat, debiliores, incertæ, et  
 tremulæ fiunt; sensus ingratus sui generis,  
 deinde dolor, postea rigiditas, artubus laboran-  
 tibus accedunt, debilitas et languor universo  
 corpori: quæ omnia requiem et somnum forti-  
 ter suadent. Si nulla laborum intermissio  
 intercedat, ingens et universus virium defectus,  
 subitanea interdum animi defectio, ultima  
 demum mors ipsa, iis finem imponunt.

341. Contra omnino, involuntarii motus musculi,  
 neque usu roborari possunt, quippe quem in  
 sano corpore unum eundemque semper habeant,  
 neque ulla exercitatione fatigari. Cor ipsum  
 validissimus musculus, centies millies quotidie  
 micat, post octoginta annos nihilo magis fatis-  
 gatum. Post vehementem vero, aut insolitum,  
 aut abnormem motum, involuntarii motus mus-  
 culi quodammodo debiliores evadunt: nunquam  
 vero sensum defatigationis habent.

342. Musculi demum respirationis sibi per-  
 mitti non defatigantur; voluntatis imperio  
 recti, facile, non secus ac musculi voluntarii  
 motus: ita ut ad insolitam actionem diutius

musculi voluntarii motus, facile (defatigantur); ita ut non valeant  
*the muscles of voluntary motion, easily; so that they are not*  
 diutius ad insolitam actionem. Vero sensus defatigationis vix  
*adequate longer to unusual action. But a feeling of fatigue is scarcely*  
 percipitur ex iis.  
*perceived by them.*

343. Verum, enimvero, musculi ipsi voluntarii motus,  
*But, on the other hand, the muscles themselves of voluntary motion,*  
 aliquando parent aliis stimulis quoque, etiam in sanissimo homine,  
*sometimes obey other stimuli also, even in the most healthy person,*  
 qui vel subito rapiunt hominem, nunc conscium, nunc inscium  
*which even suddenly hurry the individual, now conscious, now unconscious*  
 aut nolentem, immani vi, cui nequeat resistere, vel sollicitant,  
*or unwilling, with impetuous sway, which he cannot resist, or entice,*  
 invitant mitius et gratius, et ducunt tenui, et sæpe  
*invite more mildly and agreeably, and lead by a fine, and often*  
 parum perspecto, filo.  
*unobserved, thread.*

344. Imprimis, affectus animi, ira, gaudium, mæror, metus,  
*First of all, affections of the mind, anger, joy, grief, fear,*  
 amor, odium, excitant certos motus in musculis, præsertim vultus;  
*love, hatred, excite certain motions in the muscles, especially of the face;*  
 quo fit ut singuli expriment sese in  
*whence it happens that each (individually) (they) express themselves in*  
 ore plus quam Phidiacâ arte. Diuturni, et graves, et  
*the countenance more than in the Phidian art. Lasting, and severe, and*  
 sæpe repetiti, depinguntur fortius et constantius, difficillimè  
*often repeated, they are depicted more strongly and permanently, very difficultly*  
 delendi: hinc sæpe imago iracundiæ, ubi nulla ira  
*to be blotted out: hence often the appearance of anger, where no anger*  
 est: ars physiognomonis nititur hoc fundamento. Alii musculi  
*is: the art of the physiognomist rests on this foundation. Other muscles*  
 quoque præter (musculos) vultus cientur in motum eadem causâ;  
*also besides (those) of the face are excited into motion by the same cause:*  
 ita ut homo exprimat multos affectus animi corpore,  
*so that an individual may express many affections of the mind in his body,*  
 gestu, voce. Quin et, affectus animi habent latum imperium  
*gesture, voice. Moreover, affections of the mind exercise a wide control*  
 in musculos inviti motus; in cor, arterias, secretoria  
*upon the muscles of involuntary motion; upon the heart, arteries, secreting*  
 organa, ventriculum, et intestina, et musculos respirationis: unde  
*organs, stomach, and intestines, and the muscles of respiration: whence*

nou valeant. Sensus vero defatigationis vix ex iis percipitur.

343. Verum enimvero, ipsi motus voluntarii musculi, in sanissimo etiam homine, aliis quoque stimulis aliquando parent; qui hominem, nunc conscium, nunc inscium, nunc nolentem, vel subito rapiunt, immani vi, cui resistere nequeat, vel mitius et gratius sollicitant, invitant, et filo tenui, et parum sæpe perspecto, ducunt.

344. Animi imprimis affectus, ira, gaudium, mæror, metus, amor, odium, certos motus in musculis excitant, præsertim vultus; quo fit

ut singuli sese in ore expriment, plus quam Phidiacâ arte. Diuturni et graves, et sæpe repetiti, fortius et constantius depinguntur, difficillimè delendi: hinc sæpe iracundiæ imago ubi nulla ira est; hoc fundamento nititur ars physiognomonis. Alii quoque musculi, præter vultus, eadem causa in motum cientur; ita ut homo, corpore, gestu, voce, multos animi affectus exprimat. Quin et in musculos inviti motus, animi affectus latum imperium habent; in cor, arterias, organa secretoria, ventriculum et intestina, et respirationis musculos: unde sanguinis motus luci-



incitator, debilior, abnormis motus sanguinis, secretiones et concoctio  
*a quicker, weaker, irregular motion of the blood, the secretions and digestion*  
 cibi vitiatæ, et insolitus modus respirationis.  
*of the food vitiated, and an unusual state of the respiration.*

345. Affectus animi recte distinguuntur in excitantes et  
*Affections of the mind are rightly distinguished into exciting and*  
 deprimentes; scilicet, qui vel augent vel minuunt vitales vires.  
*depressing; namely, which either increase or diminish the vital powers.*  
 Ira, gaudium, sunt prioris generis; mæror, metus, posterioris:  
*Anger, joy, are of the former kind; grief, fear, of the latter:*  
 sunt quoque mixti, et quasi ancipites affectus, referendi  
*there are also mixed, and as it were doubtful passions, to be referred*  
 nunc ad unum, nunc rursus ad alterum genus; veluti amor, qui  
*now to the one, now again to the other kind: as love, which*  
 excitat vel deprimit animos, prout ipse fuerit prosperus aut  
*elevates or depresses the spirits, according as itself shall be prosperous or*  
 infelix. Ingens et subitus terror quoque nonnunquam fungitur vice  
*unfortunate. Great and sudden terror also sometimes performs the part*  
 excitantis affectus, et impellit ad rapidos et vehementes motus.  
*of an exciting passion, and impels to rapid and vehement motions.*

346. Quin potest esse periculum ex utroque genere; que affectus  
*But there may be danger from both kind; and the affections*  
 ipsi animi recensentur non immerito inter causas  
*themselves of the mind are enumerated not undeservedly amongst the causes*  
 morborum. Qui valde excitant, aliquando extinguunt hominem  
*of diseases. (They) which greatly excite, sometimes destroy the man*  
 suo primo effectu in nervoso genere; aut minus intensi,  
*by their first impresson on the nervous system; or (being) less intense,*  
 nocent eidem, motu humorum tantum vitiat. Qui  
*hurt the same, by the motion of the fluids only being vitiated. (They) which*  
 deprimunt animos, debilitant totum hominem, reddunt minus aptum  
*depress the spirits, debilitate the whole frame, render it less fitted*  
 ad omnes functiones vitales, naturales, animales; unde lenta  
*for all the functions (whether) vital, natural, animal; whence lingering*  
 valetudo, et morbi sæpe insanabiles.  
*illness, and diseases often incurable.*

347. Alia et haud levis causa animalis motûs, curiositas, debet  
*Another and no slight cause of animal motion, curiosity, ought*  
 fortasse annumerari hic quoque; scilicet quæ impellit hominem  
*perhaps to be accounted here also; as being that which urges the individual*  
 vix opinantem sed semper conscium, ad contemplandas et explorandas  
*scarce thinking but always conscious, to contemplate and investigate*

tator, debilior, abnormis, secretiones et concoctio cibi vitiatæ, et insolitus respirationis modus.

345. Affectus animi recte distinguuntur in excitantes et deprimentes: scilicet, qui vires vitales vel augent vel minuunt. Prioris generis sunt ira, gaudium; posterioris, mæror, metus: sunt quoque affectus mixti, et quasi ancipites, nunc ad unum, nunc rursus ad alterum genus, referendi; veluti amor, qui excitat vel deprimit animos, prout ipse prosperus fuerit aut infelix. Ingens quoque et subitus terror excitantis nonnunquam affectus vice fungitur, et ad rapidos et vehementes motus impellit.

346. Quin ex utroque genere periculum esse potest: ipsique animi affectus inter causas morborum non immerito recensentur (61). Qui valde excitant, primo suo in genere nervoso effectu hominem aliquando extinguunt: aut minus intensi, vitiat tantum humorum motu, eidem nocent. Qui deprimunt animos, totum hominem debilitant, ad omnes functiones vitales, naturales, animales, minus aptum reddunt: unde lenta valetudo, et morbi sæpe insanabiles.

347. Curiositas alia, et haud levis motus animalis causa, hic quoque fortasse debet annumerari; scilicet quæ ad res novas, ignotas,

novas ignotas res: est maxima et utilissima infantī,  
*new (and) unknown objects: it is very great and very useful to the infant,*  
 quippe quā incitetur ad exercenda sua organa, que discendos  
*as being that by which it is incited to exercise its organs, and to learn*  
 usus eorum, et sic discat multa sine magistro melius  
*the uses of them, and thus it learns many things without a master better*  
 et certius quam optimus magister docuisset. Præterea,  
*and more certainly than the best master could have taught. Besides,*  
 infans ipse, hoc modo, jact fundamenta suæ futura  
*the infant itself, in this manner, lays the foundations of its future*  
 scientiæ propriis manibus. Eadem est sæpe minor adulto  
*knowledge with its own hands. The same is often less (in) the adult*  
 homini, fere nulla decrepito seni. Natura allicit hominem  
*man, almost none (in) the decrepit old man. Nature entices man*  
 certa voluptate, tanquam præmio, ut exerceat  
*by a certain pleasure, as if by a reward, that he may exercise (to exercise)*  
 probe sua organa, tum sensus tum motus, quo utraque  
*well his organs, as well of sensation as of motion, that both*  
 roborentur et ipse sic discat simul multa  
*may be strengthened and he himself may thus learn at the same time many things*  
 quæ intersint sui. Impellitur quoque hoc stimulo, invitatur hoc  
*which concern him. He is forced also by this stimulus, he is invited by this*  
 præmio, ad persequendas remotiores res, et quas densa caligo  
*reward, to pursue more remote objects, and which a thick mist*  
 tegat, donec tandem hauriat oculis pectoris, multas (res)  
*covers, until at length he devours with the eyes of his breast, many*  
 quas Natura negabat humanis visibus.  
*which Nature denied to human sight.*

348. Porro facimus multa, discimus multa, imitatione  
*Moreover we do many things, we learn many things, by imitation*  
 solâ. Infans nondum conscius, imitatur quicquid vel videt  
*alone. The infant not yet conscious, imitates whatever (it) either sees*  
 vel audit, et adultus vir, et suæ spontis, inscius  
*or hears, and the adult man, and at his own freewill, unknowing(ly)*  
 vel forsitan involuntar(ily) adhuc tantum imitatur, ut acquirat,  
*or perhaps involuntar(ily) yet so far imitates, that he acquires,*  
 quamvis sæpe nolens mores et prolationem sermonis hominum  
*although often unwilling(ly) the manners and the accent of the men*  
 cum quibus versatur. Infans discit omnem sermonem imitando,  
*with whom he associates. An infant learns all language by imitating,*

contemplandas et explorandas, hominem vix opinantem, sed conscium semper, impellit: infanti maxima et utilissima est, quippe qua ad organa sua exercenda, eorumque usua discendos, incitetur, et sic multa sine magistro discat, melius et certius quam optimus magister docuisset. Præterea, hoc modo infans ipse propriis manibus futuræ suæ scientiæ fundamenta jact. Eadem adulto homini sæpe minor, seni decrepito fere nulla est. Allicit Natura hominem certa voluptate, tanquam præmio, ut organa sua, tum sensus tum motus, probe exerceat, quo utraque roborentur, et ipse simul

multa sic discat quæ sui intersint. Hoc quoque stimulo impellitur, hoc præmio invitatur, ad res remotiores, et quas densa caligo tegat, persequendas, donec tandem multas, quas Natura visibus humana negabat, oculis demum pectoris hauriat.

348. Porro, sola imitatione multa facimus, multa discimus. Imitatur nondum conscius infans quicquid vel videt vel audit; et vir adultus, et suæ spontis, inscius vel forsitan involuntarius, tantum adhuc imitatur, ut hominum quibuscumque versatur mores, et sermonis prolationem, quamvis sæpe nolens, acquirat. Omnem

aliter, ut persuasum est (impers.) quibusdam philosophis  
*otherwise, as it has been persuaded to certain philosophers (certain philosophers*  
 futurus (sit) mutum et turpe pecus.  
*have imagined) he would become a dumb and base brute.*

349. Quoddammodo affinis huic est illa altera subita et vehementior  
*In a manner allied to this is that other sudden and more violent*  
 imitatio, quæ, Instar dementiæ, nonnunquam rapuit non  
*imitation, which, like insanity, sometimes has hurried away not*  
 tantum singulos homines sed totos populos. Varii affectus animi  
*only individual men but entire communities. Various affections of the mind*  
 tristes, læti, ridiculi, dimanant hac, tanquam contagione, per  
*sorrowful, joyful, ridiculous, flow from this, as if by contagion, through*  
 pectora omnium, ab vultu uniûs. Ardor pugnae, et  
*the breasts of all, from the countenance of one. The ardour of battle, and*  
 quasi certa fiducia victoriæ, ab alacri vultu  
*as it were a certain confidence of victory, from the cheerful countenance*  
 ducis cui milites confidunt, pervadit totam aciem  
*of a general in whom the soldiers confide, pervades an entire army*  
 citius dicto, et pariter accendit multa millia pectorum:  
*quicker than speech, and equally inflames many thousands of breasts:*  
 vero iidem milites, victoriâ jam parta, percussis  
*but the same soldiers, the victory already being obtained, struck*  
 terrore uniûs, vel ignoti hominis, turpiter dederunt  
*with the terror of one, even an unknown man, have basely turned*  
 terga, coercendi nullo modo.  
*their backs, to be restrained in no way.*

350. Quin et furor quorundam fanaticorum aliquando  
*Moreover the enthusiasm of some fanatics sometimes*  
 diffusus est simili modo; que homines credentes se  
*has been spread in a similar manner; and men believing themselves*  
 sanos, qui tempsissent et irrisissent talem insaniam, ipsi facti  
*sound, who had despised and ridiculed such insanity, themselves have*  
 sunt participes dementiæ, sole visu et auditu furen-  
*become partakers of the madness, by the sole seeing and hearing of the*  
 tium (hominum).  
*raving (persons.)*

351. Est par ratio quarundam affectionum nervosi generis;  
*There is a similar reason of certain affections of the nervous system;*  
 oscitationis, hysteriæ, epilepsiæ, quæ sæpe propagantur in  
*of yawning, of hysteria, of epilepsy, which often are propagated in*  
 mirum modum, visu solo.  
*a wonderful manner, by seeing alone.*

sermonem infans imitando discit, aliter, ut quibusdam persuasum est philosophis, mutum et turpe pecus futurus.

349. Huic quoddammodo affinis est, altera illa, subita, et vehementior imitatio, quæ dementiæ instar, non singulos tantum homines, sed totos populos nonnunquam rapuit. Hac tanquam contagione, variis animi affectus, tristes, læti, ridiculi, ab unius vultu per omnium pectora dimanant. Ardor pugnae, et quasi certa fiducia victoriæ, ab alacri ducis cui confidunt milites vultu, totam aciem dicto citius pervadit et multa millia pectorum pariter ac-

cendit: iidem vero milites, victoria jam parta, unius vel ignoti hominis terrore percussis, turpiter terga dederunt, nullo modo coercendi.

350. Quin et fanaticorum quorundam furor simili modo aliquando diffusus est; hominesque se sanos credentes, qui talem insaniam tempsissent et irrisissent, solo visu et auditu furentium, ipsi dementiæ facti sunt participes.

351. Par ratio est affectionum quarundam nervosi generis; oscitationis, hysteriæ, epilepsiæ, quæ solo visu mirum in modum sæpe propagantur.

352. Etiam (affectus) qui vocatur instinctus est causa motus  
*Also what is called instinct is a cause of a motion*  
 notabilis in cæteris animalibus, haud levis momenti in homine  
*remarkable in other animals, of no small moment in man*  
 ipso. Instructus hoc magistro, hospes novus in terris  
*himself. Instructed by this master, the stranger new in the earth (lately*  
 quærit mammam matris, præhendit papillam ore,  
*arrived) seeks the breast of the mother, seizes the nipple with the mouth,*  
 et sugit, ope multorum musculorum conspirantium simul;  
*and sucks, by the aid of many muscles assisting together;*  
 actio haud ita facile imitanda adulto homini. Novit  
*an action not so easily to be imitated by the adult man. He knows (how)*  
 quoque regere binos oculos, ut docet, rectos musculis  
*also to direct both eyes, as he ought, (though) governed by muscles*  
 omnino distinctis, que habentibus diversos nervos, et convertere  
*wholly distinct, and having different nerves, and to turn (them)*  
 in eandem rem.  
*upon the same object.*

353. Varii appetitus quoque pertinent ad instinctum, quibus homo  
*Various appetites also belong to instinct, by which man*  
 impellitur ad reficiendum proprium corpus, que propagandum suum  
*is impelled to recruit his own body, and propagate his*  
 genus. Itaque fames, sitis, cupido, excitant motus directos  
*race (species). Therefore hunger, thirst, desire, excite motions directed*  
 ad certos fines. Sunt nonnunquam et aliæ definitæ cupiditates,  
*to certain ends. There are sometimes also other definite desires,*  
 tam morbosæ quam salutare, pendentes a statu corporis,  
*as well morbid as salutary, depending upon the state of the body,*  
 referentes instinctûs, quæ non immerito annumerantur inter  
*resembling instinct, which not undeservedly are ranked amongst*  
 appetitus: desideria absorbentium, acescentium herbarum,  
*the appetites: the desires of absorbing, of acescent (things) of vegetables,*  
 salutarum carniûm, aromatum et similium rerum.  
*salted meats, aromatics and the like things.*

354. Bene multæ propensiones contingunt tum sano tum  
*Very many propensities belong as well to the sound as*  
 morbo corpori, que efficiunt varios motus, non sine homine  
*to the diseased body, and produce various motions, not without the man*  
 plerumque conscio; (propensiones) cujusmodi impellunt ad evacuandam  
*for the most part being conscious; of which sort impel to evacuate*  
 alvum, reddendam urinam, tussim, sternutationem, oscitationem,  
*the belly, to void the urine, (to) coughing, sneezing, yawning,*

352. Instinctus etiam, qui vocatur, motus causa est, in cæteris animalibus notabilis, in homine ipso haud levis momenti. Hoc magistro instructus, novus in terris hospes mammam matris quærit, papillam ore præhendit, et, ope multorum musculorum simul conspirantium, sugit; actio adulto homini haud ita facile imitanda. Binos quoque oculos, musculis omnino distinctis, diversosque nervos habentibus, rectos, ut docet, regere, et in eandem rem convertere novit.

353. Ad instinctum quoque pertinent appetitus varii, quibus ad proprium corpus reficiendum, genusque suum propagandum, homo im-

pellitur. Fames itaque, sitis, cupido, motus excitant ad certos fines directos. Sunt et aliæ nonnunquam cupiditates definitæ, tam morbosæ quam salutare, a statu corporis pendentes, instinctus referentes, quæ non immerito inter appetitus annumerantur: absorbentium, acescentium, herbarum, carniûm, aromatum, et similium rerum desideria.

354. Propensiones bene multæ tum sano tum morbo corpori contingunt, variosque, plerumque non sine conscio homine, motus efficiunt: cujusmodi ad alvum evacuandam, urinam reddendam, tussim, sternutationem, oscitationem, artuum extensionem, et vomitum

extensionem artuum, et vomitum. Si propensio fuerit  
*the extension of the limbs, and vomiting. If the propensity should be*  
 levior, allquando utimur imperio voluntatis ad reprimendos naturales  
*slighter, sometimes we use the control of the will to repress the natural*  
 motus quos solet excitare. Vero eadem facta gravior  
*motions which it is accustomed to excite. But the same become more urgent*  
 nequit impediri quin demum efficiat  
*it cannot be hindered but that at length it produce (prevented from producing)*  
 suos motus.  
*its motions.*

355. Multi et miri motus fiunt in corpore ex tot  
*Many and wonderful motions take place in the body from so many*  
 variis causis, plures, et sæpe minus intellecti, eo quod partes  
*various causes, the more, and often not understood, because the parts*  
 ipsæ intactæ moventur stimulo, qualiscunque is fuerit,  
*themselves untouched are excited by a stimulus, whatever kind it may have been,*  
 admoto aliis et remotis partibus. Hoc solet vocari  
*applied to other and remote parts. This is accustomed to be called*  
 consensus vel nervosa sympathia: scientia cuius erit imprimis  
*consent or nervous sympathy: the knowledge of which will be especially*  
 utilis medico, tum ad dignoscendos tum ad sanandos morbos.  
*useful to the physician, as well to distinguish as to cure diseases.*

356. Totum corpus est una machina, variæ partes que  
*The whole body is a single machine, the various parts and*  
 variæ actiones cuius conspirant ad certum finem. Quædam  
*the various actions of which conspire for a certain purpose. Certain*  
 partes illius funguntur munere proprio sibi: vero longe plures  
*parts of it perform a duty peculiar to themselves: but by far the more*  
 habent functionem communem cum aliis partibus:  
*(greater number) have a function (in) common with other parts:*  
 neque possunt certæ partes affici, quin tota machina  
*nor can certain parts be affected, without that the whole machine*  
 facta particeps ejusdem affectionis subeat graves mutationes.  
*rendered a partaker of the same affection undergoes serious changes.*  
 Hinc iste generalis consensus quo fere omnes partes corporis  
*Hence that general agreement by which almost all the parts of the body*  
 reguntur: hinc quoque ille specialis consensus, quo fit  
*are governed: hence also that special consent, by which it happens*  
 ut partes quæ funguntur communi munere, invicem afficiant  
*that the parts which discharge a common duty, in turn may affect*  
 semet, reliquo corpore parum vel nihil mutato.  
*themselves, the rest of the body being little or not at all changed.*

impellant. Si levior fuerit propensio voluntatis imperio aliquando utimur, ad motus naturales, quos excitare solet, reprimendos. Eadem vero gravior facta, impediri nequit quia suos demum motus efficiat.

355. Multi et miri ex tot variis causis in corpore motus fiunt, eo plures, et sæpe minus intellecti, eo quod partes ipsæ intactæ moventur stimulo, qualiscunque is fuerit, aliis et remotis partibus admoto. Hoc, consensus, vel *sympathia nervosa*, vocari solet: cuius scientia, medico, tum ad dignoscendos tum ad sanandos morbos, imprimis utilis erit.

356. Totum corpus una machina est, cujus variæ partes, variæque actiones, ad certum finem conspirant. Partes quædam illius munere sibi proprio funguntur: longe vero plures communem cum aliis partibus functionem habent: neque certæ partes affici possunt, quin tota machina ejusdem affectionis subeat. Hinc consensus iste generalis, quo omnes fere corporis partes reguntur; hinc quoque consensus ille specialis, quo fit ut partes quæ communi munere funguntur, semet invicem afficiant, reliquo corpore parum vel nihil mutato.

357. Generalis consensus observatur inter cerebrum et totum  
*A general consent is observed between the brain and the whole*  
*nervosum genus, que ideo inter cerebrum et universum corpus,*  
*nervous system, and consequently between the brain and the entire body,*  
 quod profecto nil mirum, quippe cuius omnis vis  
*which truly (is) not at all wonderful, as being that of which all the power*  
 derivetur a cerebro. Porro consensus vix minus generalis  
*is derived from the brain. Moreover a consent scarcely less general*  
 intercedit inter ventriculum et totum nervosum genus; quin et  
*subsists between the stomach and the whole nervous system; moreover*  
 cutis ipsa, reticulata membrana, probe instructa vasis que  
*the skin itself, the cellular membrane, well furnished with vessels and*  
 nervis, habet tantum consensum cum reliquis partibus corporis,  
*nerves, has so great a sympathy with the remaining parts of the body,*  
 ut admodum parva pars ejus, affectâ certâ ratione, afficiat  
*that a very small part of it, being affected in a certain way, may affect*  
 totam, et inducat miras mutationes et in remotis partibus  
*the whole, and may induce wonderful changes both in remote parts*  
 corporis, ventriculo, renibus, et universo nervoso genere.  
*of the body, the stomach, kidneys, and the whole nervous system.*

358. Sunt multa exempla specialis consensûs, (nempe,) inter  
*There are many examples of special consent, (for example,) between*  
 binos oculos, inter retinam et muscolum pupillæ ejusdem  
*the two eyes, between the retina and the muscle of the pupil of the same*  
 oculi, inter uterum et mammas, inter pulmonem et transversum  
*eye, between the uterus and mammæ, between the lungs and transverse*  
 septum, inter fauces et ventriculum, inter varias partes  
*septum, between the fauces and stomach, between the various portions*  
 intestinorum, inter ventriculum, vel intestinum rectum, et musculos  
*of the intestines, between the stomach, or intestinum rectum, and the muscles*  
 abdominis et transversum septum.  
*of the abdomen and the transverse septum.*

359. Quidam consensus sunt naturales, quidam morbosî: scilicet, alii  
*Some consents are natural, some diseased: that is, some*  
 observantur in sano corpore, conducentes vel plane necessarii ad  
*are observed in the healthy body, conducing or absolutely necessary to*  
 munera vitæ et sanitatis; alii non ostendunt se,  
*the functions of life and health; others do not shew themselves,*  
 nisi morbo jam existente, que sunt signum et pars ejus.  
*except disease already existing, and are a sign and part of it.*  
 (Consensus) hujusmodi observantur inter renem et ventriculum,  
*(Consents) of the latter sort are observed between the kidney and stomach,*

357. Generalis consensus observatur inter cerebrum et totum *genus nervosum*, ideoque inter cerebrum et universum corpus: quod profecto nil mirum, quippe cuius vis omnis a cerebro derivetur. Porro consensus vix minus generalis intercedit inter ventriculum et totum *genus nervosum*; quin et cutis ipsa, membrana reticulata, vasisque probe instructa, tantum consensum cum reliquis partibus corporis habet, ut parva admodum ejus pars, certa ratione affecta, totam afficiat, et in remotis corporis partibus, ventriculo, renibus, et universo *genere nervoso*, miras mutationes inducat.

358. Specialis consensus multa exempla sunt,

inter binos oculos, inter *retinam* et muscolum pupillæ ejusdem oculi, inter uterum et mammas, inter pulmonem et septum transversum, inter fauces et ventriculum, inter varias partes intestinorum, inter ventriculum vel intestinum rectum et musculos abdominis et septum transversum.

359. Consensus quidam naturales, quidam morbosî sunt: scilicet, alii in sano corpore observantur, ad vitæ et sanitatis munera conducentes, vel plane necessarii; alii non nisi morbo jam existente se ostendunt, ejusque signum et pars sunt. Hujusmodi inter renem et ventriculum, nares vel asperam arteriam et

nâres vel asperam arteriam et transversum septum, pedes et  
*the nostrils or aspera arteria and transverse septum, the feet and*  
 ventriculū, in calculo, podagrâ, hystēria, gravedine.  
*stomach, in calculus, gout, hystēria, stuffing of the head.*

360. Postremo, nonnulli consensus nunquam observandi in sanitate,  
*Lastly, some consents never to be observed in health,*  
 etiā insoliti in morbis, observati sunt in quibusdam exemplis  
*even unusual in diseases, have been observed in some examples*  
 morborum; veluti trismus a vulnere, quamvis fortasse levissimo;  
*of diseases; as locked-jaw from a wound, although perhaps very slight;*  
 vel alii rarissimi, veluti dolor et calor plantarum pedum ab  
*or others very rare, as pain and heat of the soles of the feet from*  
 ulcere in vesicâ; vel immanis, et tandem lethalis, dolor  
*an ulcer in the bladder; or a dreadful, and at length fatal, pain*  
 brachii inter reddendam urinam.  
*of the arm whilst voiding the urine.*

361. Ratio harum rerum satis obscura; neque plena  
*The cause of these things (is) sufficiently obscure; nor (has) a full*  
 explicatio data est hactenus. Tamen juvat monuisse  
*explanation been given hitherto. However it benefits to have admonished*  
 plerosque consensus, tum generales tum speciales, pendere a  
*that most sympathies, as well general as also special, depend upon*  
 nexu quem omnes partes corporis habent cum cerebro:  
*the connexion which all parts of the body have with the brain:*  
 que id affectum certâ ratione certo stimulo (ubicunque  
*and that it affected in a certain manner by a certain stimulus (wheresoever*  
 is (stimulus) demum admotus fuerit,) vel mutare statum  
*it indeed shall be applied,) either changes the state*  
 universi [nervosi generis, vel incitare quasdam partes præ  
*of the whole nervous system, or incites certain parts before*  
 cæteris ad motum. Enim nervo alterutrius partium quæ  
*others to motion. For the nerve of one or other of the parts which*  
 consentiunt, secto, vel compresso, vel obstructo, vel læso quovis  
*consent, being cut, or compressed, or obstructed, or injured in any*  
 modo, vel demum cerebro ipso multum læso, est nullus  
*manner, or indeed the brain itself much injured, there is no*  
 consensus; quamvis partes ipsæ, ad contactum stimuli,  
*sympathy; although the parts themselves, on the application of a stimulus,*  
 ostenderent se non amisisse suam moventem vim.  
*might shew that they had not lost their own moving power (irritability).*

362. Vero alii consensus utriusque generis oriuntur a vicinitate  
*But some sympathies of both kind arise from the contiguity*

septum transversum, pedes et ventriculū, in calculo, podagra, hystēria, gravedine, observantur.

360. Postremo, nonnulli consensus in sanitate nunquam observandi, etiā in morbis insoliti, in quibusdam morborum exemplis observati sunt; veluti trismus a vulnere, quamvis fortasse levissimo; vel alii rarissimi, veluti dolor et calor plantarum pedum ab ulcere in vesicâ; vel dolor brachii immanis, et tandem lethalis, inter urinam reddendam.

361. Ratio harum rerum satis obscura; neque plena explicatio hactenus data est. Juvat tamen monuisse plerosque consensus, tum gene-

rales tum speciales, pendere a nexu, quem omnes corporis partes cum cerebro habent: idque certa ratione certo stimulo (ubicunque is demum admotus fuerit) affectum, vel statum universi generis nervosi mutare, vel quasdam præ cæteris partes ad motum incitare. Secto enim, vel compresso, vel obstructo, vel quovis modo læso, nervo alterutrius partium quæ consentiunt, vel demum, læso multum ipso cerebro, consensus nullus est; quamvis partes ipsæ ad contactum stimuli se vim suam moventem non amisisse ostenderent.

362. Alii vero consensus, utriusque generis, a vicinitate partium, vasorum sanguinem ve-

partium, conjunctione vasorum vehentium sanguinem, nexu nervorum, of parts, the inosculation of the vessels carrying blood, the connexion of nerves, reticulatâ membranâ extensâ ab aliâ ad aliam (partem); veluti the reticulated membrane extended from one to the other; as totius cutis, tunicæ adnatæ cum retina et aliis internis of the whole skin, of the tunica adnata with the retina and other internal partibus oculi; Intestini recti cum vesicâ et utero; parts of the eye; of the intestinum rectum, with the bladder and uterus; vesicæ, cum ostio urethræ: tamen, fatendum est, of the bladder, with the orifice of the urethra: however, it must be confessed, consensus, qui observantur inter partes quæ longe distant, that the sympathies, which are observed between parts which are far distant, rarissime accepisse explicationem hoc modo; que multos very seldom have admitted of explanation in this manner: and that many perdidisse operam qui laboraverant, haud mediocri industriâ et acumine, ut detegerent vel minutissimas conjunctiones arteriarum aut nervorum consentientium partium. nerves of the sympathising parts.

363. Quidam insoliti morbosi consensus videntur oriri a parte jam præter solitum sentiente, et mobili et debili, que ideo patiente plus æquo ab statu, vitiis, irritamentis aliarum partium. Hæc videtur esse ratio cur multi morbi provenientes a generali causâ, facilius incumbant in partes jam debiles aut morbidas. diseased.

364. Denique, plurimi motus excitantur in corpore, tum sano, sed multo magis si fuerit morbidum, qui sæpe, præter spem, summovent multa incommoda, multa pericula, multa mala, jam urgentia, vel arcent vel depellunt morbos, et sic diu præstant totam machinam incolumem.

hentium conjunctioe, nervorum nexu, membrana reticulata ab alia ad aliam extensa, oriuntur; veluti totius cutis, tunicæ adnatæ cum retina et aliis partibus internis oculi; intestini recti cum vesica et utero, vesicæ cum ostio urethræ: fatendum tamen est, consensus, qui inter partes quæ longe distant observantur, rarissime hoc modo explicationem accepisse; multosque operam perdidisse, qui industria et acumine haud mediocri laboraverant, ut conjunctiones vel minutissimas, arteriarum, aut nervorum partium consentientium, detegerent.

363. Consensus quidam, insoliti, morbosi,

oriri videntur a parte jam præter solitum sentiente, et mobili, et debili, ideoque ab aliarum partium statu, vitiis, irritamentis, plus æquo patiente. Hæc videtur esse ratio, cur multi morbi a causa generali provenientes, in partes jam debiles aut morbidas facilius incumbant.

364. Plurimi denique motus in corpore, tum sano, sed multo magis si morbidum fuerit, excitantur; qui sæpe præter spem multa incommoda, multa pericula, multa mala jam urgentia, summovent, morbos vel arcent vel depellunt, et sic totam machinam diu incolumem præstant (65, et seq.)



365. Lis est adhuc sub iudice de  
*The cause is still before the judge (the question is undecided) concerning*  
 naturâ et potestatibus hujus autocrateiæ: nimirum, sive isti  
*the nature and powers of this autocrateia: namely, whether those*  
 salutare motus sint referendi ad generales leges animalis motus  
*salutary motions ought to be referred to the general laws of animal motion*  
 sive animalis machina ipsa, habeat specialem et definitam vim  
*or the animal machine itself, may possess a specific and definite power*  
 curandi ipsa ut capiat quid detrimenti, que excitandi  
*of providing that itself do not take any thing of detriment, and of exciting*  
 motus quales oporteat ad hunc finem.  
*motions such as it may behave for this purpose.*

366. Est certissimum multas res, natura quarum est sopire  
*It is very certain that many things, the nature of which is to lull*  
 et compescere motus, aliquando excitare motus validissimos, et quam  
*and restrain motions, sometimes excite motions the most powerful, and most*  
 maxime salubres. Neque, tamen, hoc adimit litem; quoniam,  
*healthy possible. Nor, however, does this take away the dispute; because,*  
 secundum communes leges animalis motus, quas habemus satis  
*according to the common laws of animal motion, which we have sufficiently*  
 perspectas, plurimæ causæ istiusmodi possint dare satis validum  
*perceived, very many causes of that kind may produce a sufficiently powerful*  
 stimulum variis modis, secundum varias conditiones corporis,  
*stimulus in various ways, according to the various conditions of the body,*  
 que diversas partes quæ afficiuntur. Debilitas ipsa sæpe facit hoc,  
*and the different parts which are affected. Debility itself often does this,*  
 et fere quicquid impedit solitas actiones organorum.  
*and commonly whatever impedes the usual actions of the organs.*

367. Medici non defuerunt nec parvi nominis, qui retulerint  
*Physicians have not been wanting nor of little reputation, who have referred*  
 omnes motus hujusmodi ad mentem ipsam, judicantem quid periculi  
*all motions of this sort to the mind itself, judging what (of) danger*  
 instaret, et quomodo esset summovendum, et igitur  
*was impending, and in what manner it was to be removed, and therefore*  
 excitantem tales motus quales crederet aptissimos ad eum finem.  
*exciting such motions as it believed most fitted to that end.*

368. Nemo qui contemplatur Naturam erit tam excors, qui negaverit  
*No one who observes Nature will be so foolish, who will deny*  
 multos motus quos sæpe excitat esse saluberrimos, et  
*(as to deny) that many motions which she often excites are very salutary, and*  
 igitur imitandos et promovendos, quantum possit fieri, medicis:  
*therefore to be imitated and promoted, as far as can be done, by physicians:*

365. Adhuc sub iudice lis est de natura et potestatibus hujus autocrateiæ: nimirum, sive ad leges animales generales referendi sint motus isti salubres, sive ipsa machina animalis vim habeat specialem et definitam, curandi, ne quid ipsa detrimenti capiat, motusque excitandi quales ad hunc finem oporteat.

366. Certissimum est, multas res, quarum natura est motus sopire et compescere, motus aliquando validissimos, et quam maxime salubres, excitare. Neque tamen hoc adimit; quoniam, secundum leges communes motus animalis, quas satis perspectas habemus, plurimæ istiusmodi causæ, variis modis secundum

varias corporis conditiones, diversasque partes quæ afficiuntur, stimulum satis validum dare possint. Ipsa debilitas hoc sæpe facit, et quicquid fere solitas organorum actiones impedit.

367. Non defuerunt medici, nec parvi nominis, qui omnes hujusmodi motus ad mentem ipsam retulerint, judicantem, quid periculi instaret, et quomodo summovendum esset; et igitur tales motus excitantem, quales crederet ad eum finem aptissimos.

368. Nemo qui Naturam contemplatur tam excors erit, qui negaverit, multos quos sæpe excitat motus saluberrimos esse, et medicis igitur quantum fieri possit imitandos et pro-

nec verum quisquam, qui vult fidere propriis oculis, (qui non  
*nor yet (is there) any one, who wishes to trust his own eyes, who will not*  
 viderit bene multos alios eorum esse inutiles, nimios, noxios,  
*see that a great many others of them are useless, excessive, hurtful,*  
 et ideo sapiendos, compescendos, temperandos medicis, ut  
*and therefore to be tilled, restrained, moderated by physicians, that*  
 surripiant ægrum duplici periculo. Quod si omnes isti motus  
*they may rescue the sick from a double danger. But if all these motions*  
 essent instituti, ut quidam revera sunt, summo consilio et  
*were instituted, as some truly have been, with the greatest judgment and*  
 sapientiâ, debuissent non magis eo referri ad  
*wisdom, they ought not the more, on that account, to be referred to*  
 actionem mentis; nimirum qui pendeant nullo modo a mente;  
*the action of the mind; as being what can depend in no manner upon the mind;*  
 quorum mens plerumque sit non conscia; quos nequeat excitare  
*of which the mind generally is not conscious; which it cannot excite*  
 suâ sponte, neque aut impedire, aut temperare excitatos ab  
*of its own accord, nor either prevent, or moderate (when) excited by*  
 aliâ causâ; qui denique perficiantur in stolidissimo hominum,  
*any other cause; which indeed are performed in the most foolish of men,*  
 conscio neque vitii neque remedii quod adhibetur, aut in  
*conscious neither of the disorder nor of the remedy which is administered, or in*  
 belluâ, pariter ac in sagacissimo et peritissimo philosopho aut  
*the brute, equally as in the most sagacious and skilful philosopher or*  
 medico. Medici discant interea quid boni sit  
*physician. Let physicians learn in the mean time what (of) advantage may be*  
 sperandum, quid mali metuendum, a viribus quæ habent tam  
*to be expected, what evil to be feared, from powers which have so*  
 latum imperium in corpus; est non dubitandum quin dies  
*extended an influence upon the body; it is not to be doubted but that time*  
 ocyus serius attulerit lumen rationi, quamvis hactenus  
*sooner (or) later will bring (throw) light to (upon) the means, although hitherto*  
 obscuræ, quâ fiunt.  
*obscure, by which they come to pass.*

369. Omnes motus qui strictius vocantur animales, nempe,  
*All the motions which more strictly are called the animal, for instance,*  
 quotquot pendent a voluntate, et ipsi naturales et vitales, in  
*as many as depend upon the will, also those natural and vital, over*  
 quos habemus divisum imperium, reguntur in mirum  
*which we have a divided (partial) control, are governed in a wonderful*  
 modum consuetudine. Vis, velocitas, ordo, tempus, reditus,  
*manner by habit. Their force, velocity, arrangement, time, return,*

movendos: verum nec quisquam, qui propriis  
 oculis vult fidere, non viderit alios eorum bene  
 multos, inutiles, nimios, noxios esse, et me-  
 dicis ideo sapiendos, compescendos, temperan-  
 dos, ut ægrum duplici periculo surripiant.  
 Quod si omnes isti motus, ut quidam revera  
 sunt, summo consilio, et sapientia instituti  
 essent, non eo magis ad mentis actionem referri  
 debuissent: nimirum, qui nullo modo a mente  
 pendeant: quorum plerumque mens non conscia  
 sit; quos sua sponte excitare nequeat; neque  
 ab aliâ causâ excitatos, aut impedire aut tem-  
 perare; qui denique in stolidissimo hominum,

aut in belluâ, neque vitii neque remedii quod  
 adhibetur conscio, pariter ac in sagacissimo et  
 peritissimo philosopho aut medico perficiantur.  
 Discant interea medici, quid boni sperandum  
 sit, quid mali metuendum, a viribus quæ tam  
 latum imperium in corpus habent: rationi quæ  
 fiunt, quamvis hactenus obscuræ, non est dubi-  
 tandum, quin serius ocyus dies lumen attulerit.  
 369. Omnes motus qui strictius animales vo-  
 cantur, nempe, quotquot a voluntate pendent,  
 et ipsi naturales et vitales in quos divisum im-  
 perium habemus, mirum in modum reguntur  
 consuetudine. Vis, velocitas, ordo, tempus,

sensus (eorum), potissimum pendent ab hac. Motus, primo difficiles, feeling, chiefly depend upon it. Motions, at first difficult, nec perficiendi sine gravi sensu, et penitus voluntarii, nor to be performed without a troublesome feeling, and wholly voluntary, sæpe repetiti, fiunt promptiores et faciliores; et tandem peraguntur, often repeated, become more ready and more easy; and at length are performed, homine fere inscio, hoc est, non attendente. Permissi sibi, the man almost not knowing, that is, not attending. Left to themselves, perficiuntur certo et solito ordine: aliquando etiam nequeunt perfici alieno aut novo ordine. Musculi motus they are performed in a certain and habitual order: sometimes even they cannot be performed in a different or new order. The muscles of motion adipiscuntur majorem vim et velocitatem usu, propter rationes acquire a greater force and velocity by use, on account of the causes memoratas. Quidam stimuli, que motus pendent ab illis, qui mentioned. Certain stimuli, and the motions depending upon them, which solebant redire incertis intervallis, reducuntur ad certa were accustomed to return at uncertain intervals, are reduced to certain tempora consuetudine; veluti appetitus cibi, propensio ad evacuandam times by habit; as the appetite for food, the propensity to evacuate alvum, et reddendam urinam, et similia. Quin et novi appetitus the belly, and to void the urine, and the like. Moreover new appetites sæpe discuntur consuetudine, haud dediscendi ita facile: veluti (ap- often are learned by habit, not to be unlearned so easily: as petitus) vini, theæ, coffeæ, nicotianæ, et multarum rerum, quas, for wine, tea, coffee, tobacco, and many things, which, tantum abesset ut appeteremus naturâ ut primo so far was it from that we desired by nature (naturally), that at first fuissent ingrata, et vix tolerabiles. Ratio est par quod they were disagreeable, and scarcely tolerable. The reason is similar that multi stimuli, validiores quam quos Natura fecit necesarios, post many stimuli, stronger than (those) which Nature made necessary, after longam consuetudinem, fiant necessarii. Hinc factum est, ut long habituation, may become necessary. Hence it has been made, that homo, si cupiat, habeat potestatem mutandi seipsum plurimum, et man, if he wish, has the power of changing himself very much, and quasi fabricandi denuo; res haud mediocris utilitatis facien- as it were of fabricating (himself) anew; a thing of no trifling utility to those tibus medicinam, ad corrigenda quædam vitia constitutionis, et practising medicine, for correcting certain disorders of the constitution, and præcavendos multos morbos; dummodo cautum fuerit (impers.) (ut) for preventing many diseases; provided they (shall) be cautious that

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reditus, sensus, ab hac potissimum pendent. Motus primo difficiles, nec sine gravi sensu perficiendi, et penitus voluntarii, sæpe repetiti, promptiores et faciliores fiunt; et tandem, inscio fere homine, hoc est, non attendente, peraguntur. Sibi permissi, certo et solito ordine perficiuntur: aliquando etiam alieno aut novo ordine perfici nequeunt. Majorem vim et velocitatem motus musculi adipiscuntur usu, propter rationes (338, 339) memoratas. Quidam stimuli, motusque ab illis pendent, qui incertis intervallis redire solebant, consuetudine ad certa tempora reducuntur; veluti cibi appe- titus, propensio ad alvum evacuandam et urinam reddendam, et similia. Quin et novi appetitus consuetudine sæpe discuntur, haud ita facile dediscendi: veluti vini, theæ, coffeæ, nicotianæ, et multarum rerum, quas tantum abesset, ut natura appeteremus, ut primo ingrata, et vix tolerabiles fuissent. Par ratio est, quod multi stimuli, validiores quam quos Natura necesarios fecit, post longam consuetudinem, necessarii fiant. Hinc factum est, ut homo seipsum, si cupiat, plurimum mutandi, et quasi denuo fabricandi, potestatem habeat: res medicinam facientibus haud mediocris uti-

mutatio, quam cupiunt et tentant efficere, lente et  
*the change, which they wish and are trying to produce, be slowly and*  
 prudenter inducatur.  
*carefully induced.*

## CAP. XII.

## CHAP. XII.

*De vitiis motûs musculorum; nimîâ mobilitate, torpore,*  
 Of the disorders of the motion of the muscles; too great irritability, torpor,  
*paralysi, spasma.*  
 palsy, spasm.

370. Illæ vires, unde motus musculorum fit, sunt obnoxîæ  
*Those powers, from whence motion of the muscles arises, are liable*  
 multis vitis, magis dignis attentione eo quod plerique morbi  
*to many disorders, the more worthy attention because most (of) the diseases*  
 corporis pendent ex his; quatenus aliquid motus musculorum  
*of the body depend on them; inasmuch as something of the motion of muscles*  
 requiratur ad omnes functiones vivi animalis.  
*is required to all the functions of the living animal.*

371. Mobilitas ipsa potest esse nimia. Probe distinguendum est  
*The irritability itself may be excessive. We must carefully distinguish*  
 inter hanc et vigorem. Mobilitas est facilitas quâ fibræ  
*between this and vigour. Irritability is the facility with which the fibres*  
 musculorum cientur ad contractionem: vigor, contra, est  
*of the muscles are excited to contraction. vigour, on the other hand, is*  
 vis quâ contractio ipsarum perficitur. Hæc vitia  
*the power with which the contraction of them is performed. These disorders*  
 nonnunquam observantur juncta, sæpius adversa, que fere  
*sometimes are observed combined, more often opposed, and commonly*  
 agnoscunt contrarias causas.  
*acknowledge contrary causes.*

372. Mobilitas est nimia, si quando motus excitantur, vel a  
*Irritability is excessive, if at any time motions are excited, either by*  
 stimulo leviore justo, vel nimii motus a solito stimulo;  
*a stimulus slighter than proper, or excessive motions by the usual stimulus;*  
 quod si acciderit, motus quoque solent esse abnormes.  
*which if it should happen, the motions also are accustomed to be irregular.*

litatis, ad vitia quædam constitutionis corrigenda, et multos morbos præcavendos; dummodo cautum fuerit mutatio, quam cupiunt, et efficere tentant, lente et prudenter inducatur.

CAP. XII.—*De vitiis motus musculorum: mobilitate nimia, torpore, paralysi, spasma.*

370. Vires illæ (304 et seq.) unde motus musculorum fit multis vitiis obnoxîæ sunt, eo magis attentione dignis, quod ex his plerique corporis morbi pendent; quatenus ad omnes functiones vivi animalis aliquid motus musculorum requiratur.

371. Mobilitas ipsa nimia esse potest. Probe distinguendum est hæc inter et vigorem. Mobilitas est facilitas qua fibræ musculorum ad contractionem cientur: vigor, contra est vis qua ipsarum contractio perficitur. Nonnunquam juncta, sæpius adversa, hæc vitia observantur, contrariasque fere agnoscent causas.

372. Mobilitas nimia est, si quando vel a stimulo justo leviore motus excitantur, vel motus nimii a solito stimulo; quod si acciderit, motus quoque abnormes esse solent.

373. Certum corporis temperamentum aliquando hæreditarium, homines huic vitio op-

373. Certum temperamentum corporis, aliquando hæreditarium, reddit  
*A certain temperament of body, sometimes hereditary, renders*  
 homines opportunos huic vitio. Fæminæ sunt plus mobiles quam  
*men subject to this disorder. Women are more irritable than*  
 viri. Prima ætas valde mobilis, sæpe nimis, juvenus minus  
*men. The first age (is) very irritable, often too much so, youth less*  
 quam infantia, plus quam virilis ætas; senectus sæpe vix  
*than infancy, more than virile age; old age often scarcely*  
 satis. Otiosum sedentarium genus vitæ, plenus opiparus victus,  
*sufficiently so. An idle sedentary kind of life, a full sumptuous diet,*  
 solitæ excretiones suppressæ, plenitudo vasorum quæ vehunt  
*the usual excretions suppressed, fulness of the vessels which carry*  
 sanguinem, nonnunquam subita exinanitio eorundem, laxitas seu  
*blood, sometimes the sudden emptying of the same, laxity or*  
 flacciditas solidarum partium; vero aliquando nimia tensio moventium  
*flaccidity of the solid parts; but sometimes to great tension of the moving*  
 fibrarum, usus diluentium, præsertim tepidorum, calor, quomodocunque  
*fibres, the use of diluents, especially tepid, heat, in whatsoever way*  
 fuerit admotus, acutior sensus, dant nimiam mobilitatem.  
*it (shall) be applied, too acute sensibility, produce excessive irritability.*

374. Potest esse vel generalis vel specialis, prout causæ ejus  
*It may be either general or special, according as the causes of it*  
 admotæ fuerint, vel cuidam parti vel universo corpori.  
*shall be applied, either to any part or to the whole body.*

375. Generalis vigor est raro morbosus: tamen, nimius vigor  
*General vigour is seldom morbid: however, excessive vigour*  
 quarundam musculosarum partium præ aliis nonnunquam observatus est.  
*of some muscular parts before others sometimes has been observed.*

Ingens vis omnium musculorum, præsertim qui parent voluntati,  
*Great power of all the muscles, especially (of those) which obey the will,*  
 spectatur in captis mente, in phreniticis, et habetur, non  
*is observed in the insane, in phrenitics, and is considered, not*  
 immerito, morbida. Ratio tanti excessus videtur satis obscura;  
*undeservedly, morbid. The cause of so great an excess seems sufficiently obscure;*  
 qui tamen est plane referendus ad statum cerebri habentis  
*which notwithstanding is evidently to be referred to the state of the brain having*  
 se male.  
*itself badly.*

376. Frequentior excessus vigoris, et majoris momenti, observatur  
*A more frequent excess of vigour, and of greater consequence, is observed*  
 in fibris musculorum qui non agnoscunt imperium voluntatis  
*in the fibres of the muscles which do not acknowledge the controul of the will.*

portunos reddit. Fæminæ plus quam viri mobiles sunt. Prima ætas valde mobilis, sæpe nimis; juvenus minus quam infantia, plus quam virilis ætas. Senectus sæpe vix satis. Vitæ genus otiosum, sedentarium, victus plenus, opiparus, excretiones solitæ suppressæ, plenitudo vasorum quæ sanguinem vehunt, nonnunquam subita exinanitio eorundem, laxitas seu flacciditas solidarum partium; aliquando vero tensio nimia fibrarum moventium, usus diluentium, præsertim tepidorum, calor, quomodocunque admotus fuerit, sensus acutior, nimiam mobilitatem dant.

374. Potest esse vel generalis vel specialis,

prout causæ ejus vel parti cuidam vel universo corpori admotæ fuerint.

375. Vigor generalis raro morbosus est: nimius tamen quarundam partium musculosarum, præ aliis, vigor, nonnunquam observatus est. In mente captis, in phreniticis, ingens vis omnium musculorum, præsertim qui voluntati parent, spectatur, et non immerito morbida habetur. Ratio tanti excessus satis obscura videtur; qui tamen ad statum cerebri male se habentis plane referendus est.

376. Frequentior, et majoris momenti, vigoris excessus, observatur in fibris musculorum qui voluntatis imperium non agnoscunt, præsertim

præsertim in iis qui movent sanguinem. Circuitus hujus sæpe especially in those which move the blood. The circulation of this often intenditur præter solitum, non sine gravi incommodo aut is increased beyond what is usual, not without serious inconvenience or periculo valetudinis et vitæ. Levior excessus hujusmodi, pervadens danger to health and life. A slighter excess of this kind, pervading totum corpus, reddit homines opportunos morbis habentibus the whole body, renders men liable to diseases having inflammationem, et solet vocari apud medicos inflammation (inflammatory,) and is accustomed to be called by physicians phlogistica diathesis: autem cernitur gravior, et singularis the phlogistic diathesis: but it is observed more severe, and of a particular partis in inflammatione ipsâ. part (local) in inflammation itself.

377. Nimius vigor musculosarum fibrarum potest oriri vel a Nervosa vigour of the muscular fibres may arise either from nervosâ vi aucta præter modum, veluti in insanîâ, the nervous power being increased beyond bounds, as in insanity, phrenitide, aut vehemente affectu animi; vel a nimîâ tensione phrenitis, or a violent affection of the mind; or from excessive tension fibrarum, quâ facilius et vehementius concipiunt motus, of the fibres, by which they more easily and vehemently take on motions, veluti distentione arteriarum a magnâ plenitudine vasorum, as in distention of the arteries from great fulness of the vessels, propter abundantiam sanguinis, vel fortasse a frigore, vel on account of an abundance of blood, or perhaps from cold, or calore excipiente frigus, ut solet accidere verno tempore; vel, heat succeeding cold, as is used to happen in spring time; or, denique, nervosâ vi et tensione fibrarum nil mutatis, lastly, the nervous power and tension of the fibres being no way changed, actio earundem erit nimia, a stimulo vehementiore the action of the same will be excessive, from a stimulus more vehement than usual admoto, vel a solito stimulo, si fibræ themselves (shall) have already become too irritable.

378. Hinc effectus pariter boni que mali multarum rerum intelli- Hence the effects alike good and bad of many things are understood, et actio multorum remediorum, quibus utimur, ad derstood, and the action of many remedies, which we use, for incitandum, temperandum, dirigendum vim et motum moventium inciting, moderating, directing the force and motion of the moving

in iis qui sanguinem movent. Hujus circuitus sæpe præter solitum intenditur, non sine gravi valetudinis et vitæ incommodo aut periculo. Levior hujusmodi excessus, totum corpus pervadens, hominea morbis inflammationem habentibus opportunos reddit, et diathesis phlogistica apud medicos vocari solet: gravior autem, et partis singularis, in ipsa inflammatione cernitur.

377. Nimius vigor fibrarum musculosarum oriri potest, vel a vi nervosa (326) præter modum aucta, veluti in insanîâ, phrenitide, aut vehemente animi affectu; vel a nimia fibrarum tensione (320-4) qua facilius et vehementius

motus concipiunt, veluti arteriarum distentione a magna plenitudine vasorum propter sanguinis abundantiam, vel fortasse a frigore vel calore frigus excipiente, ut tempore verno solet accidere; vel, denique, vi nervosa et tensione fibrarum nil mutatis, actio earundem nimia erit, a stimulo (305) solito vehementiore admoto, vel a solito stimulo, si fibræ ipsæ jam nimis mobiles (371 et seq.) factæ fuerint.

378. Hinc intelliguntur effectus multarum rerum boni mali que pariter, et actio multorum remediorum, quibus utimur, ad vim et motum fibrarum moventium incitandum, temperandum, dirigendum; veluti diætæ tenuis vel

fibrarum, veluti tenuis vel lautæ diætæ, vini, opii, stimulantium, fibres, as of a poor or rich diet, of wine, opium, stimulants, et quorundam evacuantium (remediorum). and of certain evacuants.

379. Vitia contraria nimie mobilitati, sunt torpor, nimio vigori, debilitas. Torpor est imminuta mobilitas, neque sufficiens ad exercenda bene munera vitæ. Agnoscit causas contrarias ac nimia mobilitas; imprimis duriorem, rigidiorem, vel aliquando laxam, flaccidam conditionem solidarum partium, provectam ætatem, peculiare phlegmaticum, frigidum, parum sentiens temperamentum, nimium perpetuum laborem, frigus, tenuem victum, exhaustum corpus. Malum magis metuendum, et difficilius sanatu, eo quod solitis viribus naturæ deficientibus, neque corpus ipsum conetur quicquam, neque remedia, alioquin efficacissima, juvent multum.

380. Vitium vocatur debilitas, sive infirmitas, si quando motus musculorum, sive (sit) id genus quod est a voluntate, sive alterum, quod est invitum, non perficitur justâ vi. Major vel minor, generalis vel singularis partis, comitatur fere omnes morbos, neque est minima pars eorum. Quoque reddit corpus obnoxium innumeris morbis, et objicit quasi inerme. Sæpe pendet a primâ et congenitâ fabricatione corporis, penitus corrigenda nullis remediis, nullo genere vitæ. Varia vis et robur quoque contingunt variis

lautæ, vini, opii, stimulantium, et quorundam evacuantium.

379. Mobilitati nimie torpor, vigori nimio debilitas, contraria vitia sunt. Torpor est imminuta mobilitas, neque ad vitæ munera bene exercenda sufficiens. Contrarias ac nimia mobilitas agnoscit causas; solidarum imprimis partium conditionem duriorem, rigidiorem, vel aliquando laxam, flaccidam, ætatem provectam, temperamentum peculiare phlegmaticum, frigidum, parum sentiens, laborem nimium, perpetuum, frigus, victum tenuem, exhaustum corpus. Malum eo magis metuendum, et sanatu

difficilius, quod solitis naturæ viribus deficientibus, neque corpus ipsum quicquam conetur, neque remedia, alioquin efficacissima, multum juvent.

380. Debilitas sive infirmitas vocatur vitium, si quando motus musculorum, sive id genus quod a voluntate est, sive alterum, quod invitum est, justâ vi non perficitur. Major vel minor, generalis vel partis singularis, omnes fere morbos comitatur, neque minima eorum pars est. Corpus quoque innumeris morbis obnoxium reddit, et quasi inerme objicit. A primâ et congenita corporis fabricatione sæpe pendet,

ætatibus, et quod vir perfecit facile, aut tulerit  
*ages, and what a man could have performed easily, or have borne*  
 impune florente ætate, idem oppresserit, vel sustulerit  
*with impunity in the prime of his age, the same would oppress or would remove*  
 e medio puerum vel senem. Sæpe, itaque, potest vix  
*from the middle (kill) a boy or old man. Often, therefore, it can scarcely*  
 haberi morbosa. At debilitas præter solitum et vere morbosa,  
*be considered morbid. But a debility unusual and truly diseased,*  
 accidit a minutâ nervosâ vi, cerebro que nervis  
*comes on from diminished nervous energy, from the brain and nerves*  
 habentibus se male, musculis participantibus vitia  
*having themselves badly, the muscles partaking of the disorders*  
 eorum, aut corruptis propriis (vitiis), debitâ tensione fibrarum  
*of them, or injured by their own, the due tone of the fibres*  
 sublata, vel nimîâ aut diuturnâ distentione earum, vel  
*being destroyed, either by excessive or long continued distention of them, or*  
 ipsis factis rigidis et torpidis, corpore exhausto parco  
*themselves become stiff and torpid, from the body being exhausted by spare*  
 victu, inediâ, exinanitione, que demum, morbis afficientibus vel  
*diet, fasting, evacuation, and lastly, diseases affecting either*  
 totum corpus vel aliquas partes.  
*the whole body or some parts.*

381. Summa debilitas, scilicet, vires musculorum pene vel  
*Extreme debility, that is, the powers of the muscles almost or*  
 penitus deletæ, vocatur paralysis. Est vel generalis vel tantum  
*entirely destroyed, is called paralysis. It is either general or only*  
 quorundam musculorum. Generalis oritur a vitiis cerebri que  
*of certain muscles. General arises from disorders of the brain and*  
 nervorum, aliquando parum perspectis, neque detegendis anatomico  
*nerves, sometimes little understood, nor to be detected by the anatomist*  
 scalpello; scilicet, nervosa vis ipsa deficit, fabricâ  
*with the scalpel; that is, the nervous energy itself fails, the fabric*  
 organorum adhuc integrâ; tamen compressio, obstructio, læsio,  
*of the organs as yet being entire; however compression, obstruction, lesion,*  
 inundatio sanguinis, seri, puris, tumores, &c. sæpe  
*inundation (effusion) of blood, of serum, of pus, tumours, &c. often*  
 deteguntur. Sæpe nascitur a quibusdam venenis male afficientibus  
*are detected. It often arises from certain poisons badly affecting*  
 nervos, fumis quorundam metallorum, veluti vivi argenti,  
*the nerves, the fumes of certain metals, for instance quicksilver,*  
 plumbi, &c. nonnunquam a morbis partium, remotarum a  
*lead, &c. sometimes from diseases of parts, far removed from*

nullis remediis, nullo vitæ genere, penitus cor-  
 rigeunda. Varia quoque vis et robur variis ætati-  
 bus contingunt, et quod vir, florente ætate,  
 facile perfecit, aut impune tulerit, idem,  
 puerum vel senem, oppresserit, vel e medio sus-  
 tulerit. Sæpe itaque vix morbosa haberi potest.  
 At debilitas præter solitum et vere morbosa ac-  
 cidit, a vi (326) nervosa minuta, cerebro ner-  
 visque male se habentibus, musculis eorum vitia  
 participantibus, aut propriis corruptis, debita  
 fibrarum tensione (321-2) sublata, vel nimia  
 aut diuturna earum distentione (324), vel ipsis  
 rigidis et torpidis factis, corpore exhausto,  
 victu parco, inedia, exinanitione, morbisque,

demum, vel totum corpus vel partes aliquas  
 afficientibus.

381. Summa debilitas, vires scilicet muscu-  
 lorum penitus vel pene deletæ, paralysis vocatur.  
 Est vel generalis, vel quorundam tantum  
 musculorum. Generalis oritur a vitiis cerebri  
 nervorumque, aliquando parum perspectis, ne-  
 que scalpello anatomico detegendis; scilicet,  
 vis ipsa nervosa deficit, fabrica organorum ad-  
 huc integra; sæpe tamen compressio, obstruc-  
 tio, læsio, inundatio sanguinis, seri, puris,  
 tumores, &c. deteguntur. A quibusdam venenis  
 nervos male afficientibus sæpe nascitur, fumis  
 metallorum quorundam, veluti argenti vivi,



cerebrò, et musculis valde solutis, veluti a Colica  
*the brain, and the muscles being very much paralysed, as from the Colica*  
*Pictonum.* Paralysis singulorum musculorum, sed minus  
*Pictonum (painters' colic).* Paralysis of particular muscles, but less  
 perfecta, sæpe fit, cerebro que nervis intactis, a gravi et  
*complete, often arises, the brain and nerves being unhurt, from severe and*  
 diuturno dolore, inflammatione, nimia vel nimis diuturna tensione,  
*lasting pain, inflammation, excessive or over long continued tension,*  
 relaxatione, quiete, vel fabricâ ipsorum corruptâ, qualis  
*relaxation, rest, or the structure of them being injured, such as*  
 solet accidere post rheumatismum, podagram, luxationem,  
*is accustomed to happen after rheumatism, foot gout, dislocation,*  
 fracturas ossium, suppressionem (retentionem?) urinæ in vesicâ.  
*fractures of the bones, suppression of urine in the bladder.*

382. Vero paralysis quæ habetur generalis, et quæ oritur a  
*But the palsy which is considered general, and which arises from*  
 vitio cerebri, raro est universi corporis. Plerumque spectamus  
*disorder of the brain, seldom is of the whole body. Generally we see*  
 paralyticos captos altero latere. Hæc vocatur hemiplegia. Fertur,  
*paralytics seized on one side. This is called hemiplegia. It is said,*  
 et sane jam confirmatur observationibus plurimorum medicorum,  
*and truly is now confirmed by the observations of a great many physicians,*  
 adversum latus ab eo in quo vitium cerebri est,  
*that the opposite side from that in which the disease of the brain exists,*  
 sic resolvit. Interdum quoque, altero latere cerebri læso,  
*is thus palsied. Sometimes also, the one side of the brain being injured,*  
 idem latus corporis convellitur, oppositum resolvitur. Si omnes  
*the same side of the body is convulsed, the opposite is paralysed. If all*  
 partes infra caput, vel infra lumbos resolvuntur, appellatur  
*the parts below the head, or below the loins are palsied, it is called*  
 paraplegia. In paralysis sensus plerumque superest, aliquando deletur,  
*paraplegia. In paralysis feeling frequently remains, sometimes it is destroyed,*  
 sæpe obtunditur. Raro, quod tamen est pessimum, motus,  
*often it is blunted. Rarely, which however is the worst of all, the motion,*  
 sensus, pulsus, calor artuum qui solvuntur, pereunt  
*the feeling, the pulsation, the heat of the limbs which are palsied, perish*  
 simul; scilicet, arteriæ ipsæ fiunt paralyticæ. Paralysis universi  
*at once; that is, the arteries themselves become paralytic. Paralysis of the whole*  
 corporis, quod ad voluntarios motus, cum anæsthesiâ et sopore  
*body, as relates to voluntary motions, with anæsthesia and sopor*  
 vocatur apoplexia. Hæc provenit a cerebro læso: vero  
*is called apoplexy. This proceeds from the brain being injured: but*

plumbi, &c. nonnunquam a morbis partium a cerebro, et musculis solutis valde remotarum, veluti a Colica Pictonum. Singulorum musculorum paralysis, sed minus perfecta, sæpe fit, intactis cerebro nervisque, a gravi et diuturno dolore, inflammatione, tensione nimia vel nimis diuturna (324), relaxatione, quiete, vel fabrica ipsorum corrupta, qualis, post rheumatismum, podagram, luxationem, fracturas ossium, suppressionem urinae in vesica, solet accidere.

382. Paralysis vero quæ generalis habetur, et quæ a vitio cerebri oritur, raro universi corporis est. Paralyticos plerumque altero latere captos spectamus. Hæc hemiplegia vocatur. Fertur, et

sane plurimorum jam medicorum observationibus confirmatur, latus adversum ab eo in quo cerebri vitium est, sic resolvit. Interdum quoque, læso altero cerebri latere, idem corporis latus convellitur, oppositum resolvitur. Si partes omnes infra caput, vel infra lumbos, resolvuntur. paraplegia appellatur. In paralysis sensus plerumque superest, aliquando deletur, sæpe obtunditur. Raro, quod tamen pessimum est, motus, sensus, pulsus, calor artuum, qui solvuntur, simul pereunt; scilicet, ipsæ arteriæ paralyticæ fiunt. Paralysis universi corporis, quod ad motus voluntarios, cum anæsthesia (173) et sopore, apoplexia vocatur. Hæc a læso cerebro

status simillimus huic inducitur *narcoticis*, opio et vino ipso, vel  
*a state very like to it is induced by narcotics, opium and wine itself, or*  
 alio generoso potu, sumpto ultra modum, et denique aëre  
*other generous drink, taken beyond bounds, and indeed from air*  
 corrupto carbonico acido recepto in pulmonem.  
*corrupted with carbonic acid being taken into the lungs.*

383. Aliud vitium et motus musculorum superest, que id  
*Another disorder also of the motion of muscles remains, and that*  
 non leve aut rarum; scilicet, *spasmus*. Hic est vehemens abnormis  
*not slight or rare; that is, spasm. This is a violent irregular*  
 actio musculorum. Distinguitur in duplex genus, *tonicum et*  
*action of the muscles. It is divided into a double (two) kind(s), the tonic and*  
*clonicum.* Hoc sæpe vocatur convulsio, causâ distinctionis  
*clonic.* The latter often is called convulsion, by way of distinction.  
 ab altero, cui soli nomen *spasmus* solet dari.  
*from the other, to which alone the name spasm is accustomed to be given.*

384. *Spasmus* igitur est vehemens, constans, abnormis, contractio  
*Spasm therefore is a violent, constant, irregular, contraction*  
 fibrarum musculorum: vero convulsio insolita vehemens contractio,  
*of the fibres of the muscles: but convulsion an unusual violent contraction,*  
 alternans cum relaxatione. Est (proprium) utriusque, si occupat  
*alternating with relaxation. It is the property of both, if it affects*  
 musculos voluntarii motus, perfici sine voluntate; vero  
*the muscles of voluntary motion, to be performed without the will; but*  
 affectio est una que eadem, sive incumbat musculis volun-  
*the affection is one and the same, whether it fall upon the muscles of volun-*  
 tary motus, sive iis actio quorum non pendet a voluntate.  
*tary motion, or those the action of which does not depend upon the will.*

Porro, binæ species hujus mali agnoscunt similes causas,  
*Moreover, both kinds of this disorder acknowledge similar causes,*  
 sæpe observantur in eodem ægro (homine) et altera sæpe  
*often are observed in the same patient and the one is often*  
 convertitur in alteram (speciem).  
*converted into the other.*

385. Nimis sentiens et nimis mobilis habitus corporis reddit  
*A too sensitive and too irritable habit of body renders*  
 homines opportunos spasmis; hinc malum familiare fœminis,  
*persons liable to spasms; hence (it is) a disorder common to women,*  
 infantibus, debilibus, luxuriosis, desidibus, plenis sanguine  
*infants, to the weak, the luxurious, the slothful, those full of blood.*  
 (subintel. hominibus).

provenit: status vero huic simillimus inducitur  
*narcoticis*, opio, et ipso vino, vel alio potu gene-  
 roso, ultra modum sumpto, et denique aëre  
 acido carbonico corrupto in pulmonem recepto.

383. Superest et aliud motus musculorum vi-  
 tium, idque non leve aut rarum; *spasmus* scilicet.  
 Hic est actio musculorum vehemens, abnormis.  
 In duplex genus distinguitur, *tonicum et clonicum*.  
 Hoc sæpe convulsio vocatur, distinctionis causa  
 ab altero, cui soli nomen *spasmus* dari solet.

384. *Spasmus* igitur est vehemens, constans,  
 abnormis, contractio fibrarum musculorum:  
 convulsio vero, insolita, vehemens contractio,

cum relaxatione alternans. Utriusque est, si  
 musculos voluntarii motus occupat, sine volun-  
 tate perfici; affectio vero una eademque est,  
 sive musculis voluntarii motus incumbat, sive  
 iis quorum actio a voluntate non pendet. Porro,  
 binæ species hujus mali similes causas ag-  
 noscunt, sæpe in eodem ægro observantur, et  
 altera in alteram sæpe convertitur.

385. Habitus corporis nimis sentiens (143) et  
 nimis mobilis (371-4) homines *spasmis* opportu-  
 nos reddit; hinc malum fœminis, infantibus,  
 debilibus, luxuriosis, desidibus, sanguine ple-  
 nis, familiare.

386. Inducitur hominibus jam factis proclivibus  
*It is brought on in persons already become disposed (predisposed)*  
 quocunque stimulo admoto cerebro, nervo, musculo, consentienti  
*by any stimulus applied to the brain, a nerve, a muscle, a sympathising*  
 parti; cujusmodi sunt dentitio, vermes hospitantes in  
*part; of which kind are dentition, worms boarding and lodging in*  
 intestinis, que irritantes eadem, acris materies inficiens sanguinem,  
*the intestines, and irritating the same, an acrid matter infecting the blood,*  
 ve gravans ventriculum aut intestina, irritatio nervi, aut  
*or oppressing the stomach or intestines, irritation of a nerve, or*  
 cerebri, ab osse excrescente præter naturam et premente in  
*of the brain, from bone growing out beyond nature and pressing upon*  
 cerebrum, tumore, nimia plenitudine vasorum quæ vehunt  
*the brain, tumour, excessive fulness of the vessels which carry*  
 sanguinem; dolor, vehemens affectus animi, subita exinanitio, quædam  
*the blood; pain, violent affection of the mind, sudden evacuation, certain*  
 venena admissa in corpus. Sæpe, tamen, malum, ingravescens  
*poisons admitted into the body. Often, however, the disorder, increasing*  
 consuetudine, excitatur levioribus causis, parum cognitis, neque facile  
*by habit, is excited by slighter causes, little known, nor easily*  
 observandis.  
*to be observed.*

387. Spasmus est causa et effectus, et sæpe maxima pars  
*Spasm is a cause and effect, and often the greatest part*  
 multorum morborum: aliquando pariter difficilis cognitu et  
*of many diseases: sometimes equally difficult to be understood and*  
 sanatu; nimirum qui induat tot formas et edat  
*to be cured; as being that which can put on so many forms and produce*  
 tam varia signa, prout affecerit varias partes corporis,  
*such various signs, according as it (shall) affect the various parts of the body,*  
 functiones quarum perturbet, intendat, impediat in mirum  
*the functions of which it may disturb, increase, impede in a wonderful*  
 modum: malum plerumque hærens in primordiis ipsis  
*manner: a disorder for the most part inherent in the first principles themselves*  
 constitutionis, neque ideo summovendum quavis levi aut  
*of the constitution, nor on that account to be removed by any slight or*  
 subita mutatione.  
*sudden change.*

386. Inducitur hominibus jam proclivibus factis, stimulo quocunque (305) cerebro, nervo, musculo, parti consentienti (325-6, 355, et seq.) admoto; cujusmodi sunt, dentitio, vermes in intestinis hospitantes, eademque irritantes, materies acris sanguinem inficiens, ventriculive aut intestina gravans, irritatio nervi aut cerebri, ab osse præter naturam excrescente et in cerebrum premente, tumore, nimia plenitudine vasorum quæ sanguinem vehunt; dolor, vehemens animi affectus, subita exinanitio, venena quædam in corpus admissa. Sæpe tamen

malum consuetudine ingravescens (369) levioribus causis excitatur, parum cognitis, neque facile observandis.

387. Multorum morborum spasmus causa est et effectus, et sæpe maxima pars: cognitu et sanatu pariter aliquando difficilis; nimirum qui tot induat formas, et signa tam varia edat, prout varias corporis partes affecerit, quarum functiones mirum in modum perturbet, intendat, impediat: malum in ipsis primordiis constitutionis plerumque hærens, neque ideo levi aut subita quavis mutatione summovendum.

CAP. XIII.  
CHAP. XIII.

*De somno, que usibus et causis et varietatibus et vitiis, defectu,*  
Of sleep, and the uses and causes and varieties and disorders, deficiency,  
*excessu, ejûs; que noxis eorum; et de ratione et causis*  
excess, of it; and the mischiefs of them; and of the nature and causes  
*somniorum.*  
of dreams.

388. Homo non semper valet ad exercendum sensum que voluntarium  
*Man is not always able to exercise sense and voluntary*  
motum: que oportet utramque functionem ferri per intervalla, ut  
*motion: and it behoves that each function cease at intervals, that*  
vires musculorum que nervorum exhaustæ exercitatione, reficiantur  
*the powers of the muscles and of the nerves exhausted by exercise, may be restored*  
quiete et otio.  
*by rest and leisure.*

389. Alter status, quo sentimus bene, que regimus musculos  
*One state, in which we feel much, and govern the muscles*  
voluntarii motus ad arbitrium, est vigilia: alter, quo est  
*of voluntary motion at pleasure, is waking: the other, in which there is*  
neque sensus neque voluntarius motus, vocatur somnus.  
*neither sense nor voluntary motion, is called sleep.*

390. Vero alteruter potest esse plus ve minus perfectus, ita ut  
*But either may be more or less perfect, so that*  
homo nec dormiat plene, neque bene fungatur muneribus  
*a person neither sleeps soundly, nor properly discharges the duties*  
vigilantis (hominis). Iis, qui sanissimi dormiunt altum,  
*of a waking person. They, who being very healthy sleep soundly,*  
est (pro habet) neque voluntarius motus neque externus sensus;  
*have neither voluntary motion nor external sensation;*  
neque ulla memoria interni (sensus) si quis fuerit: autem  
*nor any recollection of internal if any have been: but*  
semisomnes sentiunt quodammodo, et percipiunt multas externas  
*those half asleep have sensation in some degree, and perceive many external*  
res, quamvis parum accurate: recordantur, imaginantur, cogitant  
*things, although no way accurately: they recollect, imagine, think*  
multum, que agitantur variis affectibus animi; sæpe  
*a great deal, and are agitated by various emotions of the mind; they often*

CAP. XIII.—*De somno; ejusque usibus, et causis, et varietatibus, et vitiis, defectu, excessu; eorumque noxis: et de ratione et causis somniorum.*

388. Homo non semper valet ad sensum motumque voluntarium exercendum: utramque functionem oportet per intervalla ferri, ut vires musculorum nervorumque, exercitatione exhaustæ, quiete et otio reficiantur (3).

389. Alter status, quo bene sentimus, musculorumque voluntarii motus ad arbitrium regimus, vigilia est: alter quo neque sensus est, neque motus voluntarius, somnus vocatur.

390. Alteruter vero plus minusve perfectus esse potest, ita ut homo nec plene dormiat, neque vigilantis muneribus bene fungatur. Qui sanissimi altum dormiunt, iis neque motus voluntarius est, neque sensus externus; neque interni, si quis fuerit, memoria ulla: semisomnes autem quodammodo sentiunt, et multas res externas percipiunt, quamvis parum accurate: multum recordantur, imaginantur, cogitant, variisque animi affectibus agitantur; loquuntur sæpe, surgunt aliquando, vestes induunt, ambulat, multaque, vigilantium iustar,

loquuntur, aliquando surgunt, induunt vestes, ambulant, que  
*talk, sometimes rise up, put on their clothes, walk, and*  
 faciunt multa instar vigilantium (hominum). Vero vitales, quin et  
*do many things like waking persons. But the vital, as well as*  
 naturales actiones, pergunt etiam in somno quam perfectissimo,  
*the natural actions, go on even during sleep the most perfect possible,*  
 quamvis plerumque observentur nonnihil lentiores quam in  
*although generally they are observed somewhat slower than in*  
 vigili.

*the waking state.*

391. Suavissimus somnus obrepat, post solitos labores diei,  
*Very sweet sleep creeps on, after the accustomed labours of the day,*  
 levem cœnam, Venerem modice cultam, tenebris et  
*a light supper, Venus moderately cultivated, the darkness and*  
 silentio noctis suadentibus. Amor quietis et tranquillitatis pariter  
*silence of night inviting. A love of quiet and tranquillity alike*  
 animi et corporis, debilitas, lassitudo, sensus defatigationis, præsertim  
*of mind and of body, debility, lassitude, a sense of fatigue, especially*  
 in iis musculis quibus usi sumus maxime, et oscitatio, et  
*in those muscles which we have used most, also yawning, and*  
 frequens et valida extensio artuum præcedunt; hebetudo  
*a frequent and powerful extension of the limbs precede; dulness*  
 externorum sensuum, confusio internorum, attentio distracta,  
*of the external senses, confusion of the internal, the attention distracted,*  
 neque parens voluntati, recordatio injussa, invita, imaginatio  
*nor obeying the will, recollection unbidden, involuntary, imagination*  
 vaga, et demum credita, species delirii, postremo, oblivio  
*wandering, and at last believed, a species of delirium, finally, oblivion*  
 omnium rerum (superveniunt): musculi fatigati et relaxati, possunt  
*of all things: the muscles fatigued and relaxed, are able*  
 neque regere et sustinere singulas partes quibus adnectuntur,  
*neither to govern and support the several parts to which they are attached,*  
 neque ideo totum corpus; palpebræ nictant, et tandem  
*nor consequently the whole body; the eyelids wink, and at length*  
 clauduntur; maxilla cadit, caput nutat, omnia membra leviter  
*are shut; the jaw falls, the head nods, all the members slightly*  
 flexa quiescunt, et corpus ipsum flectitur antrosum, nisi  
*bent become quiet, and the body itself is bent forwards, except*  
 dormiens decumbat. Pulsus arteriarum fiunt tardiores  
*the sleeping person lies down. The pulsations of the arteries become slower*  
 et pleniores, respiratio lentior et profundior, et multi  
*and fuller, respiration slower and deeper, and many (while)*

faciunt. Actiones vero vitales, quin et naturales, pergunt etiam in somno quam perfectissimo, quamvis nonnihil lentiores quam in vigili plerumque observentur.

391. Post solitos diei labores, levem cœnam, Venerem modice cultam, suavissimus somnus obrepat, suadentibus tenebris et silentio noctis. Præcedunt amor quietis et animi pariter et corporis tranquillitatis, debilitas, lassitudo, defatigationis sensus in iis musculis præsertim quibus maxime usi sumus, et oscitatio, et frequens et valida artuum extensio; sensuum externorum hebetudo, internorum confusio, at-

tentio distracta, neque voluntati parens, recordatio injussa, invita, imaginatio vaga, et credita demum, delirii species, postremo, omnium rerum oblivio: musculi fatigati et relaxati, neque singulas quibus adnectuntur partes, neque ideo totum corpus, regere et sustinere possunt: palpebræ nictant, et tandem clauduntur; maxilla cadit, caput nutat, omnia membra leviter flexa quiescunt, et corpus ipsum antrosum flectitur, nisi decumbat dormiens. Pulsus arteriarum tardiores et pleniores fiunt, respiratio lentior et profundior, et multi dormientes stertunt; calor minuitur, et pla-

dormientes stertunt; calor minuitur, et pleræque secretiones; et sleeping snore; heat is diminished, and most (of) the secretions; and soliti appetitus et propensiones non percipiuntur. the accustomed appetites and propensities are not perceived.

392. Diuturnitas somni pendet multum ab ætate, constitutione, consuetudine, et demum statu corporis tempore quo custom, and lastly the state of the body at the time at which somnus obreperat. Varii stimuli, vel admoti extrinsecus, vel orti intus, imponunt finem eidem, lux, strepitus, rudior tactus, fames, sitis, propensio ad reddendam urinam, &c. Tandem somnus rumpitur, neque adeo subito, quin perturbatio internorum sensuum, insomnium, hebetudo, et imperfectus usus externorum sensuum plerumque observentur, et sæpe recordemur matutini insomnii, plerumque obliti aliorum. Demum expergiscimur, oscitamus, extendimus membra flexa diu, non secus ac dormituri feceramus; denuo percipimus appetitus et naturales propensiones; facti compotes omnium facultatum corporis que animi exiguo spatio temporis.

393. Causa somni, nimirum plena et proxima causa, adhuc latet, et fortasse latebit diu. Male tribuitur nervis exhaustis et repletis vicissim suo fluido; quippe quia somnus, in plurimis exemplis, prorogetur facile, ubi fluidum, si revera tale quid inest nervis et cerebro, potest non non esse valde exhaustum; et sæpe producat

ræque secretiones; et soliti appetitus (353) et propensiones (354) non percipiuntur.

392. Diuturnitas somni pendet multum ab ætate, constitutione, consuetudine, et demum corporis statu tempore quo somnus obreperat. Finem eidem imponunt varii stimuli, vel extrinsecus admoti, vel intus orti, lux, strepitus, tactus rudior, fames, sitis, propensio ad urinam reddendam, &c. Tandem somnus rumpitur, neque adeo subito, quin perturbatio sensuum internorum, insomnium, hebetudo, et imperfectus externorum sensuum usus plerumque observentur, et sæpe insomnii matutini recorde-

mur, aliorum plerumque obliti. Expergiscimur demum, oscitamus, membra diu flexa extendimus, non secus ac dormituri feceramus; appetitus et propensiones naturales denuo percipimus; exiguo temporis spatio, omnium corporis animique facultatum compotes facti.

393. Causa somni, nimirum, plena et proxima causa, adhuc latet, et fortasse diu latebit. Male fluido suo nervis exhaustis vicissim et repletis tribuitur; quippe quin somnus, plurimis in exemplis, prorogetur facile, ubi fluidum, si tale quid revera nervis et cerebro inest, non potest non esse valde exhaustum; et sæpe pro-

diu postquam nervi debent abundare quam maxime proprio  
*long after that the nerves ought to abound the most possible with their*  
 fluido.  
*proper fluid.*

394. Nec somnus melius dicitur oriri a compresso  
*Nor (is) sleep more properly said to arise from a compressed*  
 cerebro; enim plerumque nulla talis compressio potest ostendi, aut  
*brain; for generally no such compression can be shewn, or*  
 profecto fieri et sopor inductus cerebro compresso,  
*indeed take place: and the drowsiness induced by the brain being compressed,*  
 differt multum a naturali somno. Enim ille nec reficit vires,  
*differs much from natural sleep. For it neither recruits the strength,*  
 nec potest ita rumpi quin æger relabatur in eundem statim  
*nor can be so broken but that the patient relapses into the same as soon*  
 ut stimulus qui excitabat fuerit sublatus. Vero naturalis somnus,  
*as the stimulus which excited him has been removed. But natural sleep,*  
 nihil omnino admoto quod liberet cerebrum a compressione,  
*nothing at all being applied which could relieve the brain from compression,*  
 facillime pellitur quocunque stimulo.  
*is very easily driven off by any stimulus.*

395. Omnia signa, quæ comitantur somnum, docent, statum  
*All the signs, which accompany sleep, prove, that the state*  
 universi nervosi generis, et imprimis cerebri, multum mutari.  
*of the whole nervous system, and especially of the brain, is much changed.*  
 Vero non docent qualis ista mutatio fuerit. Tamen,  
*But they do not shew what kind that change may be. However,*  
 juvabit novisse remotas causas somni et vigiliarum, quibus  
*it will benefit to know the remote causes of sleep and watchfulness, by which*  
 iste ignotus status inducitur, et ope quarum, medici sæpe  
*that unknown state is induced, and by means of which, physicians often*  
 conantur, neque frustra, temperare somnum prout res  
*endeavour, nor in vain, to regulate sleep according as circumstances*  
 postulaverint.  
*shall require.*

396. Omnis sensus, pariter externus que internus, omnis affectus  
*Every sensation, alike external and internal, every affection*  
 animi, omnis actio musculorum, excitant nervosum genus, que  
*of the mind, every action of the muscles, excite the nervous system, and*  
 præstant hominem vigilem, eo certius, quo ipsa fuerint  
*keep a person awake, the more certainly, as they shall be*  
 vehementiora. Sic vivida lux, strepitus, dolor, ira, gaudium, mæror,  
*more violent. Thus vivid light, noise, pain, anger, joy, grief,*

ducatur diu, postquam nervi fluido proprio debent quam maxime abundare.

394. Nec melius a compresso cerebro somnus oriri dicitur; plerumque enim nulla talis compressio ostendi aut profecto fieri potest: et sopor, compresso cerebro inductus, differt multum a naturali somno. Ille enim nec vires reficit, nec ita rumpi potest, qui statim in eundem æger relabatur, ut stimulus qui excitabat sublatus fuerit. Somnus vero naturalis, nihil omnino admoto quod cerebrum a compressione liberet, stimulo quocunque facillime pellitur.

395. Docent omnia quæ somnum comitantur

signa, universi generis nervosi, et imprimis cerebri, statum multum mutari. Qualis vero ista mutatio fuerit, non docent. Juvabit tamen novisse causas somni et vigiliarum remotas, quibus ignotus iste status inducitur, et quarum ope medici sæpe conantur, neque frustra, somnum, prout res postulaverint, temperare.

396. Sensus omnis, externus internusque pariter, omnis animi affectus, omnis actio musculorum genus nervosum excitant, hominemque vigilem præstant, eo certius, quo ipsa vehementiora fuerint. Sic vivida lux, strepitus, dolor, ira, gaudium, mæror, metus, anxietas,

metus, anxietas, fames, sitis, vehemens cupido, motus corporis,  
*fear, anxiety, hunger, thirst, ardent desire, motion of the body,*  
 vivida memoria aut imaginatio, intensa cogitatio, adimunt somnum.  
*lively memory or imagination, intense thinking, prevent sleep.*  
 Vero nulla, aut levior, impressio in organa sensuum,  
*But none, or a slighter, impression upon the organs of the senses,*  
 susurrus apum, murmur labentis rivi, frigida plumbea oratio,  
*the hum of bees, the murmur of a gliding stream, a cold dull oration,*  
 denique, talis exercitatio memoriæ ipsiûs, qualis neque est nimis  
*lastly, such an exercise of memory itself, as neither is too*  
 laboriosa, neque commovet mentem ullo modo, invitant atque  
*laborious, nor excites the mind in any manner, invite and*  
 conciliant somnum. Nihil nimis impetus sanguinis versus caput,  
*procure sleep. An excessive impetus of blood towards the head,*  
 qualis sæpe accidit in febris, pellit somnum: vero libera et  
*such as often happens in fevers, repels sleep: but a free and*  
 æqual distributio sanguinis per totum corpus, que imprimis  
*equal distribution of the blood through the whole body, and especially*  
 extremas partes, sæpe inducit somnum. Quicquid solvit corpus,  
*the extreme parts, often induces sleep. Whatever relaxes the body,*  
 favet somno: hinc variæ exinanitiones, balneum, fomentum, calor  
*favours sleep: hence various evacuations, the bath, fomentation, heat*  
 ipse aliquando utilis ad conciliandum somnum. Somnus facilius  
*itself (are) sometimes useful to procure sleep. Sleep more easily*  
 obrepit post cibum et post concubitum; scilicet, vehemente sensu  
*creeps on after food and after venery: that is, turbulent feeling*  
 pacato, et corpore ipso nonnihil soluto. Intensum et  
*being calmed, and the body itself somewhat relaxed. Intense and*  
 diurnum frigus inducit somnum, haud facilem ruptum, sæpe  
*continued cold induces sleep, not easy to be broken, often*  
 continuatum morti. Denique sunt res, quæ admotæ corpori  
*continued to death. Indeed there are things, which applied to the body*  
 aut receptæ in id ipsum, non modo non excitant nervosum  
*or received into it itself, not only do not excite the nervous*  
 genus, sed plane sopiunt, reddunt minus aptum ad sensum que  
*system, but altogether lull it, render it less fit for sensation and*  
 motum, et sic inducunt altum somnum. Hujusmodi sunt quæ  
*motion, and thus bring on deep sleep. Of this sort are what*  
 vocantur narcotica remedia, opium et similia: quibus oportet  
*are called narcotic remedies, opium and the like: with which it behoves*  
 annumerare vinum ipsum sumptum nimiam copiam, et quosdam  
*to reckon wine itself taken in too great quantity, and certain*

fames, sitis, cupido vehemens, motus corporis, memoria aut imaginatio vivida, cogitatio intensa, somnum adimunt. Nulla vero, aut levior, in organa sensuum impressio, susurrus apum, murmur labentis rivi, oratio frigida plumbea, ipsius denique memoriæ talis exercitatio, qualis neque nimis laboriosa est, neque mentem ullo modo commovet, somnum invitant atque conciliant. Sanguinis caput versus impetus nimis, qualis sæpe in febris accidit, somnum pellit: libera vero et æqualis sanguinis per totum corpus, partesque imprimis extremas, distributio, somnum sæpe inducit. Quicquid corpus solvit, somno favet: hinc variæ

exinanitiones, balneum, fomentum, calor ipse, aliquando ad somnum conciliandum utilis. Post cibum et post concubitum somnus facilius obrepit; pacato scilicet vehemente sensu et corpore ipso nonnihil soluto. Frigus intensum et diurnum somnum inducit, haud facilem ruptum, sæpe morti continuatum. Denique, sunt res, quæ corpori admotæ, aut in id ipsum receptæ, genus nervosum non modo non excitant, sed plane sopiunt, ad sensum motumque minus aptum reddunt, et sic altum somnum inducunt. Hujusmodi sunt quæ vocantur narcotica remedia, opium, et similia: quibus annumerare oportet vinum ipsum nimiam copiam sumptum, et vapores



lethiferos vapores, veluti ardentis carbonis. Postremo, vigilla ipsa  
*deadly vapours, as of burning charcoal. Finally, watching itself*  
 est quodammodo causa somni, quatenus inter vigillas, homo  
*is in some measure a cause of sleep, inasmuch as during watchings, a person*  
 semper exercent sua organa plus ve minus, et sic minuat,  
*always exercises his organs more or less, and thus diminishes,*  
 consumat, nervosam vim. Et profecto, quo vehementius corpus  
*consumes, the nervous power. And truly, the more violently the body*  
 exercetur, fere pari ratione necessitas somni premit.  
*is exercised, in almost an equal degree does the necessity for sleep press.*

397. Fœtus videtur transire somno fere tempus quod  
*The fœtus seems to pass in sleep nearly (all) the time (during) which*  
 latet in utero; et immaturi partus, sed tamen superstites,  
*it lies hid in the uterus; and premature births, but nevertheless that survive,*  
 dormiunt fere totos primos menses. Infantes quoque solent  
*sleep nearly the whole first months. Infants also are accustomed*  
 dormire multum. Pueri, et homines qui degunt laboriosam vitam,  
*to sleep a great deal. Boys, and men who lead a laborious life,*  
 dormiunt plus, et quoque altius, quam adulti, aut luxuriosi  
*sleep more, and also more soundly, than adult, or luxurious*  
 et desides, homines; scilicet qui bene exercent corpus,  
*and indolent, persons; as being persons who properly exercise the body,*  
 neque habent mentem laceratam curis. Leves somni, præmium et  
*nor have the mind distracted by cares. Light slumbers, the reward and*  
 solatium laboris, virtutis, temperantiæ, haud facile conceduntur  
*solace of labour, virtue, temperance, are not easily granted*  
 immerentibus.  
*to the undeserving.*

398. Porro, dum corpus crescit indies, plus somni  
*Moreover, so long as the body is growing daily, more (of) sleep*  
 requiritur, scilicet qui confert haud parum ad reficiendum et  
*is required, as that which contributes not a little to recruit and*  
 alendum corpus. Homines dormiunt minus medio ætate. Autem  
*nourish the body. Persons sleep less at the middle age. But*  
 consuetudo facit multum hic: alii sunt contenti somno quatuor  
*habit does a great deal here: some are content with the sleep of four*  
 horarum, alii consumunt decem horas et amplius de die somno.  
*hours, others consume ten hours and more of the day in sleep.*  
 Quidam, fere confecti senio, facti somniculosi et torpidi,  
*Some, almost worn out with old age, become drowsy and torpid,*  
 transierunt maximam partem temporis somno.  
*have passed the greatest part of (their) time in sleep.*

quosdam lethiferos, veluti carbonis ardentis. Postremo, ipsa vigilla somni quodammodo causa est, quatenus inter vigillas, homo sua organa plus minusve semper exercent, et sic vim nervosam minuat, consumat. Et profecto, quo vehementius corpus exercetur, pari fere ratione premit somni necessitas.

397. Tempus quod fœtus in utero latet somno fere transire videtur; et partus immaturi, sed superstites tamen, primos menses fere totos dormiunt. Infantes quoque multum dormire solent. Pueri, et homines qui vitam laboriosam degunt, plus quam adulti homines, aut luxuriosi et desides, et altius quoque dormiunt;

scilicet qui corpus bene exercent, neque hoc cibo gravatum, neque mentem curis laceratam habent. Leves somni, laboris, virtutis, temperantiæ, præmium et solatium, immerentibus haud facile conceduntur.

398. Porro dum crescit indies corpus, plus somni requiritur, scilicet qui ad corpus reficiendum et alendum haud parum confert. Media ætate, homines minus dormiunt. Consuetudo autem multum hic facit: alii quatuor horarum somno contenti sunt, alii decem et amplius horas de die somno consumunt. Quidam, senio fere confecti, somniculosi et torpidi facti, maximam temporis partem somno transierunt.

399. Usus somni satis apparet ex effectibus quos habet  
*The use of sleep sufficiently appears from the effects which it has*  
 in corpore. Reficit vires et animi et corporis consumptas  
*on the body. It renews the powers both of mind and body when consumed*  
 exercitatione: conciliat vigorem huic, pristinam alacritatem illi:  
*by exercise: it restores its vigour to the latter, its former alacrity to the former:*  
 reddit musculos, defessos, rigidos, dolentes, tremulos valido labore,  
*it renders the muscles, wearied, stiff, painful, tremulous with hard labour,*  
 iterum vividos, validos, et mobiles: temperat pulsus arteriarum,  
*again lively, strong, and active: it moderates the pulsations of the arteries,*  
 evadentes frequentiores sub vesperem, et reducit ad matutinam  
*becoming more frequent towards evening, and reduces them to the morning*  
 moderationem: videtur favere concoctioni cibi, et appositioni  
*regularity: it seems to favour the digestion of the food, and the apposition*  
 nutrimenti ad reparandam jacturam solidarum partium; minuit  
*of the nutriment to repair the loss of the solid parts; it diminishes*  
 secretiones et excretiones; et sinit secretos humores spissescere,  
*the secretions and excretions; and permits the secreted humours to thicken,*  
 scilicet, corpore facto minus sentiente et mobili. Hinc  
*that is, by the body being rendered less sensitive and irritable. Hence*  
 somnus non modo utilis, sed prorsus necessarius ad conservandas  
*sleep (is) not only useful, but absolutely necessary to preserve*  
 vitam et sanitatem; et præstantissimum remedium ad sanandos vel  
*life and health; and a most excellent remedy for curing or*  
 levandos multos morbos.  
*relieving many diseases.*

400. Defectus somni nocet multimodis; imprimis nervoso genere.  
*Want of sleep hurts in many ways; especially the nervous system.*  
 Reddit organa externorum et internorum sensuum, que omni  
*It renders the organs of the external and internal senses, and of every*  
 geni motus, minus apta ad sua munera. Hinc sensus vel  
*kind of motion, less fitted for their functions. Hence sensations either*  
 nulli vel imperfecti et depravati, dolor capitis, vertigo, imbecillitas,  
*none or imperfect and depraved, pain of the head, vertigo, imbecility,*  
 defectus memoriæ, species delirii, demum, insania ipsa; debilitas  
*loss of memory, a species of delirium, lastly, insanity itself; debility*  
 artuum, et imperfecta et inordinata actio vitalium organorum,  
*of the limbs, and an imperfect and irregular action of the vital organs,*  
 frequentes pulsus (sc. art.), calor, febris, prava concoctio cibi,  
*frequent pulsations, heat, fever, depraved concoction of the food,*

399. Usus somni ex effectibus quos in corpore habet satis apparet. Vires et animi et corporis, exercitatione consumptas, reficit: huic vigorem, illi alacritatem pristinam conciliat: musculos valido labore defessos, rigidos, dolentes, tremulos, iterum vividos, validos, et mobiles reddit: pulsus arteriarum, sub vesperem frequentiores evadentes, temperat, et ad moderationem matutinam reducit: cibi concoctioni, et appositioni nutrimenti ad reparandam partium solidarum jacturam, favere videtur: secretiones et excretiones minuit; et humores secretos spissescere sinit, corpore scilicet minus sentiente et mobili facto. Hinc

ad vitam et sanitatem conservandas, somnus non utilis modo, sed prorsus necessarius; et ad multos morbos sanandos vel levandos, præstantissimum remedium.

400. Defectus somni multimodis nocet: imprimis generi nervoso. Organa sensuum externorum et internorum, motusque omnigeni, ad sua munera minus apta reddit. Hinc sensus vel nulli, vel imperfecti et depravati, capitis dolor, vertigo, imbecillitas, memoriæ defectus, delirii species, ipsa demum insania; debilitas artuum, et imperfecta et inordinata vitalium organorum actio, pulsus frequentes, calor, febris, concoctio cibi prava, corpus parum nu-

corpus parum nutritum, macies, demum secretiones et  
*the body not nourished, emaciation, lastly the secretions and*  
 excretionēs auctæ, vel impeditæ vel perturbatæ.  
*excretions increased, or impeded or disturbed.*

401. Somnus impeditur, tum sanis tum morboris hominibus,  
*Sleep is impeded, as well in healthy as in sick persons,*  
 varlis causis jam recensitis. Præterea, deficit in multis  
*by the various causes already enumerated. Besides, it fails in many*  
 morbis, quorum sunt pauci qui non facessant tantum  
*diseases, of which there are few which do not cause so much*  
 doloris aut anxietatis quantum fuerit sat ad arcendum vel  
*(of) pain or anxiety as may be sufficient to keep off or*  
 rumpendum somnum. Febres omnigenæ fere faciunt (febricitantem)  
*to break the sleep. Fevers of every kind generally cause (the patient)*  
 dormire male, cum ob generalem molestiam quæ non  
*to sleep badly, as well because of the general uneasiness which not*  
 nunquam comitatur hoc genus morborum, tum ob  
*never (sometimes) accompanies this class of diseases, as on account of*  
 impetum sanguinis versus caput sæpe incitatum; tum quoque  
*the impetus of the blood towards the head (being) often increased; as also*  
 ob ventriculum habentem se male, et gravatum crudo  
*on account of the stomach having itself ill, and oppressed with crude*  
 cibo, aut distentum potu. Hæc quoque est ratio cur multi  
*food, or distended with drink. This also is the reason why many*  
 hypochondriaci et hysterici dormiant tam male; scilicet, qui  
*hypochondriacal and hysterical (persons) sleep so badly; that is, who*  
 solent concoquere male, et habent stomachum opportunum  
*are accustomed to digest badly, and have the stomach subject to*  
 multis, quamvis sæpe levibus, malis; quorum vel levissima,  
*many, although often slight, disorders; of which even the slightest*  
 præsertim si corpus jam fuerit nimis mobile et irritabile,  
*especially if the body already should be too mobile and irritable,*  
 auferent somnum.  
*will prevent sleep.*

402. Defectus somni, pari ratione, solet nocere, sed adhuc  
*Want of sleep, for a like reason, is accustomed to hurt, but still*  
 magis, et citius, in morbis ac in sanitate; scilicet, viribus  
*more, and more quickly, in diseases than in health; namely, by the powers*  
 ægri minutis, viribus morbi intensis, dolore  
*of the sick being reduced, the strength of the disease being increased, pain*  
 capitis aut delirio inductis, que concoctione cibi impeditæ.  
*of the head or delirium induced, and the digestion of the food impeded.*

tritum, macies, secretiones demum et excretiones auctæ, vel impeditæ, vel perturbatæ.

401. Impeditur somnus, tum sanis hominibus, tum morboris, variis causis jam (396) recensitis. Deficit præterea in multis morbis, quorum pauci sunt, qui non tantum doloris, aut anxietatis, aut molestiæ facessant, quantum sat fuerit ad somnum arcendum vel rumpendum. Febres omnigenæ fere male dormire faciunt, cum ob molestiam generalem, quæ nunquam non hoc genus morborum comitatur, tum ob incitatum sanguinis impetum, sæpe caput ver-

dentem, et crudo cibo gravatum, aut potu distentum. Hæc quoque ratio est cur multi hypochondriaci et hysterici tam male dormiant; scilicet qui male solent concoquere, et ventriculum habent multis, quamvis sæpe levibus, malis opportunum; quorum vel levissima, præsertim si corpus jam nimis mobile et irritabile fuerit, somnum auferent.

402. Defectus somni, pari ratione in morbis ac in sanitate, sed magis adhuc et citius nocere solet; viribus scilicet ægri minutis, viribus morbi intensis, dolore capitis aut delirio inductis, cibi quoque concoctione impedita. Igitur

Igitur ipse est non modo molestissimum signum adversæ  
*Therefore itself is not only a most troublesome symptom of bad*  
 valetudinis, sed sæpe et causa aliorum et gravium malorum.  
*health, but often also the cause of other and severe diseases.*

403. Excessus somni quoque nocet haud parum. Reddit totum  
*Excess of sleep also hurts not a little. It renders the whole*  
 hominem debilem, torpidum, hebetem, fere fatuum, facit motum  
*frame weak, torpid, dull, almost foolish, makes the motion*  
 sanguinis languidum, et minuit plerasque secretiones et  
*of the blood languid, and diminishes most of the secretions and*  
 excretiones. Hinc plenitudo, obesitas, flacciditas, et impotentia ad  
*excretions. Hence fulness, obesity, flaccidity, and incompetency to*  
 omnia munera vitæ (oriuntur).  
*all the duties of life.*

404. Causæ excessûs hujusmodi, sunt vel solitæ causæ somni  
*The causes of excess of this sort, are either the usual causes of sleep*  
 jam recensitæ, intensæ ultra modum, vel aliquod vitium  
*already enumerated, increased beyond bounds, or some disorder*  
 cerebri, veluti compressio, inundatio, &c. vel aliquando ut videtur  
*of the brain, as compression, effusion, &c. or sometimes as it seems*  
 magna insolita debilitas, et inducta ab insolitâ causâ; veluti  
*great unusual debility, and brought on by an unusual cause; as*  
 sub finem quarundam februm, vel in convalescentibus ex  
*towards the end of certain fevers, or in persons convalescent from*  
 iis que aliis morbis, quamvis in his exemplis multum absit ut  
*them and other diseases, although in these examples it is far from that*  
 tam diuturnus somnus noceat; vel siquando forte graves et  
*so prolonged sleep can hurt; or whenever by chance severe and*  
 diuturni mœror aut metus induxerint mirum et  
*long continued grief or fears have brought on a wonderful and*  
 inexpectatum soporem. Denique quidam homines didicerunt, consuetudine  
*unexpected drowsiness. Indeed some persons have learned, by habit*  
 solâ, dormire plus justo, non sine magno malo. Nec desunt  
*alone, to sleep more than proper, not with great evil. Nor are there*  
 exempla hominum, qui, sine manifestâ causâ, transierunt  
*wanting examples of men, who, without any manifest cause, have passed*  
 totos dies vel etiam menses, vix interrupto somno.  
*entire days or even months, in a scarcely interrupted sleep.*

405. Somnia, qualia sæpe agitant, delectant, angunt, terrent,  
*Dreams, such as often agitate, delight, render anxious, terrify,*  
 dormientes, rapiunt in novos orbes, solent haberi  
*persons sleeping, waft them into new spheres, are accustomed to be considered*

non modo ipse molestissimum adversæ valetudinis signum est, sed et aliorum sæpe et gravium malorum causa.

403. Excessus quoque somni haud parum nocet. Totum hominem debilem, torpidum, hebetem, fere fatuum reddit: motum sanguinis languidum facit, et plerasque secretiones et excretiones minuit. Hinc plenitudo, obesitas, flacciditas, et ad omnia vitæ munera impotentia.

404. Causæ hujusmodi excessus sunt, vel solitæ somni causæ jam (396) recensitæ, ultra modum intensæ, vel vitium aliquod cerebri, veluti compressio, inundatio, &c. vel aliquando, ut videtur, debilitas magna, insolita, et ab in-

solita causa inducta; veluti sub finem quarundam februm, vel in convalescentibus ex iis aliisque morbis, quamvis in his exemplis multum absit ut tam diuturnus somnus noceat; vel siquando forte mœror aut metus graves et diuturni, mirum et inexpectatum soporem induxerint. Denique, sola consuetudine, plus justo dormire, non sine magno malo, quidam homines didicerunt. Nec desunt exempla hominum, qui, sine manifesta causa, totos dies, vel etiam menses, somno vix interrupto, transierunt.

405. Somnia, qualia dormientes sæpe agitant, delectant, angunt, terrent, in novos orbes rapiunt, pro morbis a medicis haberi solent:

a medicis pro morbis: quippe quæ vel prorsus desint in  
*by physicians as diseases: as being what either are entirely wanting in*  
 perfectissimo somno, aut saltem relinquunt nulla vestigia aut  
*the most perfect sleep, or at least leave behind no traces or*  
 memoriam sui.  
*memory of themselves.*

406. Fiunt, vel propter hominem non plene sopi-  
*They take place, either on account of the person not being fully lulled*  
 tum, cui memoria et imaginatio adhuc vigent, quamvis  
*to sleep, to whom memory and imagination as yet are active, although*  
 manumissæ imperio voluntatis; vel propter quaslibet  
*emancipated from the controul of the will; or on account of some*  
 impressiones, internas vel externas, adeo validas ut faciant eum  
*impressions, internal or external, so powerful that they cause him*  
 sentire, quamvis non rumpant somnum; de quibus semi-  
*to perceive, although they do not break the sleep; about which the half*  
 somnis quodammodo judicet, et confundat eas in mirum  
*asleep (person) in some measure judges, and confounds them in a wonderful*  
 modum cum cogitationibus memoriæ et imaginationis. Enim hæc  
*manner with the thoughts of memory and imagination. Moreover these*  
 oblata suâ sponte homini inter somnum, sumuntur pro veris.  
*presented spontaneously to a person during sleep, are taken for true.*

407. Somnia familiaria obdormiscentibus et expergiscentibus,  
*The dreams common to persons falling asleep and awaking,*  
 quamvis alioquin sanissimis, et expositis nulli irritationi, docent;  
*although otherwise very healthy, and exposed to no irritation, teach this;*  
 dira somnia quæ oriuntur ab anxietate corporis, veluti a  
*the horrible dreams which arise from anxiety of body, as from*  
 supino situ corporis, aut a ventriculo gravato multo  
*a supine position of the body, or from the stomach oppressed with much*  
 cibo et vino, docent; singularia somnia ducentia originem a  
*food and wine, teach it; the singular dreams drawing their origin from*  
 dolore cujûsvis partis, vel frigore admoto, vel inæquali et duriore  
*pain of any part, or cold being applied, or an uneven and harder*  
 lecto, vel statu genitalium organorum, vel a febris, vel denique,  
*bed, or the state of the genital organs, or from fevers, or lastly,*  
 a variis morbis pectoris, docent. Nimirum homo, in hoc  
*from the various diseases of the chest, teach it. Truly a person, in this*  
 statu ut videtur, quærit causam sensûs quem percipit, et  
*state as it appears, seeks the cause of the sensation which he perceives, and*  
 sæpe fingit sibi absurdas et ridiculas (causas).  
*often imagines to himself absurd and ridiculous ones.*

quippe quæ in perfectissimo somno vel prorsus desunt, vel nulla saltem sui vestigia aut memoriam relinquunt (390).

406. Fiunt vel propter hominem non plene sopitum, cui memoria et imaginatio adhuc vigent, quamvis voluntatis imperio manumissæ; vel propter impressiones quaslibet, internas vel externas, adeo validas ut eum sentire faciant, quamvis non rumpant somnum; de quibus semisomnis quodammodo judicet, easque cum cogitationibus memoriæ et imaginationis mirum in modum confundat. Hæc enim sua sponte inter somnum homini oblatæ, neque ejus voluntati obedientes, pro veris sumuntur.

407. Docent somnia obdormiscentibus et expergiscentibus familiaria, quamvis alioquin sanissimis, et nulli irritationi expositis; docent dira somnia quæ ab anxietate corporis (186, 193) oriuntur, veluti a situ corporis supino, aut a ventriculo multo cibo et vino gravato; docent singularia somnia, a dolore partis cujusvis, vel frigore admoto, vel lecto inæquali et duriore, vel statu genitalium organorum, vel a febris, vel denique a variis morbis pectoris, originem ducentia. Nimirum, in hoc statu, ut videtur, homo sensus quem percipit causam quærit, et absurdas et ridiculas sæpe sibi fingit.

408. Vero sensus, quicunque fuerit, sic excitatus somnianti

*But the sensation, whatever it has been, thus excited in the dreaming person*  
 est quam maxime vividus, scilicet in quo totus homo est,  
*is extremely vivid, as being that in which the whole man is,*  
 indivisâ attentione adhibitâ, que nullo iudicio temperante.  
*the undivided attention being given, and no judgment regulating it.*  
 Hinc, fere, nulla vis animi somniis; sed timor, mœror,  
*Hence, mostly, no influence of reason in dreams; but fear, grief,*  
 libido, demum, quicquid obtulerit se menti, statim  
*lust, in a word, whatever may have presented itself to the mind, immediately*  
 occupat eam, et rapit totum hominem.  
*engages it, and hurries off the whole man.*

409. Somnia (sunt) fugacia et velocissima; ita ut longa series  
*Dreams (are) fleeting and very rapid; so that a long series*  
 annorum, et innumeræ res gestæ, observentur animo dormientis,  
*of years, and innumerable exploits, are observed by the mind of the sleeping*  
 spatio temporis adeo parvo ut careat nomine. Est haud  
*person, in a space of time so small as to want a name. It is not*  
 incredibile, vocem quæ jubet expergisci, sæpe dare longum  
*incredible, that the voice which orders to awake, often produces a long*  
 somnium priusquam penitus rumpat somnum.  
*dream before that it perfectly breaks the sleep.*

410. Somnia multum reguntur consuetudine; ita ut quidam didi-  
*Dreams are greatly regulated - by habit; so that some have*  
 cerint arcere omnino, alii quodammodo dirigere sua somnia,  
*learned to prevent altogether, others in some degree to direct their dreams.*  
 Inter tot absurda et ridicula nil mirum si  
*Among so many absurd and ridiculous (ones) it is no way wonderful if*  
 fuerint quædam minus inepta vel denique vera; scilicet, si  
*there should be some less foolish or even true; that is, if*  
 quis, fortasse boni iudicii, vigilans plus quam dormiens,  
*any (one), perhaps of sound judgment, waking more than sleeping,*  
 reputaverit multa secum, et præviderit probabiliora.  
*should reflect on many things with himself, and should foresee the more probable.*

408. Sensus vero quicunque sic excitatus fuerit somnianti quam maxime vividus est, scilicet in quo homo totus est, attentione adhibita indivisa, nulloque temperante iudicio. Hinc nulla fere in somniis vis animi; sed timor, mœror, libido, demum forte menti se obtulerit, eam statim occupat, et totum hominem rapit.

409. Somnia fugacia, velocissima; ita ut longa series annorum, et res gestæ innumeræ, spatio temporis adeo parvo ut nomine careat, dormientis animo observentur. Haud incredi-

bile est, vocem quæ jubet expergisci longum sæpe prius dare somnium, quam somnum penitus rumpat.

410. Somnia multum reguntur consuetudine; ita ut quidam omnino arcere, alii sua somnia quodammodo dirigere, didicerint. Inter tot absurda et ridicula, nil mirum si quædam minus inepta, vel denique vera fuerint; scilicet si quis, fortasse boni iudicii, plus vigilans quam dormiens, multa secum reputaverit, et præviderit probabiliora.

CAP. XIV.  
CHAP. XIV.

*De communi et naturali motu sanguinis.*  
Of the common and natural motion of the blood.

411. Circuitus sanguinis occupavit proximum, et profecto, in  
*The circulation of the blood has occupied the next, and indeed, in*  
homine, que similibus animalibus, locum vix secundum peculiari  
*man, and similar animals, a place hardly second to the peculiar*  
functioni cerebri ipsius; scilicet, organa quæ movent sanguinem  
*function of the brain itself; indeed, the organs which propel the blood*  
habent tantum commercium cum cerebro, et motus sanguinis  
*have so great an intercourse with the brain, and the motion of the blood*  
est adeo necessarius ad excitandum, que aptandum cerebrum suis  
*is so necessary to excite, and fit the brain for its*  
muneribus, ut hæ binæ functiones vicissim ferant et petant  
*functions, that these two functions mutually bring and seek*  
subsidiū, neque queat altera perfici sine ope alterius.  
*support, nor can the one be performed without the aid of the other.*

412. Sanguinem moveri per totum corpus, ingens,  
*That the blood is circulated though the whole (of the) body, the great,*  
et nonnunquam lethalis, jactura ejus, a parvo vulnere in quivis  
*and sometimes fatal, loss of it, from a small wound in any*  
parte corporis, docet.  
*part of the body, teaches.*

413. Cursus sanguinis, in adulto homine, absolvitur hac  
*The circulation of the blood, in an adult person, is performed in this*  
ratione. Sanguis, redux ab omnibus partibus corporis, transit  
*way. The blood, returning from all parts of the body, passes*  
in sinum venosum et dextram auriculam cordis; distendit,  
*into the sinus venosus and right auricle of the heart; distends,*  
stimulat, et ciet hanc ad contractionem: auricula contrahens se  
*stimulates, and excites this to contraction: the auricle contracting itself*  
tradit sanguinem dextro ventriculo: vero hic distentus et irritatus  
*delivers the blood to the right ventricle: but this distended and irritated*  
pari ratione, contrahit se, que impellit sanguinem in pulmonalem  
*in like manner, contracts itself, and drives the blood into the pulmonary*  
arteriam, ramis cujus transit per utrumque pulmonem.  
*artery, by the branches of which it passes through both lungs.*

CAP. XIV.—*De sanguinis motu communi et naturali.*

411. Proximum peculiari ipsius cerebri functioni, et profecto, in homine similibusque animalibus, vix secundum locum, occupavit sanguinis circuitus; scilicet organa quæ sanguinem movent tantum cum cerebro commercium habent, et sanguinis motus, ad excitandum, suisque muneribus aptandum cerebrum, adeo necessarius est, ut hæ binæ functiones subsidiū ferant et petant vicissim, neque altera sine alterius ope perfici queat.

412. Sanguinem per totum corpus moveri,

docet ingens, vel lethalis nonnunquam, ejus jactura, a parvo vulnere in quivis corporis parte.

413. Cursus sanguinis in adulto homine hac ratione absolvitur. Sanguis ab omnibus corporis partibus redux, in sinum venosum et auriculam dextram cordis transit; hæc distendit, stimulat, et ad contractionem ciet: auricula se contrahens, sanguinem ventriculo dextro tradit: hic vero, pari ratione distentus et irritatus, se contrahit, sanguinemque in arteriam pulmonalem impellit, cujus ramis per utrumque pulmonem transit. Ab eo reducit venis pulmonalibus in sinum et auriculam sinistram, cujus

Reducitur ab eo (pulmone) pulmonibus venis in sinum  
*It is brought back from it (them) by the pulmonary veins into the sinus*  
 et sinistram auriculam, contractione cuius propellitur in  
*and the left auricle, by the contraction of which it is propelled into*  
 ventriculum ejusdem lateris. Hoc, demum, contrahente se, sanguis  
*the ventricle of the same side. This, indeed, contracting itself, the blood*  
 ejicitur insigni vi, et immittitur in aortam, innumeris  
*is ejected with great force, and is sent into the aorta, by the numberless*  
 ramis cuius defertur ad omnes partes corporis, reducendus  
*branches of which it is conveyed to all parts of the body, to be brought back*  
 denuo per sodales venas in cavam, et dextram auriculam  
*again by the accompanying veins into the cava, and the right auricle*  
 cordis.  
*of the heart.*

414. Valvæ in corde, positæ et in ostiis arteriarum et  
*The valves in the heart, placed both in the mouths of the arteries and*  
 in venis, prohibentes reditum sanguinis, ostendunt hunc  
*in the veins, preventing the return (reflux) of the blood, prove this*  
 cursum; ligaturæ impositæ venis vel arteriis quæ faciunt has  
*course; ligatures put on the veins or arteries which cause the latter*  
 tumere citra, illas ultra, ligaturam, quoque docent; denique,  
*to swell on this side, the former beyond, the ligature, also teach it: lastly,*  
 hic cursus sanguinis facile conspicitur in pellucidis animalibus.  
*this course of the blood is easily seen in pellucid animals.*

415. Vero multum abest ut singuli sacculi cordis, contrahant  
*But it is far from that the several cavities of the heart, contract*  
 sese hoc ordine; contractio utriusque auriculæ perficitur  
*themselves in this order; the contraction of both auricles is performed*  
 eodem tempore, utroque ventriculo tunc relaxato; et hi  
*at the same time, both ventricles being then relaxed; and these*  
 rursus contrahunt se eodem tempore, auriculis simul  
*again contract themselves at the same moment, the auricles at the same time*  
 relaxatis.  
*being relaxed.*

416. In moribundis sinister ventriculus primo quiescit, deinde auricula  
*In dying persons the left ventricle first ceases, then the auricle*  
 ejusdem lateris; scilicet, sanguine quasi, ob defectum  
*of the same side; that is, the blood as it were, on account of want*  
 spiritus, effæto et forsam jam  
*of air, being barren (devoid of stimulating properties) and perhaps now*  
 transmissio parcius per pulmonem: postea dexter ventriculus,  
*transmitted more sparingly through the lungs: afterwards the right ventricle,*

contractione in ventriculum ejusdem lateris propellitur. Hoc demum se contrahente, sanguis insigni vi ejicitur, et in aortam immittitur, cuius innumeris ramis ad omnes partes corporis partes defertur, per venas sodales in cavam et auriculam dextram cordis denuo reducendus.

414. Hunc cursum ostendunt valvæ in corde, et in ostiis arteriarum et in venis positæ, reditum sanguinis prohibentes; docent quoque ligaturæ venis vel arteriis impositæ, quæ has citra, illas ultra ligaturam tumere faciunt: denique, hic cursus sanguinis in pellucidis animalibus facile conspicitur.

415. Multum vero abest ut hoc ordine singuli cordis sacculi sese contrahant; utriusque auriculæ contractio eodem tempore perficitur, relaxato tunc utroque ventriculo: et hi rursus eodem tempore se contrahunt, auriculis simul relaxatis.

416. In moribundis, ventriculus sinister primo quiescit, deinde auricula ejusdem lateris; sanguine scilicet ob defectum spiritus quasi effæto, et parcius forsam per pulmonem jam transmissio: postea ventriculus dexter, ultima auricula dextra desinit contrahere. Hinc aliquando fit, ut sanguis per magnas cavas, as-



dextra auricula ultima desinit contrahere. Hinc aliquando fit, *the right auricle last (ly) ceases to contract. Hence it sometimes happens,* ut sanguis cogatur, aliquatenus, redire per magnas *that the blood is forced, in some measure, to come back through the great* cavas, ascendentem et descendentem; et efficiat levem motum in iis. *cavas, ascending and descending; and produces a slight motion in them.*

417. In fœtu, nempe, qui nondum traxerit spiritum, sanguis *In the fœtus, that is, which has not yet drawn in the air, the blood* legit alias et longe diversas vias: imprimis, magna pars sanguinis *chooses other and far different ways: first of all, a great part of the blood* pulmonalis arteriæ aversa a pulmone (qui nimirum, *of the pulmonary artery turned away from the lungs (which without doubt,* nondum evolutus, nequit accipere tantum penum sanguinis) transit *not yet developed, cannot receive so great a store of blood) passes* per canalem arteriosum in aortam; tum magna pars *through the canalis (ductus) arteriosus into the aorta; then a great part* sanguinis aortæ defertur per umbilicales arterias ad placentam; *of the blood of the aorta is carried through the umbilical arteries to the placenta* & redit inde per umbilicalem venam, transit partim in cavam, *returning thence through the umbilical vein, it passes partly into the cava,* partim, per ductum venosum in jecur, et non nisi altero *partly, through the ductus venosus into the liver, and not until a second* circuitu per hoc viscus absoluto, redit tandem in *circulation through this viscus being performed, does it return at length into* cavam et dextram auriculam cordis. *the cava and right auricle of the heart.*

418. Arteriæ et venæ pariter referunt arborem, truncus cujus *Arteries and veins alike resemble a tree, the trunk of which* (divitur) in magnos ramos, hi dividantur in minores, *(is divided) into large branches, these (again) are divided into less,* minores in minutissimos ramulos, que detegendos nullo *the less into exceedingly minute little branches, and to be detected in no* modo sensibus: et semper hac lege, ut singuli rami *way by the senses: but always by this law, that each (of the) branches (are)* minores trunco unde oriuntur, vero omnes sumpti simul *less than the trunk whence they arise, but all taken together* sint nonnihil capaciores eodem (trunco). *are somewhat more capacious than the same.*

419. Minimi ramuli arteriarum (majores nunquam) reflexi *The smallest branches of the arteries (the larger never) reflected* fiunt venæ; vel immittuntur in venas hujusmodi jam formatas, *become veins; or are inoculated with veins of this kind already formed,*

descendentem et descendentem, aliquatenus redire cogatur, et levem in iis motum efficiat.

417. In fœtu, qui nempe nondum spiritum traxerit, aliis et longe diversis viis sanguis legit: imprimis magna pars sanguinis arteriæ pulmonalis, a pulmone aversa (nimirum qui nondum evolutus tantum penum sanguinis accipere nequit) per canalem arteriosum in aortam transit; tum magna pars sanguinis aortæ per arterias umbilicales ad placentam defertur; inde per venam umbilicalem redit, partem in cavam, per ductum venosum, partim in jecur transit, et non nisi altero per hoc viscus circuitu abso-

luto, tandem in cavam et auriculam cordis dextram redit.

418. Arteriæ et venæ pariter arborem referunt, cujus truncus in magnos ramos, hi in minores, minores in minutissimos, sensibusque nullo modo detegendos ramulos, dividantur: et hac semper lege, ut singuli rami trunco unde oriuntur minores, omnes vero simul sumpti, eodem nonnihil capaciores sint.

419. Minimi arteriarum ramuli (nunquam majores) reflexi, venæ fiunt; vel in venas hujusmodi jam formatas per anastomosin, ut vocatur, immittuntur: venæque minimæ, alias

per *anastomosis* ut vocatur; et minima venæ, accipientes alias  
 by *anastomosis* as it is called; and the smallest veins, receiving others  
 atque alias, paulatim grandescunt, et tandem formant *cavam*.  
 and others, gradually enlarge, and at length form the cava.

420. At est alia fabrica in abdomine, et longe diversus  
 But there is another mechanism in the abdomen, and a widely different  
 reditus sanguinis per venas observatur. Nimirum, sanguis,  
 return of the blood through the veins is observed. That is to say, the blood,  
 redux ab omnibus visceribus quæ inserviunt concoctioni  
 returning from all the viscera which subserve to the digestion  
 cibi, ventriculo, intestinis, mesenterii omento, pancreate, splene,  
 of the food, from the stomach, intestines, mesentery omentum, pancreas, spleen,  
 defertur in magnum vas, scilicet, venam portarum: quæ, denuo,  
 is carried into a large vessel, namely, the vena portarum, (æ): which, again,  
 more arteriæ, diffusa per jecur, defert eo  
 after the manner of an artery, distributed through the liver, conveys thither  
 ingentem copiam sanguinis: qui tandem, postquam inservierit  
 a great abundance of blood: which at length, after that it has subserved  
 secretioni fellis redit per *cavam hepaticam* in  
 to the secretion of the gall (bile) returns by the cava hepatica into  
 magnam *cavam* et ad cor.  
 the great cava and to the heart.

421. In capite quoque reditus sanguinis quodammodo singularis  
 In the head also a return of the blood somewhat peculiar  
 observatur. Imprimis, magnæ et frequentissimæ conjunctiones, seu  
 is observed. First of all, great and very frequent unions, or  
 anastomoses, ut vocantur, sunt ibi; et quidem inter magna  
 anastomoses, as they are called, are there; and even between the great  
 vasa; et minores venæ fundunt suum sanguinem fere statim  
 vessels; and the smaller veins pour their blood almost immediately  
 in magna vasa, quæ dicuntur sinus, et fere  
 (directly) into the great vessels, which are called sinuses, and are mostly  
 inseruntur retrogradæ iis.  
 inserted retrograde in them.

422. Denique, est alia fabrica, interdum alius cursus  
 Indeed, there is a different mechanism, sometimes a different course  
 sanguinis, in quibusdam organis quæ debent interdum erigi,  
 of the blood, in certain organs which ought occasionally to be erected,  
 virilli pene, papillæ muliebris mammæ, et, ut videtur, nonnullis  
 the male penis, the nipple of the female breast, and, as it appears, in some  
 partibus genitalium organorum muliebris sexûs; nimirum, qui  
 parts of the genital organs of the female sex; that is to say, which

atque alias accipientes, paulatim grandescunt, et tandem *cavam* formant.

420. At in abdomine alia est fabrica, et longe diversus sanguinis reditus per venas observatur. Sanguis nimirum ab omnibus visceribus quæ cibi concoctioni inserviunt, ventriculo, intestinis, mesenteria, omento, pancreate, splene, redux, in magnum vas defertur, venam scilicet portarum: quæ denuo arteriæ more, per jecur diffusa, ingentem sanguinis copiam eo defert: qui tandem, postquam fellis secretioni inservierit, per *cavam hepaticam*, in magnam *cavam*, et ad cor redit.

421. In capite quoque sanguinis reditus quodammodo singularis observatur. Magnæ imprimis et frequentissimæ ibi conjunctiones, seu anastomoses, ut vocantur, sunt; et quidem inter magna vasa: venæque minores statim fere suum sanguinem in magna vasa, quæ dicuntur sinus, fundunt, et iis fere retrogradæ inseruntur.

422. Denique, in organis quibusdam quæ interdum erigi debent, pene virilli, papilla mammæ muliebris, et partibus, ut videtur, nonnullis genitalium organorum muliebris sexus, alia fabrica, alius interdum sanguinis

(sanguis) effusus in quasdam cellulas reticulatæ telæ (fabricatas  
*effused into certain cells of the reticulated tissue (constructed*  
 peculiari modo a Naturâ in hunc finem,) scilicet, delatus,  
*in a peculiar manner by Nature for this purpose,) that is, conveyed,*  
 copiosior per arterias agentes insolito moreo,  
*more copiously (adverbially) by the arteries acting in an unusual manner,*  
 quam reducitur per venas, quas nonnulli putarunt  
*than it is brought back by the veins, which some have supposed*  
 constringi quodammodo, et comprimi, distendit eas partes,  
*to be constricted in some manner, and to be compressed, distends those parts,*  
 erigit, que reddit aptas suis muneribus; et demum,  
*erects them, and renders them fit for their functions; and at length,*  
 resumptus, istis cellulis contractis, reducitur ad  
*being taken up again, by those cells being contracted, is brought back to*  
 cor suo tempore.  
*the heart in its proper time.*

423. Autem vires quæ expediunt cursum sanguinis sunt,  
*But the powers which expedite the circulation of the blood are,*  
 imprimis, contractio cordis, quæ impellit sanguinem in  
*first of all, the contraction of the heart, which drives the blood into*  
 arterias insigni velocitate: vero multum abest ut hæc  
*the arteries with remarkable velocity: but it is far from that this*  
 vis, quamvis probe sentiatur usque ad extremas partes corporis,  
*force, although it is sensibly felt as far as the extreme parts of the body,*  
 sufficiat ad promovendum motum sanguinis: pulsus que calor  
*can suffice to maintain the motion of the blood: the pulse and heat*  
 deficientes in brachio affecto paralyti docent.  
*failing in an arm affected with paralysis prove (this).*

424. Præterea actio arteriarum juvat, non modo insigni  
*Moreover the action of the arteries assists, not only by their great*  
 vi resiliendi, sed propriâ musculosâ vi contrahentium se:  
*elasticity, but their own muscular power of contracting themselves:*  
 unda sanguinis expulsa e corde, propellit sanguinem, qui  
*the wave of blood driven out from the heart, propels the blood, which*  
 fuit jam in arteriis, et simul, quoniam est (proprium)  
*was already in the arteries, and at the same time, because it is the property*  
 fluidi premere quoquoersum, distendit arteriam ipsam. Hæc  
*of a fluid to press on all sides, distends the artery itself. This*  
 distentio est pulsus quem percipimus digito. Vero arteriæ  
*distention is the pulse which we feel with the finger. But the arteries*  
 distentæ hoc modo, cientur ad contractionem non secus ac  
*distended in this manner, are excited to contraction in like manner as*

cursum est; nimirum qui in cellulas quasdam telæ reticulatæ (peculiari modo a Natura in hunc finem fabricatas) effusus, copiosior scilicet per arterias insolito more agentes delatus, quam per venas, quas nonnulli quodammodo constringi et comprimi putarunt, reducitur, eas partes distendit, erigit, suisque muneribus aptas reddit; et demum, suo tempore, contractis paulatim istis cellulis, in venas resumptus, ad cor reducitur.

423. Vires autem quæ sanguinis cursum expediunt, sunt, cordis imprimis contractio, quæ sanguinem insigni velocitate in arterias im-

pellit: multum vero abest ut hæc vis, quamvis ad extremas usque corporis partes probe sentiatur, sufficiat ad sanguinis motum promovendum: docent pulsus calorque deficientes in brachio paralyti affecto.

424. Juvat præterea actio arteriarum, non modo insigni vi resiliendi, sed vi propria musculosa se contrahentium: unda sanguinis e corde expulsa, sanguinem, qui jam in arteriis fuit, propellit, et simul, quoniam fluidi est quoquoersum premere, arteriam ipsam distendit. Hæc distentio pulsus est, quem digito percipimus. Arteriæ vero hoc modo distentæ

cor ipsum: que contractio earum absolvitur tantâ  
*the heart itself: and the contraction of them is performed with so great*  
 velocitate, ut omnino exiguum intervallum distinguatur  
*velocity, that an exceedingly small interval (only) can be distinguished*  
 inter ictum cordis, vel carotidis arteriæ quæ est proxima  
*between the stroke of the heart, or of the carotid artery which is next (to it)*  
 et pulsum in remotissimâ parte corporis.  
*and the pulse in the remotest part of the body.*

425. Fabrica arteriæ ipsius, manifeste instructæ musculosâ  
*The mechanism of the artery itself, evidently furnished with a muscular*  
 tunicâ, et quoque multa experimenta instituta in vivis animalibus;  
*coat, and also many experiments instituted in living animals;*  
 ubi arteriæ, mechanico acri admoto, (nam fidendum est  
*when the arteries, a mechanical irritant being applied, (for we must trust*  
 parum chemico veneno,) validissime contraxerunt se,  
*little to a chemical poison,) have very powerfully contracted themselves,*  
 satis demonstrant hanc actionem arteriarum: inflammatio vel  
*abundantly prove this action of the arteries: inflammation either*  
 orta has arisen (arising) of sua sponte, vel excitata arte, veluti  
*that has arisen (arising) of its own accord, or excited by art, as*  
 cantharidibus, sinapi, aut similibus, applicatis ad cutem, præ  
*by cantharides, mustard, or the like, applied to the skin, before*  
 omnibus docet. Neque est alia ratio  
*all things (more than any other) proves (it). Nor is there any other reason*  
 cuiusvis secretionis auctæ præter solitum, dum motus  
*of any secretion (being) increased beyond usual, whilst the motion*  
 sanguinis per reliquum corpus parum vel nihil mutatur.  
*of the blood through the rest (of) the body is little or not at all changed.*

426. Contractio arteriæ semper propellit sanguinem a  
*The contraction of the artery always propels the blood from*  
 corde ad remotiores ramulos; imprimis quia semilunares  
*the heart towards the more remote branches; chiefly because the semilunar*  
 valvæ sitæ ad ostium utriusque magnæ arteriæ penitus claudunt  
*valves placed at the mouth of each great artery totally close up*  
 viam quâ rediret in cor; igitur oportet ineat  
*the passage by which it could return into the heart; therefore it must enter*  
 viam quâ porta datur: quin et arteria ipsa contracta  
*the course where a passage is afforded: moreover the artery itself contracted*  
 primo prope cor, (quamvis hæc contractio velocissime propagetur  
*first near the heart, (although this contraction is most rapidly propagated*  
 ad minutissimos ramos,) quodammodo dirigit cursum sanguinis,  
*to the minutest branches,) in some measure directs the course of the blood,*

ad contractionem cientur, non secus ac ipsum cor: earumque contractio tanta velocitate absolvitur, ut exiguum omnino distinguatur intervallum inter ictum cordis, vel quæ proxima est arteriæ carotidis, et pulsum in remotissima corporis parte.

425. Hanc arteriarum actionem satis demonstrant, ipsius arteriæ fabrica, manifeste musculosa tunica instructæ, et multa quoque experimenta in vivis animalibus instituta; ubi arteriæ, admoto acri mechanico (nam veneno chemico parum fidendum est) validissime se contraxerunt: docet, præ omnibus inflammatio vel sua sponte orta, vel arte excitata, veluti

applicatis ad cutem cantharidibus, sinapi, aut similibus. Neque alia ratio est secretionis cuiusvis præter solitum auctæ, dum sanguinis motus per reliquum corpus parum vel nihil mutatur.

426. Contractio arteriæ sanguinem semper a corde ad remotiores ramulos propellit; imprimis, quia valvæ semilunares, ad ostium magnæ arteriæ utriusque sitæ, viam penitus claudunt qua in cor rediret; oportet igitur qua datur porta viam ineat: quin et ipsa arteria prope cor primo contracta (quamvis hæc contractio velocissime ad minutissimos ramos propagetur) cursum sanguinis quodammodo dirigit, et

et fere fungitur munere valvæ, scilicet reditu ejus  
*and almost performs the office of a valve, that is by the return of it*  
 præcluso, libero progressu permissio.  
*being precluded, the free advance being permitted.*

427. Sanguis impulsus his viribus, transit in venas  
*The blood impelled by these powers, passes into the veins*  
 reduendus ad cor. Nondum constat de fabricâ  
*to be brought back to the heart. It is not yet agreed concerning the structure*  
 aut musculosâ vi harum, nisi in magnis truncis prope cor.  
*or muscular power of these, unless in the great trunks near the heart.*

Itaque sanguis videtur moveri in iis partim vi a tergo,  
*Therefore the blood seems to be moved in them partly by the vis a tergo*  
 scilicet quam habuit a corde et  
*(the force from behind), that is which it had (received) from the heart and*  
 arteriis; partim contractione vicinorum aut incumbentium  
*arteries; partly by the contraction of the neighbouring or incumbent*  
 musculorum qui comprimant venas: vero hæ, præsertim in  
*muscles which may compress the veins: but these, especially in*  
 musculosis partibus, instruuntur valvis, quæ prohibent reditum  
*muscular parts, are furnished with valves, which prevent the return*  
 sanguinis ad arterias, permittunt progressum ejus ad cor.  
*of the blood to the arteries, allow the advance of it to the heart.*

428. Motus sanguinis incitatus in mirum modum exercitatione,  
*The motion of the blood increased in a wonderful degree by exercise,*  
 docet, quantum contractio musculorum valeat ad expediendum  
*shews, how much the contraction of the muscles can do to accelerate*  
 et incitandum cursum sanguinis: languescens  
*and excite the circulation of the blood: it becoming languid*  
 ignaviâ docet idem, sæpe non sine gravi incommodo aut  
*from idleness proves the same, often not without great inconvenience or*  
 periculo; quamvis homines quam maxime dediti ignaviæ, vel  
*danger; although men however much addicted to sloth, or*  
 etiam dormientes semper exerceant nonnihil musculosi motus.  
*even (while) sleeping always perform some little (of) muscular motion.*

429. Hinc redditur ratio multorum morborum, et remediorum  
*Hence is rendered an explanation of many diseases, and of the remedies*  
 quibus utimur ad sanandos istos morbos. Hinc intelligitur cur  
*which we use to cure those diseases. Hence is understood why*  
 quies corporis sit adeo necessaria in plerisque acutis morbis; cur in  
*rest of body is so necessary in most acute diseases; why in*  
 tot aliis crebra exercitatio (est) optimum remedium.  
*so many others frequent exercise is the best remedy.*

fere valvæ munere fungitur, præcluso scilicet reditu ejus, permissio libero progressu.

427. His viribus impulsus, sanguis in venas transit, ad cor reduendus. Nondum satis constat de harum fabrica, aut vi musculosa, nisi in magnis truncis prope cor. Videtur itaque sanguis in iis moveri, partim vi a tergo, scilicet quam a corde et arteriis habuit; partim contractione musculorum vicinorum aut incumbentium, qui venas comprimant: hæ vero, præsertim in partibus musculosis, valvis instruuntur, quæ reditum sanguinis ad arterias prohibent, progressum ejus ad cor permittunt.

428. Quantum ad cursum sanguinis expediendum et incitandum valent contractio musculorum, docet motus sanguinis mirum in modum exercitatione incitatus: docet idem ignavia languescens, non sine gravi sæpe incommodo aut periculo; quamvis homines, quam maxime ignaviæ dediti, vel etiam dormientes, nonnihil semper motus musculosi exerceant.

429. Hinc ratio redditur multorum morborum, et remediorum quibus ad istos morbos sanandos utimur. Hinc intelligitur, cur in plerisque morbis acutis corporis quies adeo necessaria sit; cur in tot aliis crebra exercitatio optimum remedium.

430. Postremo, cursus sanguinis neque per pulmones, neque  
*Lastly, the circulation of the blood neither through the lungs, nor*  
 sane per reliquum corpus, ne quidem per sinistrum latus  
*indeed through the rest of the body, not even through the left side*  
 cordis ipsiûs, potest fieri sine respiratione: ratio  
*of the heart itself, can take place without respiration: the explanation*  
 cuius est reddenda suo loco.  
*of which is to be given in its proper place.*

431. Motus sanguinis, velocissimus prope cor, evadit multo  
*The motion of the blood, quickest near the heart, becomes much*  
 lentior in minoribus et remotis ramis arteriarum. Omnigena  
*slower in the smaller and remote branches of the arteries. Every kind (of)*  
 frictio confert huc, tenacitas sanguinis ipsiûs, adhæsiô ejûs  
*friction conduces to this, the tenacity of the blood itself, the adhesion of it*  
 ad parietes vasorum, pondus partium dimotarum et non  
*to the sides of the vessels, the weight of the parts removed and not*  
 perfecte resilientium: sed, præ omnibus, motus sanguinis  
*perfectly elastic: but, before all (other causes), the motion of the blood*  
 fit lentior propter auctam capacitatem arteriæ, prout  
*becomes slower on account of the increased capacity of the artery, according as*  
 fuerit divisa in ramos. Et profecto omnes aliæ causæ  
*it shall be divided into branches. And truly all other causes*  
 retardationis redeunt ad hanc, nimirum quæ est mensura  
*of retardation return to this, as being that which is the measure*  
 totiûs retardationis, dummodo nulla obstructio fuerit usquam.  
*of the whole retardation, provided no obstruction shall be any where.*  
 Nam quicquid suæ velocitatis sanguis amisisset per alias  
*For whatever of its velocity the blood might have (had) lost by other*  
 causas retardationis, contractiones arteriarum potuissent  
*means of retardation, the contractions of the arteries would have been able*  
 restituere et compensare.  
*to restore and compensate.*

432. Sanguis fluit lentius, quo longius distat a corde,  
*The blood flows more slowly, the further it is distant from the heart,*  
 ob hanc causam, pari ratione, ac in arteriis, sic in  
*on this account, for a similar reason, as in the arteries, so in*  
 venis, quo propius accedit ad cor eo velocius movetur,  
*the veins, the nearer it approaches to the heart the more quickly it is moved,*  
 vero motus sanguinis est multo lentior in venis quam in  
*but the motion of the blood is by much slower in the veins than in*

430. Postremo, sanguinis cursus neque per pulmones, neque sane per reliquum corpus, ne quidem per ipsius cordis latus sinistrum, fieri potest sine respiratione: cuius ratio suo loco reddenda est.

431. Motus sanguinis prope cor velocissimus, in minoribus et remotis ramis arteriarum, multo lentior evadit. Frictio omnigena huc confert, tenacitas ipsius sanguinis, adhæsiô ejus ad parietes vasorum, pondus partium dimotarum, et non perfecte resilientium: sed, præ omnibus, lentior fit sanguinis motus, propter auctam arteriæ capacitatem, prout ipsa

in ramos divisa fuerit (418). Et profecto omnes aliæ retardationis causæ ad hanc redeunt, nimirum quæ totiûs retardationis mensura est, dummodo nulla usquam obstructio fuerit. Nam quicquid per alias retardationis causas velocitatis suæ amisisset sanguis, arteriarum contractiones restituere et compensare potuissent.

432. Pari ratione ac in arteriis, ob hanc causam, lentius fluit, quo longius distat a corde sanguis; sic in venis, quo propius ad cor accedit, eo velocius movetur (418). Sanguinis vero motus in venis, quam in arteriis, multo

arteriis, nimirum quæ omnes sumptæ simul sunt capaciores,  
*the arteries, as being which all taken together are more capacious,*  
 duplo vel triplo, arteriis.  
*by double or triple, than the arteries.*

433. Denique pondus sanguinis ipsius nunc incitat, nunc  
*Indeed the weight of the blood itself one time quickens, at another*  
 retardat ejus impetum, secundum situm corporis, vel  
*retards its impetus, according to the position of the body, or*  
 cujusvis partis ejus; quod profecto est haud levis momenti, tum  
*of any part of it; which truly is of no small moment, as well*  
 ad inducendos tum ad sanandos morbos.  
*to induce as to cure diseases.*

434. Arteriæ terminantur variis modis: vel fiunt reflexæ  
*Arteries are terminated in various ways: either they become reflected*  
 venæ, quæ accipiunt omnes partes, tam crassas quam tenues,  
*veins, which receive all parts, as well the thick as the thin,*  
 sanguinis; vel dividuntur in ramulos adhuc minores quam  
*of the blood; or are divided into branches still smaller than (those)*  
 qui possint admittere crassiores particulas, et ideo tantum  
*which can admit the thicker particles, and therefore only*  
 vehant pellucidum laticem, que demum habeant suas sodales venas;  
*carry a pellucid liquor, and finally have their accompanying veins;*  
 vel desinunt in exhalantia, secermentia, excernentia vasa.  
*or terminate in exhalant, secreting, excreting vessels.*

435. Exhalantia vasa fundunt tenuem partem sanguinis in  
*The exhalant vessels pour out the thin part of the blood into*  
 omnia cava organa corporis, quæ (fusione?) hæc, tum  
*all the hollow organs of the body, by which these, as well*  
 magna, veluti abdomen, thorax, caput, tum quoque parva,  
*the great, as the abdomen, thorax, head, as also the small,*  
 veluti cellulæ reticulatæ telæ, ubique corporis semper  
*as the cells of the reticulated tissues, wherever of the body are always*  
 madent.  
*moist.*

436. Autem excernentia vasa assidue exhalant tenuissimam, fere  
*But the excreting vessels constantly exhale the thinnest, almost*  
 aquosam partem sanguinis; cum paucillo animalis olei, et haud  
*watery part of the blood; with a little (of) animal oil, and a no*  
 exigua parte carbonici acidi, que fortasse aliarum rerum, a cute  
*small portion of carbonic acid, and perhaps of other things, from the skin*  
 et pulmone, natura quarum hactenus minus explorata est.  
*and lungs, the nature of which hitherto has not been examined.*

lentior est: nimirum, quæ omnes simul sumptæ arteriis duplo vel triplo capaciores sunt.

433. Denique, pondus ipsius sanguinis impetum ejus nunc incitat, nunc retardat, secundum corporis, vel partis ejus cujusvis, situm; quod profecto haud levis momenti est, tum ad inducendos, tum ad sanandos morbos.

434. Arteriæ variis modis terminantur: vel reflexæ venæ fiunt, quæ omnes sanguinis partes, tam crassas quam tenues, accipiunt; vel in minores adhuc ramulos dividuntur, quam qui crassiores particulas admittere possint, et ideo pellucidum tantum laticem vehant, suas-

que demum venas sodales habeant; vel in vasa desinunt exhalantia, secermentia, excernentia.

435. Exhalantia vasa tenuem sanguinis partem in omnia cava corporis organa fundunt: qua hæc, tum magna, veluti abdomen, thorax, caput, tum quoque parva, veluti cellulæ telæ reticulatæ ubique corporis, semper madent.

436. Excernentia autem vasa tenuissimam sanguinis partem, fere aquosam, cum paucillo olei animalis, et parte haud exigua acidi carbonici, aliarumque fortasse rerum quarum natura minus hactenus explorata est, a cute et pulmone assidue exhalant.

437. Demum, secernentia vasa continua cum arteriis, in certis  
*In fine, the secerning vessels continuous with the arteries, in certain*  
 organis corporis, exhalant, non modo certas partes sanguinis  
*organs of the body, exhale, not only certain parts of the blood*  
 detractas a reliquâ massâ, sed quoque mutant has in  
*drawn off from the rest (of) the mass, but also change these in*  
 mirum modum, et convertunt in fere aliam naturam.  
*a wonderful manner, and convert them into an almost different nature.*  
 Vero postea erit locus dicendi de his, quum  
*But hereafter there will be an opportunity of speaking of these, when*  
 agendum erit (nobis) de secretione et excretionem.  
*we shall have to treat of secretion and excretion.*

438. Tenuior pars sanguinis, quæ effunditur in varia  
*The thinner part of the blood, which is poured out into the various*  
 cava organa corporis, assidue resorbetur ex iis,  
*hollow organs (cavities) of the body, is continually taken up again from them,*  
 et denuo reducit ad cor, ope resorbentium vel  
*and is again brought back to the heart, by means of absorbing or*  
 lymphaticorum vasorum ut vocantur, quæ nascentia ex fere  
*lymphatic vessels as they are called, which arising from almost*  
 omni parte corporis, sive internâ sive externâ, veluti cute  
*every part of the body, whether internal or external, as the skin*  
 sæpe repentia prope magna vasa quæ vehunt sanguinem, tandem  
*often creeping near the large vessels which carry the blood, at length*  
 desinunt in receptaculum chyli, aut thoracicum ductum, aut demum  
*terminate in the receptaculum chyli, or thoracic duct, or finally*  
 subclaviam venam ipsam. Ad hoc genus vasorum quoque pertinent  
*the subclavian vein itself. To this kind of vessels also belong*  
 quæ vocantur lactea, scilicet, quæ orientia ab intestinis, que  
*what are called lacteal, that is, which arising from the intestines, and*  
 repentia per mesenteriam, vehunt nutrimentum in sanguinem.  
*creeping through the mesentery, carry the nutriment into the blood.*

439. Omnia resorbentia vasa, tum lactea, tum quæ vocantur  
*All the absorbing vessels, as well lacteal, as what are called*  
 lymphatica, vel hiantia, vel pendula in cava  
*lymphatic, either gaping (open mouthed), or hanging down into the cavities*  
 unde oriuntur, hauriunt suos humores, ut videtur, quâdam  
*whence they arise, suck up their fluids, as it seems, by a certain*  
 vi, qualis contingit capillaribus tubis: enim, neque est ulla  
*power, such as belongs to capillary tubes: moreover, neither is there any*  
 vis a tergo quâ impleantur: neque possunt impleri a  
*vis a tergo by which they can be filled: nor can they be filled from*

437. Secernentia demum vasa cum arteriis continua, in certis corporis organis, non modo certas partes sanguinis exhalant, a reliqua massa detractas, sed has quoque mirum in modum mutant, et in aliam fere naturam convertunt. De his vero postea locus erit dicendi, quum de secretionem et excretionem agendum erit.

438. Pars tenuior sanguinis, que in varia cava corporis organa effunditur, assidue ex iis resorbetur, et ad cor denuo reducit, ope vasorum resorbentium, vel lymphaticorum, ut vocantur, quæ ex omni fere corporis parte, sive interna sive externa, veluti cute, nascentia,

prope magna vasa quæ sanguinem vehunt sæpe repentia, tandem in receptaculum chyli, aut ductum thoracicum, aut demum venam ipsam subclaviam, desinunt. Ad hoc quoque genus vasorum pertinent quæ vocantur lactea, scilicet quæ ab intestinis orientia, perque mesenteriam repentia, nutrimentum in sanguinem vehunt.

439. Vasa resorbentia omnia, tum lactea, tum que vocantur lymphatica, vel hiantia, vel pendula in cava unde oriuntur, humores suos hauriunt, ut videtur, vi quadam, qualis tubis capillaribus contingit: neque enim vis ulla a tergo est qua impleantur, neque tali vi arte



propriis cavis, veluti a thorace vel intestinis, tali vi  
*their own cavities, for instance from the thorax or intestines, by such a power*  
 admotâ arte. Tamen musculosa vis resorbentium vasorum et  
*applied by art. However the muscular power of the absorbing vessels and*  
 qualiscunque pressura accideret ipsis, juvat motum lymphæ  
*whatever sort (of) pressure may happen to them, assists the motion of the lymph*  
 vel chyli quem continent. Nam plerumque, nullus reditus datur  
*or chyle which they contain. For generally, no return is permitted*  
 lymphæ, propter innumeras valvas quibus vasa  
*to the lymph, on account of the numberless valves with which the vessels*  
 ipsa scatent.  
*themselves abound.*

440. Vasa hujusmodi quoque, habent innumeras conglobatas glandulas  
*Vessels of this sort also, have innumerable conglobate glands*  
 quas subeunt, et revera videntur, saltem ex maximâ parte,  
*which they enter, and truly seem, at least for the greatest part,*  
 formare: tamen, quidam nervosi ramuli adeunt singulas earum, et  
*to form: however, some nervous twigs go to each of them, also*  
 vasa vehentia sanguinem; unde sensus et irritabilis vis, et  
*vessels carrying blood; whence sensibility and irritable power, and*  
 ideo aliquando inflammatio (iis sunt). Hæ glandulæ sunt admodum  
*consequently sometimes inflammation. These glands are very*  
 numerosæ in quibusdam partibus corporis, veluti in inguine, axillâ,  
*numerous in certain parts of the body, as in the groin, axilla,*  
 mesenterîâ.  
*mesentery.*

441. Usus earundem (partium) parum notus: dicuntur fabricare,  
*The use of these same parts is little known: they are said to fabricate,*  
 et quasi tornare, quasdam albidas particulas, quales reperiuntur  
*and as it were fashion, certain whitish particles, such as are found*  
 in rubris vesiculis sanguinis: sed hoc est minus certum.  
*in the red vesicles of the blood: but this is less certain.*

442. Hæ conglobatæ glandulæ sæpe obstruuntur, et tument in  
*These conglobated glands often are obstructed, and swell to*  
 ingentem molem, plerumque ab aliquo acri delato ad ipsas,  
*a very great size, oftentimes from some acrid (thing) conveyed to them,*  
 interdum et fortasse ab aliis causis minus cognitis; ut in strumis  
*sometimes also perhaps from other causes less known; as in struma*  
 vel scrofulâ, ut vocatur, cuius morbi videntur esse primaria vel  
*or scrofula, as it is called, of which disease they seem to be the primary or*  
 saltem frequentissima sedes. Sed nihil certi constat  
*at least the most frequent seat. But nothing (of) certain is established*

admota, a propriis cavis, veluti a thorace vel intestinis, impleri possunt. Juvat tamen motum lymphæ, vel chyli quem continent, vasorum resorbentium vis musculosa, et pressura qualiscunque ipsis accideret. Nam nullus plerumque datur reditus lymphæ, propter innumeras quibus vasa ipsa scatent valvas.

440. Hujusmodi vasa quoque innumeras glandulas conglobatas habent, quas subeunt, et revera, maxima saltem ex parte, formare videntur: adeunt tamen singulas earum ramuli quidam nervosi, et vasa sanguinem vehentia; unde sensus et vis irritabilis, et ideo inflam-

matio aliquando. Hæ glandulæ in quibusdam corporis partibus numerosæ admodum sunt, veluti in inguine, axilla, mesenteria.

441. Usus earundem parum notus: dicuntur particulas quasdam albidas quasi fabricare et tornare, quales in vesiculis rubris sanguinis reperiuntur: sed hoc minus certum est.

442. Sæpe obstruuntur hæ glandulæ conglobatæ, et in ingentem molem tument, plerumque ab acri aliquo ad ipsas delato, interdum fortasse et ab aliis causis minus cognitis; ut in strumis, vel scrofula ut vocatur, cuius morbi primaria vel frequentissima saltem sedes vi-

de naturâ aut origine, ne quidem de præsentia acrimoniæ  
*concerning the nature or origin, not even of the presence of acrimony*  
 in initio hujus morbi, cum glandulæ primo tument, quamvis  
*in the beginning of this disease, when the glands first swell, although*  
 non sit dubium plurimum acrimoniæ gigni, et fortasse  
*it cannot be doubtful that a great deal of acrimony is generated, and perhaps*  
 diffundi per totum corpus, his diu obstructis,  
*is diffused through the whole body, by these being long obstructed,*  
 inflammatis, exulceratis.  
*inflamed, ulcerated.*

## CAP. XV.

## CHAP. XV.

*De varietatibus et vitiis motûs sanguinis.*  
 Of the varieties and disorders of the motion of the blood.

443. Cor, que omnia vasa quæ conferunt ad motum  
*The heart, and all the vessels which contribute to the circulation*  
 sanguinis, arteriæ, venæ, resorbentia, observantur, comparata  
*of the blood, arteries, veins, absorbing vessels, are observed, (when) compared*  
 cum reliquo corpore, majora primâ quam provectâ ætate:  
*with the rest (of) the body, larger in early than advanced age:*  
 maxima in fœtu, indies minuuntur pro parte  
*largest in the fœtus, they every day are diminished in respect of the part*  
 ratâ, que multa eorum paulatim concluduntur. Hinc recens  
*considered, and many of them by degrees are shut up. Hence the new*  
 natus rubet totus infans, puer sæpe juvenis est  
*born (child) is red entirely (all over) the infant, boy often the youth is*  
 mollis, lævis, humidus, flaccidus, eximii coloris; autem vir  
*soft, smooth, moist, flaccid, of an excellent colour; but the man*  
 firmior, durior, fuscus coloris vultus, minus pulchri:  
*(is) firmer, harder, of a dark colour of countenance, less beautiful:*  
 senex rigidus, siccus, pallidus, macer.  
*the old man (is) stiff, dry, pale, lean.*

444. Venæ sunt multo densiores, firmiores, et validiores, quam  
*The veins are by much denser, firmer, and stronger, than*  
 arteriæ primâ ætate. Vero hæ, propter perpetuam pressuram  
*the arteries in early age. But the latter, because of the constant pressure*

dentur esse. Sed nihil certi constat de natura  
 aut origine, ne quidem de præsentia acrimoniæ  
 in initio hujus morbi, cum glandulæ primo  
 tument: quamvis non dubium sit, his diu ob-  
 structis, inflammatis, exulceratis plurimum  
 acrimoniæ gigni, et fortasse per totum corpus  
 diffundi.

CAP. XV.—*De motus sanguinis varietatibus et vitiis.*

443. COR vasaque omnia quæ ad sanguinis  
 motum conferunt, arteriæ, venæ, resorbentia,

majora, cum reliquo corpore comparata, ob-  
 servantur prima quam provecta ætate: in fœtu  
 maxima, indies pro rata parte minuuntur,  
 multaque eorum paulatim concluduntur. Hinc  
 recens natus totus rubet, infans, puer, juvenis  
 sæpe, mollis, lævis, humidus, flaccidus, eximii  
 coloris est; vir autem firmior, durior coloris  
 vultus fuscus, minus pulchri; senex rigidus,  
 siccus, pallidus, macer.

444. Prima ætate, venæ multo quam arteriæ  
 densiores, firmiores, et validiores sunt. Hæ  
 vero, propter perpetuam quam patiuntur pres-

quam patiuntur, et vim quoque quam exerunt inter contrahendum, *which they endure, and the power also which they exert while contracting,* indies evadunt firmiores, duriores, et validiores, donec tandem *daily become firmer, harder, and stronger, until at length* æquent, vel superent vim venarum. Haud raro in *they equal, or even exceed the strength of the veins.* Not unfrequently in senibus, pars magnæ arteriæ convertitur in corneam substantiam, *old men, part of the large artery is converted into a horny substance,* vel demum in verum os. *or indeed into true bone.*

445. Hinc prima ætate, plus sanguinis pro parte rata *Hence in early age, more (of) blood in respect of the part considered* continetur in arteriis, autem provectâ, plus in venis: res *is contained in the arteries, but in advanced, more in the veins: a thing* sane haud levis momenti, scilicet quæ quodam modo reddit *truly of no small moment, as that which in some degree furnishes* rationem incrementi corporis, statûs et imminutionis. *the explanation of the growth of the body, of its perfection and decay.*

Porro, si fuerit plus sanguinis justo in corpore, *Moreover, if there should be more (of) blood than proper in the body,* quicquid mali oriatur ex eo, oportet manifestet se maximè *whatever evil may arise from it, must manifest itself most* primâ ætate in arteriis, autem provectâ in venis. Hæc *in early age in the arteries, but in advanced in the veins. This* (saltem ex aliqua parte) videtur esse ratio quorundam morborum *(at least in some degree) seems to be the cause of certain diseases* qui solent comitari certa tempora vitæ. *which are accustomed to accompany certain periods of life.*

446. Fœminæ multorum, fortasse omnium animalium, habent arterias, *The females of many, perhaps of all animals, have the arteries,* haud parum, capaciores et laxiores, comparatas cum venis, *not a little, more capacious and lax, compared with the veins,* que venas ipsas multo minores quam mares ejusdem generis; *and the veins themselves much less than males of the same species;* quod est imprimis notabile in descendente aortâ, si fuerit *which is particularly remarkable in the descending aorta, if it (should) be* comparata cum ascendente venâ cavâ quæ respondet eidem: *compared with the ascending vena cava which answers to the same:* consilium cujus rei est haud obscurum, nempe, quo meliùs *the design of which thing is not obscure, namely, that they may be* valeant ad alendum fœtum quem debent gestare. Ratio *better able to nourish the fœtus which they ought to carry. The reason*

suram, et vim quoque quam inter contrahendum exerunt, indies firmiores, duriores et validiores evadunt, donec tandem vim venarum æquent vel superent. Haud raro in senibus pars magnæ arteriæ in substantiam corneam, vel demum in verum os, convertitur.

445. Hinc prima ætate plus sanguinis pro rata parte in arteriis, provecta autem plus in venis, continetur: res sane haud levis momenti, scilicet quæ rationem quodammodo reddit corporis incrementi, status, et imminutionis. Porro, si plus justo sanguinis in corpore fuerit, quicquid mali ex eo oriatur, oportet

prima ætate in arteriis, provecta autem in venis, se maxime manifestet. Hæc (aliqua saltem ex parte) videtur esse ratio quorundam morborum qui certa vitæ tempora comitari solent.

446. Fœminæ multorum, fortasse omnium animalium, habent arterias haud parum capaciores et laxiores, cum venis comparatas, venasque ipsas multo minores, quam mares ejusdem generis; quod imprimis notabile est in aorta descendente, si cum vena cava ascendente, quæ eidem respondet comparata fuerit: cujus rei consilium haud obscurum est, nempe, quo melius valeant ad fœtum alendum, quem

videtur quoque esse par quod fœminæ sint plus proclives ad  
*seems also to be similar that women are more disposed to*  
 plenitudinem corporis quam viri. Huic majori capacitati arteriarum  
*fulness of body than men. To this greater capacity of the arteries*  
 et parvitati venarum est quoque tribuendus eximius color  
*and smallness of the veins is also to be attributed the beautiful colour*  
 vultûs et cutis fœminarum, et elegantia brachiorum,  
*of the countenance and of the skin of women, and the elegance of the arms,*  
 lividorum nullis venis, ut in maribus.  
*livid with no veins, as in males.*

447. Quin et, sanguis datur diversis partibus variâ copiâ,  
*Moreover, the blood is given to different parts in various quantity,*  
 que iisdem partibus aliâ proportione, alio tempore  
*and to the same parts in a different proportion, at a different period*  
 vitæ. Ingens copia (sanguinis) mittitur ad caput, a primis  
*of life. A great quantity of blood is sent to the head, from the first*  
 fundamentis corporis jactis; scilicet quod debeat primum formari  
*foundations of the body being laid; as being what ought first to be formed*  
 et evolvi, que aptari suis muneribus: et profecto caput attingit  
*and evolved, and fitted for its functions: and indeed the head attains*  
 suam justam magnitudinem ante alias partes. Vero renixus  
*its proper size before the other parts. But the resistance*  
 auctus, que partes haud facillè dilatandæ amplius, divertunt  
*being increased, and the parts not easily to be dilated more, divert*  
 sanguinem alio: tum reliquum corpus, pro parte ratâ,  
*the blood elsewhere: then the rest of the body, in respect of the part considered*  
 crescit plus quam antea, et quædam organa, - prius admodum  
*grows more than before, and quædam organs, before very*  
 imperfecta et quasi inutilia, perficiuntur et evolvuntur, facta  
*imperfect and as it were useless, are perfected and evolved, rendered*  
 idonea ad propria munera.  
*fit for their proper functions.*

448. Effectus quoque cursûs sanguinis in infante mutati,  
*The effects also of the course of the blood in the infant being changed,*  
 observantur brevi post partum: scilicet quum nullus (sc. sanguis)  
*are observed shortly after birth: that is since none*  
 transit per umbilicum, et ideo plus mittitur per iliacas  
*passes by the umbilicus, and consequently more is sent by the iliac*  
 arterias ad inferiores artus: hi, enim, parvi et tenues in  
*arteries to the lower limbs: these, moreover, small and slender in*  
 fœtu, tum crescunt subito, ita ut infantes sæpe possint  
*the fetus, then grow suddenly, so that infants often are able*

gestare debent. Par quoque videtur esse ratio, quod fœminæ ad plenitudinem corporis plus quam viri proclives sint. Huic quoque majori arteriarum capacitati et parvitati venarum eximius fœminarum vultus et cutis color tribuendus est, et elegantia brachiorum, nullis venis, ut in maribus, lividorum.

447. Quin et sanguis diversis partibus varia copia datur; iisdemque partibus alia proportione, alio vitæ tempore. A primis fundamentis corporis jactis, ingens copia ad caput mittitur; scilicet, quod primum formari et evolvi, suisque muneribus aptari, debeat: et profecto

caput ante alias partes justam suam magnitudinem attingit. Auctus vero renixus, partesque haud facile amplius dilatandæ, sanguinem alio divertunt: tum reliquum corpus, pro rata parte, plus quam antea crescit, et organa quædam, prius admodum imperfecta, et quasi inutilia, demum perficiuntur et evolvuntur, ad propria munera idonea facta.

448. Effectus quoque mutati sanguinis in infante cursûs brevi post partum observantur: scilicet, quum nullus per umbilicum transit, et ideo plus per iliacas arterias ad artus inferiores mittitur: hi enim, in fœtu parvi et te-

ante annum, nonnunquam ante sex menses, non modo insistere firmi  
*within the year, sometimes before six months, not only to stand firm(ly)*  
 propriis pedibus, sed ambulare haud malè.  
*upon their own feet, but to walk not badly.*

449. Medici solent judicare de statu circuitûs  
*Physicians are accustomed to judge of the state of the circulation*  
 sanguinis a pulsu: autem ille est admodum varius, tum  
*of the blood from the pulse: but it is very various, as well*  
 quod attinet ad frequentiam ejûs, tum quod ad vim  
*what relates to the frequency of it, as also what relates to the force*  
 et æqualitatem ictuum et intervallorum.  
*and equality of the strokes and intervals.*

450. Communis frequentia pulsuum est, in adulto et sano  
*The ordinary frequency of the pulsations is, in an adult and healthy*  
 homine, circiter septuaginta in minuto horæ. In fœtu, fortasse,  
*person, about seventy in the minute (of the hour). In the fœtus, perhaps,*  
 (est) velocior, duplo et amplius. In infante primis mensibus  
*it is more frequent, by double and more. In the infant in the first months*  
 vitæ, vix infra centum et viginti; fit paulatim lentior  
*of life, scarcely under a hundred and twenty; it becomes gradually slower*  
 (in) puero et adolescenti; in decrepito sene aliquando descendit  
*in the boy and young man; in the decrepit old man sometimes it sinks*  
 ad quinquaginta et infra.  
*to fifty and under.*

451. Quin et multi, imprimis mobiliores, habent pulsus multo  
*Moreover many, especially the more irritable, have the pulse much*  
 frequentiores; dum alii, etiam florente ætate, (habent)  
*more frequent; whilst others, even in the flower of age, (have them)*  
 admodum lentos. Fœminis quoque solent plerumque esse  
*very slow. In women also they are accustomed generally to be*  
 nonnihil frequentiores quam viris.  
*somewhat more frequent than in men.*

452. Fiunt frequentiores, cum in sano tum quoque in  
*They become more frequent, as well in the healthy as also in*  
 morbo corpore, propter multos stimulos admotos eidem.  
*the diseased body, on account of many stimuli applied to the same.*  
 Imprimis, exercitatio incitat pulsus in mirum modum, reditu  
*First of all, exercise quickens the pulse in a wonderful manner, by the return*  
 sanguinis, qui fuit in venis, expedito. Quoque variæ  
*of the blood, which was in the veins, being quickened. Also variæ*  
 irritationes, quales afficiunt nervosum genus, affectus animi, ve  
*irritations, such as affect the nervous system, passions of the mind, or*

nues, tunc crescent subito, ita ut sæpe ante annum, nonnunquam ante sex menses, infantes non modo propriis pedibus firmi insistere, sed haud male ambulare, possint.

449. A pulsu medici judicare solent de statu circuitus sanguinis: ille autem admodum varius est, tum quod ad ejus frequentiam attinet, tum quod ad vim et æqualitatem ictuum et intervallorum.

450. Communis pulsuum frequentia est, in homine adulto et sano, circiter septuaginta in horæ minuto. In fœtu fortasse duplo et amplius velocior. In infante, primis vitæ mensibus, vix infra centum et viginti; puero et

adolescenti paulatim lentior fit; in sene decrepito, aliquando ad quinquaginta et infra descendit.

451. Quin et multi, imprimis mobiliores, pulsus multo frequentiores; dum alii, florente etiam ætate, lentos admodum, habent. Fœminis quoque quam viris plerumque nonnihil frequentiores esse solent.

452. Frequentiores fiunt, cum in sano tum quoque in morbo corpore, propter multos stimulos eidem admotos. Exercitatio imprimis, reditu sanguinis qui in venis fuit expedito (427, 428,) pulsus mirum in modum incitat. Irritationes quoque variæ, quales *genus nervosum*

vehemens cogitatio, dolor, calor, stimulantia medicamenta, vinum,  
*intense thinking, pain, heat, stimulating medicines, wine,*  
 aromata, et similia, præstant eundem effectum. Multi medici  
*aromatics, and the like, may produce the same effect. Many physicians*  
 quoque crediderunt acrimoniam sanguinis ipsius reddere pulsum  
*also have believed that the acrimony of the blood itself renders the pulse*  
 frequentiorem.  
*more frequent.*

453. Pulsus est rarus matutinis horis, quum primo expergiscimur,  
*The pulse is slow in the morning time, when first we awake,*  
 evasurus paulatim frequentior, propter multa irritamenta  
*will become gradually more frequent, on account of the many irritations*  
 quibus objicimur; intenditur post cibum, imprimis ex carnibus,  
*to which we are exposed; it is increased after food, especially of meats,*  
 aut acrem aut conditum; sub vesperem, levis febricula  
*either acrid or seasoned; towards evening, slight feverishness*  
 quasi accedit, cui requies et somnus sunt remedio.  
*as it were comes on, to which rest and sleep bring relief.*

Hæc, vix observanda in sano homine, produunt se  
*These things, scarcely to be observed in a healthy person, shew themselves*  
 manifeste satis in ægroto, febricitante, præsertim hectico (sc. homine).  
*evidently enough in the sick, the feverish, especially the hectic person.*

454. Denique, debilitas ipsa, videtur sæpe reddere pulsum frequen-  
*Again, debility itself, seems often to render the pulse more*  
 tiorem, vel saltem conferre nonnihil ad hunc effectum; nimirum  
*frequent, or at least to contribute something to this effect; doubtless*  
 quia tum ventriculus cordis non depletus bene,  
*because then the ventricle of the heart not being emptied thoroughly,*  
 distenditur iterum citius, et denuo incitatur ad contractionem.  
*is distended again sooner, and is again incited to contraction.*  
 Quapropter medico nunquam licet (impersonaliter) judicare de  
*Wherefore the physician never can judge of*  
 impetu sanguinis a frequentia pulsum.  
*the impetus of the blood from the frequency of the pulsations.*

455. Postremo, pulsus observantur nimis frequentes in omnibus  
*Lastly, the pulse are observed too frequent in all*  
 febribus, utcunque diveris inter se, partim fortasse, ob  
*fevers, however differing from each other, partly perhaps, because of*  
 debilitatem, partim ob acrimoniam humorum, partim ob  
*debility, partly on account of the acrimony of the fluids, partly on account of*  
 sanguinem repulsum a superficie corporis, et accumulatum in  
*the blood driven from the surface of the body, and accumulated in*

afficiunt, animi effectus vel cogitatio vehemens, dolor, calor, stimulantia medicamenta, vinum, aromata, et similia, eundem effectum præstant. Acrimoniam quoque ipsius sanguinis multi medici crediderunt pulsum frequentiorem reddere.

453. Horis matutinis, quum primo expergiscimus, pulsus rarus est, paulatim frequentior evasurus propter multa quibus objicimur irritamenta; post cibum, ex carnibus imprimis, aut acrem, aut conditum, intenditur; sub vesperem, levis quasi febricula accedit, cui requies et somnus remedio sunt. Hæc, in sano homine vix observanda, in ægroto, febrici-

tante, hectico præsertim, satis manifeste se produunt.

454. Denique, ipsa debilitas pulsum sæpe frequentiore reddere, vel saltem ad hunc effectum nonnihil conferre, videtur; nimirum, quia tum ventriculus cordis non bene depletus, citius iterum distenditur, et ad contractionem denuo incitatur. Quapropter medico nunquam licet de impetu sanguinis judicare a frequentia pulsum.

455. Postremo, in omnibus febribus, utcunque inter se diversis, pulsus nimis frequentes observantur, partim fortasse ob debilitatem, partim ob humorum acrimoniam, partim ob san-

magnis vasis, que stimulantem eadem; partim quoque ob  
*the great vessels, and stimulating the same; partly also by reason of*  
 varias morbosas irritaciones, quæ nunquam desunt in corpore  
*various diseased irritations, which never are wanting in a body*  
 habente se tam male, et jam facto nimis irritabili; partim,  
*having itself so badly, and already become too irritable; partly,*  
 demum, per quædam conamina Naturæ ad liberandum corpus tanto  
*finally, by certain efforts of Nature to release the body from so great*  
 malo, quamvis sane subsit multum obscuri vel prorsus  
*a disorder, although indeed there may be much of obscurity or altogether*  
 ignoti hic: nec quis facile dixerit quomodo  
*of what is unknown here: nor could any one readily say in what manner*  
 autocrateia corporis agat hic; que necne tanta frequentia  
*the autocrateia of the body acts here; and whether or not so great frequency*  
 pulsuum sit referenda conatibus ejus (autocrateiæ).  
*of the pulse ought to be referred to the efforts of it.*

456. Pulsus raro observantur nimis tardi, nisi a minutâ  
*The pulse seldom are observed too slow, except from a diminished*  
 mobilitate corporis, veluti in ultimo senio, vel a cerebro  
*mobility of the body, as in extreme old age, or from the brain*  
 compresso, vel aliter habente se male. Vero gravior  
*being compressed, or otherwise having itself badly. But more severe*  
 compressio cerebri solet efficere ingentem frequentiam pulsuum,  
*compression of the brain is accustomed to cause great frequency of the pulse,*  
 veluti in hydrocephalo, apoplexiâ, &c. Interdum pulsus fiunt mirabiliter  
*as in hydrocephalus, apoplexy, &c. Sometimes the pulse become wonderfully*  
 tardi in hydropse pericardii, que aliis morbis vel hujus sacci  
*slow in dropsy of the pericardium, and in other diseases either of this bag*  
 vel cordis ipsius. Aliquando pulsus observatur præter solitum  
*or of the heart itself. Sometimes the pulse is observed unusually*  
 tardus in convalescentibus a diuturnis febribus. Res sane haud  
*slow in convalescents from long-continued fevers. A thing truly of no*  
 magni momenti; cujus aliquis torpor videtur esse causa. Quædam  
*great moment; of which some torpor seems to be the cause. Certain*  
 medicamenta sedantis generis, et imprimis nonnulla narcotica,  
*medicines of the sedative class, and especially some narcotics,*  
 veluti digitalis, sæpe visa sunt reddere pulsus multo tardiores  
*as digitalis, often have seemed (seem) to render the pulse much slower*  
 solito.  
*than usual.*

457. Vero frequentia pulsuum nihil mutatâ, singuli (sc.  
*But the frequency of the pulsations being in no way changed, each*

guinem a superficie corporis repulsum, et in magnis vasis accumulatum, eademque stimulantem; partim quoque ob varias irritaciones morbosas quæ in corpore tam male se habente et jam nimis irritabili facto nunquam desunt: partim demum per conamina quædam Naturæ (364, 368.) ad corpus tanto malo liberaudum quamvis sane multum hic subsit obscuri, vel prorsus ignoti: nec facile quis dixerit quomodo autocrateia corporis hic agat; tantaque pulsuum frequentia referenda sit, necne, ejus conatibus.

456. Pulsus raro nimis tardi observantur, nisi a minuta corporis mobilitate, veluti in

ultimo senio, vel a cerebro compresso, aut aliter male se habente. Gravior vero cerebri compressio ingentem pulsuum frequentiam efficere solet, veluti in hydrocephalo, apoplexia, &c. Interdum in hydropse pericardii, aliisque morbis vel hujus sacci vel cordis ipsius, pulsus mirabiliter tardi fiunt. Aliquando in convalescentibus a febribus diuturnis, pulsus præter solitum tardus observatur. Res sane haud magni momenti; cujus torpor aliquis videtur esse causa. Medicamenta quædam sedantis generis, et imprimis narcotica nonnulla, veluti Digitalis, sæpe visa sunt reddere pulsus multo tardiores solito.

pulsus) possunt esse vel pleni, magni, validi, fortes, duri, vel parvi, may be either full, large, vigorous, strong, hard, or small, debiles, molles. Pulsus fit plenus, magnus, fortis, quum ventriculus weak, soft. The pulse becomes full, large, strong, when the ventricle deplet se fortiter et plene, que tradit magnam undam sanguinis empties itself strongly and thoroughly, and sends a large wave of blood in arterias, quæ probe distendat has, et incitet ad into the arteries, which fully distends them, and stimulates (them) to validam contractionem. Pulsus hujusmodi, raro habendus morbosus, powerful contraction. A pulse of this sort, seldom to be considered diseased, contingit validis et sanis hominibus. Quod, si evadit nimis belongs to strong and healthy persons. But, if it becomes too fortis, et ferit vehementer et acriter pulpam digiti explorantis strong, and strikes violently and sharply the pulp of the finger of the person tum, vocatur durus. Durities pulsûs oritur a examining them, it is called hard. Hardness of the pulse arises from subitâ et vehemente contractione ventriculi cordis et arteriarum, quæ nimis subito et acriter distendat remotiores arteries, which too suddenly and sharply distends the more remote ramos, veluti carpi, et incitet ad contractiones pariter subitas branches, as of the carpus, and excites them to contractions alike sudden et vehementes. Igitur, durus pulsus denotat nimiam actionem and violent. Therefore, a hard pulse denotes excessive action cordis et arteriarum. of the heart and arteries.

458. Vero oritur a variis causis: imprimis, a nimia tensione But it arises from various causes: first of all, from excessive tension arteriarum, veluti a nimia plenitudine, quâ hæ fiunt of the arteries, as from too great fulness, by which they become proniores ad motum, et aptiores ad suscipiendos vehementes motus; more disposed to motion, and more fitted for taking on violent motions; oritur quoque a nimia densitate seu firmitate solidarum partium; it arises also from too great density or firmness of the solid parts; hinc frequentior in frigidis regionibus et temporibus, et familiaris hence more frequent in cold climates and seasons, and common robustis et validis hominibus et assuetis laboribus; denique, potest to robust and strong persons and those accustomed to labours; indeed, it may oriri a variis irritamentis afficientibus vel totum nervosum arise from various irritants affecting either the whole nervous genus vel tantum cor et arterias. Postremo comitatur system or only the heart and arteries. Lastly, it accompanies

457. Pulsuum vero frequentia nihil mutata, singuli possunt esse vel pleni, magni, validi, fortes, duri; vel parvi, debiles, molles. Pulsus plenus, magnus, fortis fit, quum ventriculus, fortiter et plene se deplet, magnamque undam sanguinis arteriis tradit, quæ hæ probe distendat, et ad validam contractionem incitet. Hujusmodi pulsus contingit hominibus validis et sanis, raro morbosus habendus. Quod si nimis fortis evadit, et pulpam digiti explorantis vehementer et acriter ferit, tum durus vocatur. Durities pulsus oritur a subita et vehemente ventriculi cordis et arteriarum contractione, quæ ramos remotiores, veluti

carpi, nimis subito et acriter distendat, et ad contractiones pariter subitas et vehementes incitet. Denotat igitur pulsus durus nimiam cordis et arteriarum actionem.

458. Oritur vero a variis causis: Imprimis, a nimia arteriarum tensione, veluti a nimia plenitudine, qua hæ ad motum proniores fiunt, et ad vehementes motus suscipiendos aptiores (221, 222, 223); oritur quoque a nimia solidarum partium densitate seu firmitate; hinc in regionibus et temporibus frigidis frequentior, et hominibus robustis et validis, et laboribus assuetis, familiaris (88, 91); denique, a variis irritamentis oriri potest, vel totum genus ner-



multas febres et plerosque morbos qui habent inflammationem: sive  
*many fevers and most of the diseases which have inflammation: whether*  
 a generali stimulo admoto corpori, sive ab irritatione quarundam  
*from the general stimulus applied to the body, or from irritation of certain*  
 partium, quæ paulatim extenditur ad totum corpus. Talis conditio  
*parts, which by degrees is extended to the whole body. Such a state*  
 circuitûs qualem hic pulsus indicat sæpe eget detractio-  
*of the circulation as this pulse indicates often requires detractio-*  
 sanguinis, et fere semper fert jacturam sanguinis bene.  
*of blood, and almost always bears the loss of blood well.*

459. Parvus, debilis, mollis pulsus agnoscit causas fere contrarias,  
*A small, feeble, soft pulse acknowledges causes nearly opposite,*  
 que indicat contrarium conditionem circuitûs et nervosi  
*and indicates an opposite condition of the circulation and of the nervous*  
 generis; sæpe requirit stimulantia, plerumque neque postulat,  
*system; often requires stimulants, and for the most part neither requires,*  
 neque facile tolerat, detractio-  
*nor easily bears, abstraction of blood. But sometimes a pulse of this*  
 modi observatur, quamvis gravis inflammatio, veluti ventriculi aut  
*kind is observed, although severe inflammation, as of the stomach or*  
 intestinorum, urgeat. In his et similibus exemplis, oportet  
*of the intestines, may oppress. In these and similar examples, it behoves*  
 respicere ad naturam mali plus quam ad statum pulsûs.  
*to look to the nature of the disease more than to the state of the pulse.*

460. Pulsus vocatur intermittens, siquando ictus non renovatur  
*The pulse is called intermitting, whenever the stroke is not repeated*  
 post solitum intervallum, et spatium intercedit longius sæpe duplo vel  
*after the usual interval, and a space intervenes longer often by double or*  
 triplo, vel nonnunquam quadruplo, soli solito (sc. spatio.)  
*triple, or even sometimes by four times, than the accustomed interval.*

461. Pulsus hujusmodi est fere et naturalis et perpetuus  
*A pulse of this kind is almost both natural and constant*  
 quibusdam animalibus; familiaris nonnullis hominibus fruentibus optimâ  
*to some animals; common to some persons enjoying the best*  
 sanitate; que pulsus interdum fit æqualis iisdem, donec  
*health; and the pulse sometimes becomes equal (regular) in the same, whilst*  
 febricitant, neque morbus solvitur priusquam intermittens  
*they are feverish, nor is the disease resolved before that the intermitting*  
 pulsus rediverit.  
*pulse shall (have) returned.*

462. Porro nonnullis hominibus, quibus, dum sunt sani,  
*Moreover, in some persons, who, whilst they are healthy,*

rosam, vel tantum cor et arterias, afficientibus. Postremo, multas febres, et plerosque morbos qui inflammationem habent, comitatur: sive a generali stimulo corpori admoto, sive ab irritatione partium quarundam, quæ paulatim ad totum corpus extenditur. Talis conditio circuitûs, qualem pulsus hic indicat, sæpe sanguinis detractio-  
 nem requirit, et fere semper sanguinis jacturam bene fert.

459. Pulsus parvus, debilis, mollis, contrarias fere causas agnoscit, contrariamque sanguinis circuitûs et generis nervosi conditionem indicat; stimulantia sæpe requirit, neque sanguinis detractio-  
 nem plerumque postulat, neque facile tolerat. Aliquando vero pulsus istiusmodi

observatur, quamvis gravis inflammatio urgeat, veluti ventriculi, aut intestinorum. In his et similibus exemplis ad naturam mali, plus quam ad statum pulsus, respicere oportet.

460. Pulsus intermittens vocatur, siquando post solitum intervallum ictus non renovatur, et spatium intercedit, sæpe duplo vel triplo, vel nonnunquam quadruplo, solito longius.

461. Hujusmodi pulsus quibusdam animalibus fere naturalis et perpetuus est; nonnullis hominibus optima sanitate fruentibus, familiaris; iisdemque, donec febricitant, pulsus interdum æqualis fit, neque prius solvitur morbus, quam pulsus intermittens rediverit.

est pulsus æqualis, si detinentur vel levissimo morbo, *have the pulse equal, if they are affected even by the slightest disease,* intermittens pulsus accedit. Alii, præsertim mobilioris habitûs *the intermittent pulse comes on. Others, especially of a more irritable habit* corporis, veluti hysterici aut hypochondriaci, vel qui laborant a *of body, as hysterical or hypochondriacal (persons), or who suffer from* stomacho, habent pulsum intermittentem a levi malo *the stomach, have the pulse intermitting from slight disorder* ventriculi, vel ab aliquo affectu animi, vel interdum a *of the stomach, or from some affection of the mind, or sometimes from* minore que ne observatâ causâ, quem (sc. puls. inter.) ipsi solent *a less and unobserved cause, which they are accustomed* scire, quamvis non exploraverint pulsus arteriarum, *to know, although they should not have examined the pulse of the arteries,* anxietate solâ quam sentiunt profundo in pectore, quoties *by the anxiety alone which they feel deep (deeply) in the breast, as often as* pulsus deficit. *the pulse fails.*

463. Denique, in quibusdam morbis pectoris, imprimis hydrope, et *In fine, in certain diseases of the chest, especially dropsy, and* gravi inflammatione pulmonis, et magnâ difficultate spirandi, et *severe inflammation of the lungs, and great difficulty of breathing, and* variis morbis cordis ipsiûs, que valvarum ejûs, aut majorum *in various diseases of the heart itself, and of the valves of it, or of the larger* vasorum, et sane in omnibus morbis, præsertim febribus prope finem, *vessels, and truly in all diseases, especially fevers near the end,* quum, viribus ægri jam exhaustis, mors pulsat arcem *when, the strength of the patient being now exhausted, death batters the citadel* ipsam vitæ, intermissio pulsûs observatur, tunc pessimum signum, sæpe *itself of life, intermission of pulse is observed, then the worst symptom, often* prænumcium lethi. *the forerunner of death.*

464. Igitur videtur oriri vel a nervosâ vi influente *Therefore it appears to arise either from the nervous power flowing* minus æqualiter in cor, que alia organa quæ promovent *less equally (regularly) into the heart, and the other organs which promote* circuitum, quod est omnino parvi momenti; vel a nervosâ *the circulation, which is altogether of small moment; or from the nervous* vi jam fractâ et exhaustâ, et corde vix amplius valente *influence being now broken and exhausted, and the heart no longer able* ad contractionem; neque deplente se, donec fuerit distentum *for contraction; nor emptying itself, until it have been distended*

462. Nonnullis porro hominibus, quibus, dum sani sunt, pulsus æqualis est, si vel levissimo morbo detinentur, intermittens pulsus accedit. Alii, præsertim habitus corporis mobilioris, veluti hysterici aut hypochondriaci, vel qui a ventriculo laborant, a levi malo ventriculi, vel ab aliquo animi affectu, vel interdum a minore neque observata causa, pulsum intermittentem habent, quem ipsi scire solent, quamvis pulsus arteriarum non exploraverint, sola anxietate quam profundo in pectore sentiunt, quoties pulsus deficit.

463. Denique, in quibusdam morbis pectoris, hydrope imprimis, et gravi pulmonis inflam-

matione, et magna spirandi difficultate, et variis vitiis cordis ipsius, ejusque valvarum, aut majorum vasorum; et in omnibus sane morbis, præsertim febribus, prope finem, quum, viribus ægri jam exhaustis, mors ipsam vitæ arcem pulsat, intermissio pulsus observatur. Signum tunc pessimum, sæpe lethi prænumcium.

464. Igitur videtur oriri, vel a vi nervosa in cor, aliaque organa quæ circuitum promovent, minus æqualiter influente; quod parvi omnino momenti est; vel a vi nervosa jam fracta et exhausta, et corde vix amplius ad contractionem valente, neque se deplente,

plus solito; vel, denique, a vitiis cordis ipsius que  
*more than usual; or, lastly, from disorders of the heart itself and*  
 vicinarum partium, vel a tumoribus, aut aquâ et similibus  
*of the neighbouring parts, or from tumours, or from water and the like*  
 prementibus, et impediendis actionem ejus, quod pessimum, et  
*oppressing, and impeding the action of it, which (is) very bad, and*  
 erit vix non lethale.  
*will be scarcely not (almost certainly) fatal.*

465. Porro, medici descriperunt haud paucas alias varietates  
*Moreover, physicians have described not a few (many) other varieties*  
 pulsuum, que crediderunt varios eventus morborum predicti  
*of the pulse, and have believed that the various issues of diseases might be predicted*  
 ex iis: fides quarum rerum sit penes auctores.  
*from them: let the truth of which things be with the authors, (for the truth*  
 Enim nondum satis comprobatae sunt  
*of which I refer to the authors.) For they have not yet been sufficiently proved*  
 repetitis observationibus, saltem in nostris regionibus, ut tuto  
*by repeated observations, at least in our country, that we safely*  
 fidendum sit (sc. nobis) iis; neque profecto ratio earum est  
*should trust them; nor truly has an explanation of them been*  
 reddita hactenus, neque est status circuitus sanguinis, qui  
*given hitherto, nor is the state of the circulation of the blood, which*  
 efficit eas, omnino cognitus.  
*produces them, at all known.*

466. Motus sanguinis potest esse vel nimis vehemens vel nimis  
*The motion of the blood may be either too violent or too*  
 debilis, vel, denique, abnormis.  
*feeble, or, lastly, irregular.*

467. Ratio nimis vehementis motus sanguinis facile redditur  
*The reason of the too violent motion of the blood is easily rendered*  
 ex prædictis. Frequens pulsus, cæteris paribus,  
*from the previous statements. A frequent pulse, other things being equal,*  
 efficit rapidiorem motum ejus; nimirum, quo citius ventriculus  
*causes a more rapid motion of it; that is to say, the quicker the ventricle*  
 cordis deplet sese, eo velocius sanguis projicitur in  
*of the heart empties itself, the more rapidly the blood is projected into*  
 arterias; que oportet actionem earum respondere huic  
*the arteries; and it behoves that the action of them correspond to this*  
 validiori stimulo. Quin et, magnus et validus pulsus, cæteris  
*more powerful stimulus. Moreover, a large and strong pulsation, other things*  
 paribus, intendit motum sanguinis. Igitur, variæ causæ  
*being equal, accelerates the motion of the blood. Therefore, the various causes*

donec plus solito distentum fuerit; vel denique a vitiis ipsius cordis partiumque vicinarum, vel a tumoribus, aut aqua et similibus prementibus, et actionem ejus impediendis; quod pessimum, et vix non lethale erit.

465. Alias porro pulsuum varietates haud paucas medici descriperunt, variasque morborum eventus ex iis prædicti crediderunt: quarum rerum fides sit penes auctores. Nondum enim repetitis observationibus satis comprobatae sunt, in nostris saltem regionibus, ut tuto iis fidendum sit; neque profecto ratio earum hactenus reddita est, neque status san-

guinis circuitus, qui eas efficit, omnino cognitus est.

466. Motus sanguinis potest esse vel nimis vehemens, vel nimis debilis, vel denique abnormis.

467. Motus sanguinis nimis vehementis ratio facile redditur ex prædictis (452, 458.) Pulsus frequens, cæteris paribus, rapidiorem ejus motum efficit: nimirum, quo citius ventriculus cordis sese deplet, eo velocius sanguis in arterias projicitur; earumque actionem huic validiori stimulo respondere oportet. Quin et pulsus magnus et validus, cæteris paribus,

utriusque generis pulsus, vel singulæ vel plures junctæ simul,  
*of both kind of pulse, either single or several joined together,*  
 inducunt hoc vitium circuitus: exercitatio, calor, stimulantia,  
*bring on this disorder of the circulation; exercise, heat, stimulants,*  
 plenitudo, omnigena irritatio, dolor, excitantes affectus animi,  
*fulness, every kind of irritation, pain, exciting affections of the mind,*  
 febres.  
*fevers.*

468. Vero nimius impetus sanguinis distendit vasa, excitat  
*But a too great impetus of the blood distends the vessels, excites*  
 totum corpus, calefacit, sæpe debilitat; auget sudorem, autem  
*the whole body, heats, often debilitates (it); increases sweat, but*  
 fere minuit reliquas secretiones, impedit atque perturbat  
*for the most part diminishes the other secretions, impedes and disturbs*  
 varias functiones, tam animi quam corporis: inducit  
*the various functions, as well of the mind as of the body: induces*  
 sitim, obest nutrimento, consumit adipem, favet putredini, ut  
*thirst, obstructs nutrition, consumes the fat, favours putrescency, as*  
 vulgo est receptum apud medicos. Ingens impetus sanguinis  
*commonly has been admitted by physicians. A great impetus of blood*  
 aliquando rumpit vasa, quæ sunt debilliora; unde effusiones,  
*sometimes breaks the vessels, where they are weaker; whence effusions,*  
 fluxus sanguinis, &c. (oriantur.) Vero minime prætereundum est (nobis)  
*flowings of blood, &c. (hæmorrhagies.) But by no means must we pass over*  
 silentio nimium motum sanguinis, utcumque vitiosus appareat,  
*in silence that the excessive velocity of the blood, however faulty it may seem,*  
 esse inter præstantissima auxilia quibus Natura utitur ad sanandos  
*is (one) amongst the most excellent aids which Nature uses for curing*  
 plurimos morbos.  
*many diseases.*

469. Motus sanguinis sæpe languescit, imprimis ob  
*The motion of the blood often becomes languid, principally on account of*  
 debilitatem, torporem, defectum irritationis, veluti exercitationis: sicubi  
*debility, torpor, want of irritation, as of exercise: whenever*  
 vires vel deficiunt, vel non excitantur, aut possunt (non) excitari  
*the powers either fail, or are not excited, or cannot be excited*  
 ut decet. Porro, motus humorum languescit,  
*as becomes them (they ought.) Furthermore, the motion of the fluids grows languid,*  
 si fuerit obstructio vel quævis causa, qualis impediatur iter  
*if there should be obstruction or any cause, such as may impede the passage*  
 eorum vel reddat difficilis.  
*of them or render (it) more difficult.*

motum sanguinis intendit. Variæ igitur causæ utriusque generis pulsus, vel singulæ, vel plures simul junctæ, hoc vitium circuitus inducunt: exercitatio, calor, stimulantia, plenitudo, irritatio omnigena, dolor, animi affectus excitantes, febres.

468. Nimius vero sanguinis impetus vasa distendit, totum corpus excitat, calefacit, sæpe debilitat; sudorem auget, reliquas autem secretiones fere minuit, varias functiones tam animi quam corporis impedit atque perturbat: sitim inducit, nutrimento obest, adipem consumit, putredini, ut vulgo apud medicos receptum est, favet. Ingens aliquando sanguinis impetus, vasa, qua debilliora sunt,

rumpit; unde effusiones, sanguinis fluxus, &c. Minime vero silentio prætereundum est nimium sanguinis motum, utcumque vitiosus appareat, inter præstantissima auxilia esse, quibus Natura utitur ad plurimos morbos, sanandos.

469. Languescit sæpe sanguinis motus, imprimis ob debilitatem, torporem, defectum irritationis, veluti exercitationis: sicubi vires deficiunt, vel non, ut decet, excitantur, aut excitari possunt. Porro, motus humorum languescit, si obstructio vel causa quævis fuerit, qualis iter eorum impediatur, vel difficilior reddat.

470. Hoc modo, si quis institerit diutiùs pedibus, humores  
*In this way, if any one should stand too long on his feet, the fluids*  
 redibunt tardiùs ab inferioribus artubus, ab pondere  
*will return more slowly from the lower extremities, from the weight*  
 ipso sanguinis. Porro, quodvis vitium cordis et arteriarum,  
*itself of the blood. Further, any disease of the heart and arteries,*  
 amplificatio, constrictio, conversio in os, potest non, non impedire  
*enlargement, constriction, conversion into bone, cannot, not (must) impede*  
 motum sanguinis. Quin et, qualibet obstructio afficiens venas,  
*the motion of the blood. Moreover, any obstruction affecting the veins,*  
 reddit motum sanguinis tardiorem; veluti si, quod sæpe fit,  
*renders the motion of the blood slower; as if, which often happens,*  
 jecur fuerit durum, et vix pervium sanguini affluenti  
*the liver should be hard, and scarcely pervious to the blood flowing*  
 per venam portarum; vel, denique, (si) respiratio impedita (fuerit)  
*through the vena portæ; or, lastly, if respiration be impeded*  
 quâ (sc. respiratione imp.) lter minus facile conceditur sanguini  
*by which a passage is less easily allowed to the blood*  
 per pulmores ad sinistrum latus cordis; sed in hoc statu aliæ  
*through the lungs to the left side of the heart; but in this state other*  
 noxæ videntur quoque concurrere.  
*injuries seem also to concur.*

471. Cæterum quicquid fuerit causa quod sanguis moveatur  
*But, whatever may (have) be the cause that the blood is circulated*  
 languidiùs, malum incumbit maxime in venas, nimirum quia  
*more languidly, the evil falls most upon the veins, doubtless because*  
 motus sanguinis est semper tardior in his. Hinc varices vena-  
*the motion of the blood is always slower in them. Hence varices of the*  
 rum, et congestiones sanguinis, præsertim in iis partibus, venæ  
*veins, and congestions of blood, especially in those parts, the veins*  
 quarum carent valvis, et in quibus motus musculorum nequit juvare  
*of which want valves, and in which the motion of the muscles cannot assist*  
 cursum sanguinis.  
*the current of the blood.*

472. Ratio est quoque par cur Hydrops sæpe oritur ab  
*The reason is also similar why dropsy often arises from*  
 impedito aut languido motu sanguinis; scilicet renixu in  
*an impeded or languid circulation of the blood; because the resistance in*  
 venis aucto, sanguis recipitur ægrius in eas ex  
*the veins being increased, the blood is received more difficultly into them from*  
 arteriis, et plus tenuis humoris impellitur in exhalantia vasa,  
*the arteries, and more (of) thin fluid is driven into the exhalant vessels,*

470. Hoc modo, ab ipso pondere sanguinis si quis diutiùs pedibus institerit, humores tardiùs ab artubus inferioribus redibunt. Porro, vitium quodvis cordis et arteriarum, amplificatio, constrictio, conversio in os, motum sanguinis non impedire non potest. Quin et obstructio qualibet, venas afficiens, motum sanguinis tardiorem reddit; veluti si jecur quod sæpe fit, durum fuerit, et sanguini per venam portarum affluenti vix pervium; vel denique, respiratio impedita, qua minus facile, per pulmores, ad sinistrum cordis latus, iter sanguini conceditur: sed in hoc statu aliæ quoque noxæ concurrere videntur.

471. Cæterum, quicquid causa fuerit quod sanguis languidiùs moveatur, malum in venas maxime incumbit; nimirum, quia in his sanguinis motus semper tardior est (432). Hinc varices venarum, et congestiones sanguinis, præsertim in iis partibus, quarum venæ valvis carent, et in quibus motus musculorum sanguinis cursum juvare nequit.

472. Par quoque ratio est, cur ab impedito aut languido sanguinis motu Hydrops sæpe oritur; scilicet, aucto in venis renixu, sanguis ægrius ex arteriis in eas recipitur, et plus humoris tenuis in vasa exhalantia (435) impel-

et deponitur ex iis, haud adeo facilè hauriendum per resorbentia  
*and is deposited by them, not so easily to be taken up by the absorbent*  
 vasa.  
*vessels.*

473. Vero hæc, et haud pauca reliqua mala, quæ profiunt  
*But these, and not a few other disorders, which proceed*  
 a languido motu humorum, sanantur lentius et difficilius,  
*from the languid motion of the fluids, are cured more slowly and more difficultly,*  
 eo quod omnes vires naturæ deficiunt simul. Vero aut  
*because all the powers of nature fail at the same time. But either*  
 cita mors aut læta victoria brevi imponit finem iis quæ  
*speedy death or a joyful victory quickly puts an end to those which*  
 proveniunt a nimio impetu humorum.  
*proceed from a too great impetus of the fluids.*

474. Quin et, vitium circuitus sæpissime accidit, sicubi plus  
*Moreover, a disorder of circulation very often occurs, as when more*  
 sanguinis justo qui debet deferri ad singulas partes in  
*blood than proper which ought to be conveyed to the several parts in*  
 certâ copiâ, defertur ad quasdam partes, et impetu majore  
*a certain ratio, is conveyed to some parts, and with an impetus greater*  
 quam decet: unde defectus in aliis partibus, quæ defraudantur  
*than it ought: whence a deficiency in other parts, which are defrauded*  
 suo penu.  
*of their due proportion.*

475. Talis abnormis distributio vitalis humoris sæpe oritur  
*Such an irregular distribution of the vital fluid frequently arises*  
 à stimulo admoto vel cuilibet parti, vel aliis, quamvis fortasse  
*from a stimulus applied either to any one part, or to others, although perhaps*  
 admodum remotis; primo afficiente vel cerebrum, vel demum animum,  
*very remote; at first affecting either the brain or at length the mind,*  
 qui tamen efficit certam et definitam distributionem sanguinis  
*which nevertheless produces a certain and definite distribution of the blood*  
 secundum leges consensûs.  
*according to the laws of sympathy.*

476. Oritur quoque haud raro a spasmò inducto aliis et  
*It arises also not unfrequently from spasm induced in other and*  
 satis remotis partibus; scilicet, qui dirigat sanguinem, pulsum a  
*tolerably remote parts; that is, which can direct the blood, driven from*  
 solitis viis, in novas.  
*the ordinary channels, into new ones.*

477. Prout abnormis distributio hujusmodi fuerit major ve  
*In proportion as an irregular distribution of this sort shall be greater or*

litur, et ex iis deponitur, haud adeo facile per  
 vasa resorbentia hauriendum.

473. Hæc vero, et reliqua haud pauca, quæ a  
 languido humorum motu profiunt, mala, eo  
 lentius et difficilius sanantur, quod omnes  
 simul naturæ vires deficiunt. Quæ vero a ni-  
 mio humorum impetu proveniunt, iis aut mors  
 cita, aut victoria læta, brevi finem imponit.

474. Quin et vitium circuitus sæpissime  
 accidit, sicubi sanguinis, qui certa copia ad  
 singulas partes deferri debet, plus justo ad  
 quasdam defertur, et majore quam decet im-  
 petu: unde defectus in aliis partibus, quæ suo  
 penu defraudantur.

475. Talis distributio abnormis humoris vita-  
 lis oritur sæpe a stimulo, vel parti cuilibet  
 admoto, vel aliis, quamvis fortasse admodum  
 remotis; vel cerebrum, vel demum animum  
 primo afficiente, qui tamen, secundum consen-  
 sus leges (355, 363) certam et definitam san-  
 guinis distributionem efficit.

476. Oritur quoque haud raro a spasmò aliis et  
 satis remotis partibus inducto; scilicet, qui  
 sanguinem a solitis viis pulsum in novas  
 dirigat.

477. Prout major minorve fuerit hujusmodi  
 distributio abnormis, eo plura et graviora, vel  
 pauciora et leviora mala ex ea proveniunt:

minor, eo plura et graviora, vel pauciora et leviora,  
*less, in that the more and severer, or the fewer and slighter,*  
 mala proveniunt ex eâ (distributione, &c.): calor, tumor, rubor,  
*disorders proceed from it: heat, swelling, redness,*  
 inflammatio, lacerationes vasorum, profluvia sanguinis, effusiones, et  
*inflammation, lacerations of the vessels, profusions of blood, effusions, and*  
 solutio, destructio, corruptio, suppuratio reticulatæ telæ, que  
*solution, destruction, corruption, suppuration of the cellular tissue, and*  
 vicinarum partium.  
*contiguous parts.*

478. Natura quoque sæpe utitur hoc, ut primo intuitu videtur,  
*Nature also often uses this, as at first sight it seems (to be),*  
 vitio, neque frustra, et vertit in optimum remedium. Neque  
*disorder, nor in vain, and converts it into the best remedy. Nor*  
 medici dedignati sunt premere ejus vestigia, et mutare et  
*have physicians disdained to tread her footsteps, and to change and*  
 dirigere, quantum potuerint, distributionem sanguinis in variis morbis:  
*direct, as far as they could, the distribution of blood in various diseases:*  
 neque penituit fecisse. Scilicet jam sunt  
*nor did it repent (them) to have done (this). Because already they have*  
 probe experti distributionem sanguinis mutatam esse sæpe  
*fully experienced that the distribution of the blood, (when) changed, was often*  
 præstantissimum auxilium tum ad sanandos morbos tum ad levanda  
*a most excellent auxiliary as well for curing diseases as for relieving*  
 indicia eorum quæ urgent maximè.  
*the symptoms of them which trouble most.*

479. Postremo, quædam vitia motus cordis ipsius, adhuc  
*Lastly, certain derangements of the action of the heart itself, as yet*  
 supersunt consideranda, neque profecto adeo levia aut simplicia ut non  
*remain to be considered, nor truly so slight or simple as not*  
 mereantur attentionem medicorum: nimirum, palpitatio, et syncope, seu  
*to deserve the attention of physicians: namely, palpitation, and syncope, or*  
 animi defectio.  
*fainting.*

480. Vehemens abnormis actio cordis vocatur palpitatio; qualis  
*A violent irregular action of the heart is called palpitation; such as*  
 plerumque sentitur et ab ægro ipso, non sine gravi  
*generally is felt both by the patient himself, not without an oppressive*  
 anxietate in pectore, et ab adstantibus, si admoverint manum  
*anxiety in the chest, and by the bystanders, if they (should) apply the hand*  
 pectori; quin potest quodammodo et spectari, scilicet, costæ  
*to the breast; but it may in some degree even be seen, that is, the ribs*

calor, tumor, inflammatio, lacerationes vasorum, sanguinis profluvia, effusiones, et telæ reticulatæ partiumque vicinarum solutio, destructio, corruptio, suppuratio.

478. Hoc quoque, ut primo intuitu videtur, vitio, Natura sæpe neque frustra utitur, et in optimum remedium vertit. Neque medici dedignati sunt ejus vestigia premere, et sanguinis distributionem in variis morbis, quantum potuerint, mutare atque dirigere; neque fecisse penituit. Scilicet, jam probe experti sunt mutatam sanguinis distributionem sæpe præstantissimum esse auxilium tum ad sanan-

dos morbos, tum ad levanda eorum indicia quæ maxime urgent.

479. Postremo, supersunt adhuc consideranda vitia quædam motus ipsius cordis, neque profecto adeo levia aut simplicia ut medicorum attentionem non mereantur: palpitatio nimirum, et syncope, seu animi defectio.

480. Palpitatio vocatur actio cordis vehemens, abnormis; qualis plerumque, et ab ipso ægro non sine gravi anxietate in pectore sentitur, et ab adstantibus, si manum pectori admoverint; quia et interdum spectari quodammodo potest, tanta scilicet vi costæ aliquando

aliquando feriuntur tantâ vi ut totum pectus moveatur.  
*sometimes are struck with so much violence that the whole chest is moved.*

Dum cor palpitât, pulsus arteriarum observantur ple-  
*Whilst the heart palpitates, the pulsations of the arteries are observed for the*  
 rumque debiles, inæquales, et intermittentes.  
*most part weak, unequal, and intermitting.*

481. Malum, naturâ spasmus, inducitur variis causis,  
*The disorder, in its nature a spasm, is brought on by various causes,*  
 tum quæ afficiunt totum nervosum genus, tum quæ  
*as well (those) which affect the whole nervous system, as (those) which*  
 (afficiunt) cor solum. Vitia omnigena, cordis ipsiûs, que  
*affect the heart alone. Diseases of every kind, of the heart itself, and*  
 valvarum que vasorum ejûs, constrictio, amplificatio, conversio  
*of the valves and vessels of it, constriction, enlargement, conversion*  
 in os, polypus, impediendo liberam actionem et exinanitionem  
*into bone, polypus, by preventing the free action and emptying*  
 cordis, incitant ipsum (cor) ad insolitam et vehementem contractionem  
*of the heart, excite it (self) to unusual and violent contraction.*

Quoque nimia abundantia sanguinis vel nimius impetus, veluti a  
*Also an over abundance of blood or excessive impetus, as from*  
 cursu, &c. potest præstare eundem effectum.  
*running, &c. may produce the same effect.*

482. Quin et cor, organum insignis mobilitatis, sæpe  
*Moreover the heart, an organ of remarkable mobility, frequently*  
 palpitât a statu nervosi generis vehementer affecti, et  
*palpitates from the state of the nervous system (when) violently affected, and*  
 præternaturam mobilis. Hinc palpitatio aliquando ab affectu  
*unnaturally irritable. Hence palpitation sometimes from an affection*  
 animi: hinc malum familiare hystericis.  
*of the mind: hence a disorder common to hysterical (persons).*

483. Sæpe quoque oritur a ventriculo habente se male,  
*Often also it arises from the stomach having itself badly,*  
 stimulatô, distento, gravato, vermibus, multo onere crudi  
*being stimulated, distended, oppressed, by worms, a great load of crude*  
 aut corrupti cibi, aère copiose extricato per minus sanam  
*or corrupted food, by gas abundantly disengaged during less-(un)- healthy*  
 concoctionem, que variis acribus.  
*digestion, and by various acrid things.*

484. Palpitatio sæpe comitatur podgram repulsam aut prodeuntem  
*Palpitation often accompanies gout when repelled or coming out*  
 male. Aliquando oritur a debilitate, qualiscunque fuerit  
*badly (irregular). Sometimes it arises from debility, whatsoever may have been*

feriuntur, ut totum pectus moveatur. Dum palpitât cor, pulsus arteriarum plerumque debiles, inæquales, et intermittentes observantur.

481. Malum, natura spasmus, variis causis inducitur, tum quæ totum genus nervosum afficiunt, tum quæ solum cor. Vitia omniigena cordis ipsiûs, ejusque valvarum vasorumque, constrictio, amplificatio, conversio in os, polypus, liberam cordis actionem et exinanitionem impediendo, ipsum ad insolitam et vehementem contractionem incitant. Sanguinis quoque nimia abundantia, vel nimius impetus, veluti a cursu, &c. eundem effectum præstare potest.

482. Quin et cor, insignis mobilitatis organum, a statu generis nervosi vehementer affecti, et præter naturam mobilis, sæpe palpitât. Hinc aliquando ab animi affectu palpitatio: Hinc malum hystericis familiare.

483. Sæpe quoque oritur a ventriculo male se habente, vermibus, multo onere cibi crudi aut corrupti, aère per concoctionem minus sanam copiose extricato, variisque acribus, stimulatô, distento, gravato.

484. Podagram repulsam, aut male prodeuntem, sæpe comitatur palpitatio. Aliquando a debilitate oritur, qualiscunque ejus causa fue-



causa ejus; sæpe etiam ab omni difficultate spirandi.  
*the cause of it; often also from every kind of difficulty of breathing.*

Variae causæ palpitationis possunt quoque conjungi simul, et  
*The various causes of palpitation may also be combined together, and*  
 aliæ (possunt) producere alias.  
*some produce others.*

485. Hinc patet cur, sæpe immedicabile malum, ocyus vel serius  
*Hence appears why, often an incurable disease, sooner or later*  
 evasurum lethale; cur sæpe leve et fugax; sæpe  
*to (it will) become fatal; why frequently slight and transient; often*  
 rediens per intervalla, sæpe accedens et ingravescens omni  
*returning at intervals, often coming on and increasing by every kind of*  
 irritatione et exercitatione; vero aliquando leniendum aut summovendum  
*irritation and exercise; but sometimes to be relieved or removed*  
 stimulantibus remediis et exercitatione.  
*by stimulating remedies and exercise.*

486. Vocatur syncope seu defecto animi, (cui medici imposuerunt  
*It is called syncope or fainting, (to which physicians have given*  
 varia nomina, prout fuerit gravius vel levius malum,)  
*various names, according as it shall be a severer or slighter disorder,)*  
 siquando actio cordis, et simul cum eâ arteriarum,  
*whenever the action of the heart, and together with it of the arteries,*  
 multum et subito deficit; unde animales vires, sensus, que  
*greatly and suddenly fails; whence the animal powers, sensation, and*  
 voluntarius motus statim collabuntur.  
*voluntary motion instantly collapse.*

487. Fere omnes causæ palpitationis possunt aliquando quoque  
*Almost all the causes of palpitation can sometimes also*  
 inducere syncopen; scilicet quicquid queat turbare et convellere  
*induce syncope; because whatever can disturb and convulse*  
 motum cordis, potest nonnunquam debilitare vel suspendere  
*the motion of the heart, may sometimes debilitate or even suspend*  
 eundem.  
*the same.*

488. Igitur vitiata fabrica cordis ipsiùs, graves affectus  
*Therefore a faulty mechanism of the heart itself, severe affections*  
 animi, tum deprimentes, tum qui subito et vehementer  
*of the mind, as well depressing, as those which suddenly and violently*  
 incitant, varia vitia nervosi generis, quidam morbi ventriculi,  
*excite, various disorders of the nervous system, certain diseases of the stomach,*  
 omnigena debilitas, omnis exinanitio, imprimis jactura sanguinis,  
*every kind of debility, every sort of evacuation, especially loss of blood,*

rit; sæpe etiam ab omni spirandi difficultate. Variæ quoque palpitationis causæ simul conjungi possunt, et aliæ alias producere.

485. Hinc patet, cur malum sæpe immedicabile, serius ocyus lethale evasurum; cur sæpe leve et fugax; sæpe per intervalla rediens, sæpe omni irritatione et exercitatione accedens et ingravescens; aliquando vero stimulantis remediis, et exercitatione, leniendum aut summovendum.

486. Syncope, seu animi defectio (cui varia nomina, prout gravius vel levius fuerit malum, medici imposuerunt) vocatur, si quando actio

cordis, et arteriarum simul cum ea, subito et multum deficit; unde vires animales, sensus, motusque voluntarius, statim collabuntur.

487. Omnes fere causæ palpitationis syncopen quoque aliquando inducere possunt; scilicet, quicquid motum cordis turbare et convellere queat, eundem nonnunquam debilitare vel suspendere potest.

488. Fabrica igitur ipsius cordis vitiata, graves animi affectus, tum deprimentes, tum qui subito et vehementer incitant, varia generis nervosi vitia, quidam morbi ventriculi, debilitas omnigena, omnis exinanitio, sanguinis im-

excessus laboris, que ejûs non intermissi, diuturna vigilla,  
*excess of labour, and of it (that) not intermitted, long continued watching,*  
 calor, dolor, multa venena, &c. faciunt hominem linqui  
*heat, pain, many poisons, &c. cause a person to be left*

animo.

*by the mind (to faint).*

489. Quicquid reddit motum sanguinis per arterias cerebri  
*Whatever renders the motion of the blood through the arteries of the brain*  
 debiliorem, (potest) inducere syncopen; quicquid expedit eundem  
*weaker, may bring on syncope; whatever expedites the same*  
 potest reficere hominem vel jam deficientem.  
*may recover a person even already fainting.*

490. Hinc ratio est in promptu cur situs solus  
*Hence the explanation is at hand (ready) why the position alone*  
 corporis, sæpe vel inducat syncopen vel impediat, vel depellat,  
*of the body, often either may induce syncope or prevent it, or drive it off,*  
 jam inductam.  
*even (when) induced.*

491. Quoque patet, malum aliquando esse pessimi ominis,  
*It is also evident, that the disorder sometimes may be of the worst omen,*  
 que ipsum ne carere suo periculo; nimirum quod sæpe  
*and that it itself does not want its own danger; truly because often*  
 est continuatum morti; vero aliquando esse levissimum, discessurum  
*it is continued to death; but that sometimes it is very slight, will depart*  
 sponte, neque requirere auxilium medici; denique  
*of its own accord, nor requires the aid of the physician; in fine*  
 nonnunquam optari haud absurde, et induci arte a  
*that sometimes it is wished for not absurdly, and is induced by art by*  
 solerte medico, imitatore atque æmulo Naturæ ipsiûs, ut  
*the skilful physician, the imitator and rival of Nature herself, that*  
 præstet ægrum incolumem a vehemente dolore,  
*he may preserve (to preserve) the patient secure from violent pain,*  
 aut immani impetu sanguinis, vel profluvio vix temperando  
*or violent impetus of blood, or a profluvium scarcely to be governed*  
 aliter.  
*otherwise.*

primis jactura, excessus laboris, ejusque non intermissi, diuturni vigilia, calor, dolor, multa venena, &c. hominem animo linqui faciunt.

489. Quicquid sanguinis motum per arterias cerebri debiliorem reddit, syncopen inducere; quicquid eundem expedit, hominem vel jam deficientem reficere potest.

490. Hinc ratio in promptu est, cur solus corporis situs syncopen sæpe vel inducat, vel impediat, vel jam inductam depellat.

491. Patet quoque, malum aliquando pessimi

ominis esse, neque ipsum suo periculo carere; nimirum quod sæpe morti continuatum est; aliquando vero levissimum esse, sponte discessurum, neque medici auxilium requirere; nonnunquam, denique a solerte medico, Naturæ ipsius imitatore atque æmulo, haud absurde optari, et arte induci, ut ægrum a vehemente dolore, aut immani suuguiuis impetu, vel profluvio, vix aliter temperando, incolumem præstet.

CAP. XVI.

CHAP. XVI.

*De naturâ sanguinis ipsiûs; et (ejûs) varietatibus et vitiis.*  
*Of the nature of the blood itself; and its varieties and disorders.*

492. Multum abest ut sanguis ipse, motus et ditributio  
*It is very far from that the blood itself, the circulation and distribution*  
*cujûs sunt adeo necessaria ad vitam, sit simplex humor que semper*  
*of which are so essential to life, be a simple fluid and always*  
*idem. Continet varias partes, que, ut videtur, variæ*  
*the same. It contains different parts, and, as it seems, of different*  
*utilitatis; et ipse est obnoxius suis varietatibus et vitiis.*  
*utility; and itself is liable to its peculiar changes and disorders.*

493. Missus e venis et receptus in idoneum vas, mani-  
*Drawn from the veins and received into a proper vessel, it mani-*  
*festè prodit, aliquatenus, suam naturam et compositionem,*  
*festly sets forth, in some degree, its peculiar nature and composition,*  
*dummodo mutationes, quas subit sponte, attente*  
*provided the changes, which it undergoes spontaneously, be attentively*  
*spectentur.*  
*looked to.*

494. Primo exhalat tenuem, fere aquosum, levissimè olidum  
*At first it exhales a thin, almost watery, slightly smelling*  
*vaporem, sed admodum parçâ quantitate; brevi cogitur in*  
*vapour, but in very small quantity; it quickly is coagulated into*  
*profunde rubram, tremulam, mollissimam, massam, quiete, frigore, aère*  
*a deeply red, tremulous, very soft, mass, by rest, cold, air*  
*admisso: paulo post, citiùs si massa fuerit secta,*  
*being admitted: a little after, more quickly if the mass should be cut,*  
*quædam guttulæ tenuis, subflavi, pellucidi humoris exiliunt ex*  
*some small drops of a thin, yellowish, pellucid fluid go out from*  
*superficie ejûs, quæ prodeuntes plures tandem coëunt*  
*the surface of it, which coming forth many (numerously) at length run together*  
*que circumdant crassiorem partem, et separat a parietibus vasis.*  
*and surround the thicker part, and separate it from the walls of the vessel.*

495. Crassior pars, quæ sola rubet, accurantiùs explorata,  
*The thicker part, which alone is red, more accurately examined,*  
*ostendit ulteriorem compositionem: continet multum tenuioris partis,*  
*shews an ulterior composition: it contains much of the thinner part,*

CAP. XVI.—*De sanguinis ipsius natura; et varietatibus, et vitiis.*

492. MULTUM abest, ut sanguis ipse, cujus motus et distributio ad vitam adeo necessaria sunt, humor sit simplex, semperque idem. Varias partes, variæque, ut videtur, utilitatis, continet; et ipse suis varietatibus et vitiis obnoxius est.

493. E venis missus, inque idoneum vas receptus, suam naturam et compositionem aliquatenus manifestè prodit, dummodo quas sponte subit mutationes attente spectentur.

494. Tenuem vaporem primo exhalat, fere aquosum, levissime olidum, sed parçâ admodum quantitate; quiete, frigore, admisso aère, brevi cogitur in massam profunde rubram, tremulam, mollissimam: paulo post, ex ejus superficie, citius si secta fuerit massa, guttulæ quædam humoris tenuis, subflavi, pellucidi, exiliunt, quæ plures prodeuntes coëunt tandem, partemque crassiorem circumdant, et a vasis parietibus separant.

495. Pars crassior, quæ sola rubet, accuratius explorata, ulteriorem ostendit compositionem: multum continet partis tenuioris, quæ vocatur serum: probe elota, ruborem suum amittit,

quæ vocatur serum: probe elota amittit suum ruborem, glutinosâ,  
*which is called serum: well washed it loses its redness, the glutinous,*  
 tenace, albidâ parte tamen superstite; hæc pars, nunc dicta  
*tenacious, whitish part however remaining; this part, now called*  
*fibrina a chemicis, olim habuit varia nomina, fibram sanguinis,*  
*fibrine by chemists, formerly had various names, fibre of the blood,*  
*coagulabilem lympham, gluten.*  
*coagulable lymph, gluten.*

496. Crassamentum, præterea, continet innumeras rubras particulas,  
*The crassamentum, besides, contains innumerable red particles,*  
 vulgo dictas globulos, quæ impertiunt colorem universo sanguini.  
*commonly called globules, which impart their colour to the whole blood.*  
 Hæ, si explorantur ope microscopii, singulæ ostendunt  
*These, if they are examined by means of the microscope, each shew*  
 pulcherrimam fabricam, quæ tamen differt, haud parum, in  
*a very beautiful structure, which however differs, not a little, in*  
 diversis animalibus.  
*different animals.*

497. In homine, et plerisque aliis animalibus, sunt rotundæ et  
*In man, and most other animals, they are circular and*  
 planæ, instar nummi. Exterior pars, quæ sola rubet, est  
*flat, like money. The exterior part, which alone is red, is*  
 mantica seu vesicula, quæ continet centram partem, solidum globulum  
*a little bag or vesicle, which contains the central part, a solid globule*  
 ut videtur, multo minorem se.  
*as it appears, much smaller than itself.*

498. Tenuis pars sanguinis, quæ vocatur serum, idoneo calore  
*The thin part of the blood, which is called serum, a proper heat*  
 admoto, quoque coit in albidam tenacem massam, dictam  
*being applied, also coagulates into a whitish tenacious mass, called*  
 albumen, satis similem fibrinæ, seu coagulabili lymphæ, quæ coit  
*albumen, pretty similar to fibrine, or coagulable lymph, which coagulates*  
 sponte: unde tenuior latex, dicitur serositas, potest exprimi;  
*spontaneously: from whence a thinner fluid, called serosity, can be pressed out;*  
 quæ continet aliquantum gelatinæ.  
*which contains a little (of) gelatine.*

499. Demum, sanguini insunt (pro habet) varii sales soluti in ipsius  
*Lastly, the blood has various salts dissolved in its*  
 sero: imprimis phosphas sodæ, phosphas calcis, murias sodæ,  
*serum: especially phosphate of soda, phosphate of lime, muriate of soda,*  
 pura soda, et nonnihil hydrosulphureti ammoniæ.  
*pure soda, and a little (of) hydrosulphuret of ammonia.*

superstite tamen parte glutinosa, tenace, al-  
 bida; hæc pars, *fibrina* a *chemicis* nunc dicta,  
 olim varia habuit nomina, fibram sanguinis,  
 lympham *coagulabilem*, gluten.

496. Continet præterea crassamentum innumeras particulas rubras, vulgo globulos dictas, quæ colorem impertiunt universo sanguini. Hæ, si ope *microscopii* explorantur, singulæ pulcherrimam ostendunt fabricam, quæ tamen haud parum differt in diversis animalibus.

497. In homine, et plerisque aliis animalibus rotundæ sunt, et planæ, instar nummi. Exterior pars, quæ sola rubet, mantica seu vesicula

est, quæ partem centram, globulam ut videtur solidum, continet, multo se minorem.

498. Tenuis pars sanguinis, quæ vocatur serum, idoneo calore admoto, coit quoque in massam albidam, tenacem, *albumen* dictam, *fibrinæ* seu lymphæ *coagulabilis*, quæ sponte coit, satis similem: unde tenuior latex, *serositas* dicitur, exprimi potest; quæ aliquantum *gelatinæ* continet.

499. Varii demum sales insunt sanguini, in sero ipsius soluti: *phosphas* imprimis *sodæ*, *phosphas calcis*, *murias sodæ*, *soda* pura, et nonnihil *hydrosulphureti ammoniæ*.

500. Totus sanguis, nedum coagulatus, qualis fluit e venâ,  
*The entire (of) the blood, not yet coagulated, such as it flows from a vein,*  
 coit calore multo minore quam qui sufficiat ad cogendum  
*coagulates at a heat much less than what suffices to coagulate*  
 serum; vero majore quam unquam accidit vivo homini.  
*the serum; but greater than ever occurs in the living man.*

501. Rubræ particulæ, dum natant in sero, vel quovis simili  
*The red particles, whilst they swim in the serum, or any similar*  
 humore, qui continet aliquid salis solutum in se, aliquandiu  
*fluid, which contains something of salt dissolved in it, for some time*  
 bene conservant propriam figuram. Sed, dilutæ purâ aquâ,  
*perfectly preserve their proper figure. But, diluted with pure water,*  
 brevi tument, exterior vesicula distenditur in formam globi,  
*they quickly swell, the external vesicle is distended into the shape of a globe,*  
 et tandem rumpitur et solvitur, et centralis particula elabatur  
*and at length is broken and dissolved, and the central particle escapes*  
 ex eâ. Igitur hic videtur esse unus usus, neque forsitan  
*from it. Therefore this seems to be one use, nor perhaps*  
 minimus, seri que salium quos continet, diluere totam  
*the least, of the serum and of the salts which it contains, to dilute the entire*  
 massam sanguinis, et reddere mobilem, et conservare rubras  
*mass of blood, and render it moveable, and to preserve the red*  
 particulas integras, et figurâ quâ decet.  
*particles entire, and of the figure which it becomes (them).*

502. Origo et finis et usus rubrarum particularum pariter  
*The origin and end (object) and use of the red particles (are) alike*  
 incerta atque obscura. Sunt qui opinantur centrales  
*uncertain and obscure. There are (those) who imagine that the central*  
 particulas formari in conglobatis glandulis resorbentium vasorum,  
*particles are formed in the conglobate glands of the absorbing vessels,*  
 et primâ ætate in thymo, resorberi in sanguinem,  
*and at the first age in the thymus, are reabsorbed into the blood,*  
 deferri ad varia organa corporis, et indui exteriore  
*are carried to the various organs of the body, and are clothed with the exterior*  
 rubrâ parte a splene, et demum reduci per resorbentia  
*red part by the spleen, and at length are brought back by the absorbing*  
 vasa ejus, ad cor. Sed hæc, et commenta hujusmodi, videntur  
*vessels of it, to the heart. But these, and expositions of such sort, seem*  
 parum firma.  
*no way certain.*

503. Est non dubitandum quin particulæ fabricatæ tantâ curâ,  
*It is not to be doubted but that particles fabricated with so great care,*

500. Totus sanguis, qualis e vena fluit nedum, coactus, calore coit multo minore quam qui ad serum cogendum sufficiat; majore vero quam vivo homini unquam accidit.

501. Particulæ rubræ, dum in sero, vel simili quovis humore, natant, qui salis aliquid in se solutum continet, propriam figuram aliquandiu bene conservant. Sed pura aqua dilutæ, brevi tument, vesicula exterior distenditur in formam globi, et rumpitur tandem, et solvitur, et particula centralis ex ea elabatur. Hic igitur videtur esse unus, neque forsitan minimus, usus seri saliumque quos continet, totam massam sanguinis diluere, et mobilem reddere, particu-

lasque rubras integras, et qua decet figura, conservare.

502. Origo, et finis, et usus particularum rubrarum pariter incerta atque obscura. Sunt qui opinantur, particulas centrales in glandulis conglobatis vasorum resorbentium, et prima ætate in thymo formari, in sanguinem resorberi, ad varia corporis organa deferri, et a splene parte exteriore rubra indui, et per ejus vasa resorbentia ad cor demum reduci.— Sed hæc et hujusmodi commenta parum firma videntur.

503. Non est dubitandum, quin particulæ tanta cura fabricatæ, insigui in corpore usui

inserviant insigni usui in corpore, quamvis hic sit hactenus  
*serve for an important use in the body, although this be hitherto*  
 parum cognitus. Non defuerunt qui opinati sunt,  
*little understood. There have not been wanting they who have imagined,*  
 nimirum, Iatro-mathematici, eas conferre quodammodo ad  
*namely, the Iatro-mathematicians, that they contributed in some way to*  
 gignendum animalem calorem; sed haud satis ratione. Certè  
*generate animal heat; but not with sufficient reason. Truly*  
 implent et distendunt majora vasa, neque intrant minora  
*they fill and distend the larger vessels, neither do they enter the smaller*  
 neque facile elabuntur e corpore. Videntur prodesse quodam-  
*(ones) nor easily escape from the body. They seem to avail in some*  
 modo ad nutrimentum corporis, repertæ quam plurimæ in valido  
*measure to the nutrition of the body, being found very numerous in a strong*  
 et bene pasto animale, paucissimæ in famelico et exhausto.  
*and well fed animal, very few in the starved and exhausted one.*

504. Fibrina et albumen et gelatina quoque probe distendunt et  
*Fibrine and albumen and gelatine also fully distend and*  
 implent vasa, et impediunt ne vitalis humor effluat:  
*fill the vessels, and prevent that the vital fluid escape (from escaping):*  
 enim prorsus tenuis humor, instar aquæ, non sufficisset  
*for an altogether thin fluid, like water, would not have sufficed*  
 ad munera vitæ, quippe quem vasa patula innumeris  
*for the functions of life, as being one which vessels open with numberless*  
 ostiis non potuissent continere. Ista principia videntur imprimis  
*mouths would not have been able to retain. These principles seem especially*  
 conferre ad nutrimentum; quoniam et ipsa nutriunt  
*to contribute to nutrition; because both they themselves nourish*  
 multum, et omnia alimenta vertuntur, per duplicem concoctionem  
*very much, and all the aliments are converted, by a twofold concoction*  
 in corpore, primo in ventriculo et intestinis, postea in pulmonibus,  
*in the body, first in the stomach and intestines, afterwards in the lungs,*  
 in eadem (principia) priusquam impendantur ad alendum corpus,  
*into the same (principles) before that they are expended to support the body,*  
 et reparandam jacturam solidarum partium.  
*and to repair the waste of the solid parts.*

505. Usus universæ massæ sunt varii, et maximi momenti.  
*The uses of the whole mass are various, and of the greatest moment.*  
 Imprimis probe distributa, excitat nervosum genus; videtur  
*First of all properly distributed, it excites the nervous system; seems*  
 conferre haud parum ad gignendum animalem calorem, que  
*to contribute not a little to generate animal heat, and*

inserviant, quamvis hic parum hactenus cognitus sit. Non defuerunt qui opinati sunt, Iatro-mathematici nimirum, eas ad calorem animalem gignendum quodammodo conferre; sed haud satis valida ratione. Vasa majora certe implent atque distendunt, neque minora intrant, neque facile e corpore elabuntur. Ad nutrimentum corporis quodammodo prodesse videntur, in valido et bene pasto animale quam plurimæ, in famelico et exhausto paucissimæ repertæ.

504. Fibrina et albumen et gelatina quoque vasa probe distendunt et implent, et ne humor vitalis effluat impediunt: humor enim prorsus te-

nuis, instar aquæ, ad vitæ munera non sufficisset, quippe quem vasa innumeris ostiis patula non potuissent continere. Ad nutrimentum imprimis conferre videntur principia ista; quoniam et ipsa multum nutriunt, et omnia alimenta, per duplicem in corpore concoctionem, primo in ventriculo et intestinis, postea in pulmonibus, in eadem prius vertuntur, quam ad alendum corpus, et partium solidarum jacturam reparandam, impendantur.

505. Universæ massæ usus varii et maximi momenti sunt. Genus nervosum imprimis excitat, probe distributa; ad calorem animalem gignendum, eundemque per totum corpus dif-

diffundendum eundem per totum corpus; quin et sanguis est  
*to diffuse . the same through the whole body; moreover the blood is*  
 penus unde varii humores, apti varii muniis,  
*the store from whence the various fluids, fitted for their various offices,*  
 derivantur vel secernuntur.  
*are derived or secreted.*

506. Partes sanguinis jam descriptæ, raro desunt; aliæ  
*The parts of the blood already described, rarely are wanting; (any) others*  
 raro reperiuntur in sanguine. Vero in quibusdam exemplis, fuit  
*rarely are found in the blood. But in some examples, there was*  
 aut nulla fibrina, aut tam parum ejus, aut ipsa adeo corrupta,  
*either no fibrine, or so little of it, or itself so corrupted,*  
 ut sanguis missus e venis non coiret, et rubræ particulæ,  
*that blood drawn from the veins did not coagulate, and the red particles,*  
 instar arenæ, peterent fundum vasis. Res pessimi  
*like sand, sought (fell to) the bottom of the vessel. A thing of the worst*  
 ominis.  
*omen.*

507. Serum aliquando observatur album, instar lactis, quod  
*The serum is sometimes observed white, like milk, which*  
 videtur oriri ab adipe resumpto, que ne iterum redacto  
*seems to arise from the fat being taken up, and not again reduced*  
 in gluten. Serum etiam sæpe observatur præternaturam  
*(converted) into gluten. The serum also often is observed unnaturally*  
 flavum, propter bilem redeuntem in sanguinem.  
*yellow, on account of the bile returning into the blood.*

508. Sanguis sæpe cogitur aliâ minus solitâ ratione, et  
*The blood often is coagulated in another less usual manner, and*  
 crassamentum obducitur albâ tenace crustâ, instar corii.  
*the crassamentum is covered with a white tenacious crust, like leather.*  
 Hæc crustâ est nihil præter puram fibrinam coactam tardius  
*This crust is nothing except (but) pure fibrine coagulated more slowly*  
 solito, quo fit ut rubræ colorantes particulæ quodam-  
*than usual, whence it happens that the red colouring particles in some*  
 modo subsident.  
*degree subside.*

509. Indicat nullum lentorem, densitatem, spissitatem, tenacitatem  
*It indicates no lentor, density, thickening, tenacity*  
 sanguinis ut diu fuit creditum, sed  
*of the blood (it does not indicate any, &c.), as for a long time was believed, bu*  
 potius tenuitatem, saltem minorem proclivitatem ad coagulationem.  
*rather a tenuity, at least a less tendency to coagulation.*

fundendum, haud parum conferre videtur; quin et sanguis penus est, unde varii humores, variis muniis apti, derivantur vel secernuntur.

506. Sanguinis partes jam descriptæ raro desunt; raro aliæ in sanguine reperiuntur. In quibusdam vero exemplis, aut nulla fuit fibrina, aut tam parum ejus, aut ipsa adeo corrupta, ut sanguis e venis missus non coiret, et particulæ rubræ, instar arenæ, fundum vasis peterent. Res pessimi ominis.

507. Serum aliquando album, instar lactis, observatur, quod ab adipe resumpto, neque iterum in gluten redacto, oriri videtur. Sæpe

etiam præter naturam flavum observatur serum, propter bilem in sanguinem redeuntem.

508. Sæpe alia minus solita ratione cogitur sanguis, et crassamentum obducitur crusta alba, tenace, instar corii. Hæc crusta nihil est præter puram fibrinam tardius solito coactam, quo fit ut particulæ rubræ colorantes quodammodo subsident.

509. Nullum, ut diu creditum fuit, sanguinis lentorem, densitatem, spissitatem, tenacitatem, indicat, sed potius tenuitatem, saltem minorem ad coagulationem proclivitatem. Oritur plerumque a vehementiore sanguinis intra corpus

Oritur, plerumque, a vehementiore agitatione seu conquassatione  
*It arises, for the most part, from a very violent agitation or shaking*  
 sanguinis intra corpus; hinc comitatur multas febres et  
*of the blood within the body; hence it accompanies many fevers and*  
 fere omnes inflammationes, et aliquando profuvia sanguinis,  
*almost all (kinds of) inflammations, and sometimes profuvia of blood,*  
 et febres quas eruptio super cutem comitatur, interdum  
*and fevers which an eruption upon the skin accompanies, sometimes*  
 plenitudinem corporis, aut dolorem, que multas irritaciones. Neque est  
*fulness of habit, or pain, and many irritations. Nor is*  
 talis crusta semper habenda morbosa, quippe quæ aliquando  
*such a crust always to be considered diseased, as being one which sometimes*  
 contingat sanissimis, veluti fœminis donec gerunt  
*belongs to the most healthy, as to women while they are carrying*  
 uterum, etiam a primis mensibus, et quibusdam validis  
*(a child in) the womb, even from the first months, and some strong*  
 laboriosis viris viventibus lautè, et sane omnibus hominibus,  
*labouring men living luxuriously, and indeed all persons,*  
 frequentius hiemale et verno tempore, quo robur  
*more frequently in the winter and spring time, in which the vigour*  
 solidarum partium, et actio vasorum quæ vehunt sanguinem,  
*of the solid parts, and the action of the vessels which carry the blood,*  
 est maxima. Quin et potest induci aut impediri a levissimis  
*greatest. Moreover it may be induced or be prevented by very slight*  
 causis, dum sanguis fluit, vel postquam receptus est in  
*causes, whilst the blood is flowing, or after it has been received into*  
 pateram, veluti formâ ipsius: ita ut sæpe nulla crusta obser-  
*the cup, as by the form of it: so that often no crust can be*  
 vetur in alterâ paterâ, in alterâ densissima et tenacissima.  
*observed in the one cup, in the other a very thick and tenacious one.*

510. Hinc ratio redditur, cur sæpe conveniat mittere  
*Hence the explanation is given, why often it may be proper to let*  
 sanguinem dum talis crusta observatur, que corpus soleat  
*blood whilst such a crust is observed, and the body is accustomed*  
 ferre jacturam ejus bene: quoque patet quantus et  
*to bear the loss of it well: (hence) also it is evident how great and*  
 quam plenus periculi fuit error eorum qui erant auctores  
*how full of danger was the error of those who were the authors*  
 mittendi sanguinem iterum que iterum, donec nulla crusta apparet  
*of drawing blood again and again, until no crust appeared*  
 amplius super eum, scilicet quam crediderunt morbosam partem  
*longer upon it, as being what they believed the diseased part*

agitatione, seu conquassatione; hinc multas febres, et inflammationes fere omnes, et aliquando sanguinis profuvia, et febres quas eruptio super cutem comitatur, interdum corporis plenitudinem, aut dolorem, multasque irritaciones, comitatur. Neque semper morbosa habenda est talis crusta, quippe quæ sanissimis aliquando contingat; veluti fœminis, donec uterum gerunt, a primis etiam mensibus; et viris quibusdam validis, laboriosis, laute viventibus; et omnibus sane hominibus, frequentius tempore hiemale et verno, quo robur solidarum partium et actio vasorum que sanguinem

vehunt, maxima est (467). Quin et a levissimis causis, dum fluit sanguis, vel postquam in pateram receptus est, veluti ipsius forma, induci aut impediri potest: ita ut sæpe in altera patera nulla, in altera densissima et tenacissima crusta observetur.

510. Hinc ratio redditur cur sæpe, dum talis crusta observatur, sanguinem mittere conveniat, ejusque jacturam corpus bene ferre soleat: patet quoque quantus eorum error fuit, et periculi quam plenus qui auctores erant sanguinem iterum iterumque mittendi, donec nulla amplius crusta super eum appareret; scilicet



sanguinis. Profecto est utilissimum signum medico, quamvis  
*of the blood. Truly it is a most useful sign to the physician, although*  
 multum absit ut debeat respicere ad illud solum.  
*it is very far from that he ought to look to it alone.*

511. Eadem fibrina sanguinis, nonnunquam dum homo vivit, vero  
*The same fibrine of the blood, sometimes while the man lives, but*  
 sæpius post mortem, imprimis si adfuerit aliquod vitium  
*oftener after death, especially if there have been any disorder*  
 organi, amplificatio, obstructio, &c. coit in tenacem massam,  
*of the organ, enlargement, obstruction, &c. congeals into a tenacious mass,*  
 in magnis vasis prope cor, aut in sacculis cordis  
*in the great vessels near the heart, or in the cavities of the heart*  
 ipsiûs, quæ vocatur Polypus. Similes massæ quoque formantur  
*itself, which is called Polypus. Similar masses also are formed*  
 haud raro in utero, et vocantur Molæ.  
*not unfrequently in the uterus, and are called Moles.*

512. Quantitas universæ massæ, et singularum partium sau-  
*The quantity of the whole mass, and of the individual parts of the*  
 guinis, haud facillè reducitur ad mensuram. Potest variare multum,  
*blood, is not easily reduced to measure. It may vary much,*  
 sanitate adhuc salvâ: quod si fuerit vel nimium, vel  
*the health still being safe: but if there should be either too much, or*  
 nimis parum sanguinis in corpore, vel proportio partium ejûs  
*too little (of) blood in the body, or the proportion of the parts of it*  
 fuerit facta aliena, demum vitium erit non leve,  
*should be made irregular, at length the disorder will be no slight one,*  
 et sæpe causa multorum et gravium morborum.  
*and often a cause of many and severe diseases.*

513. Nimia copia sanguinis colligitur usu multi validi,  
*Too great a quantity of blood is collected by the use of much strong,*  
 pinguis cibi, præsertim ex carnibus, et validi potûs, (modo  
*rich food, especially of flesh, and of strong drink, (provided*  
 concoctio sit bona,) et otiososo et sedentario genere vitæ, et  
*the digestion be good,) also by an idle and sedentary kind of life, and*  
 multo somno, præsertim in iis qui prius solebant exercere  
*by much sleep, especially in those who before were accustomed to exercise*  
 sese multum; solitis exinanitionibus cohibitis; consuetudine  
*themselves very much; by the usual evacuations being restrained; by the habitual*  
 exinanitionum, qualescunque fuerint, nimirum quæ  
*use of evacnants, whatever kind they may be, that is (those) which*  
 minuant vitalem vim, et faciant excretiones languere; præ  
*diminish the vital power, and cause the excretions to languish; above*

quam morbosam sanguinis partem credebant. Utilissimum profecto medico signum est, quamvis multum absit, ut ad illud solum respicere debeat.

511. Eadem fibrina sanguinis, nonnunquam dum vivit homo, sæpius vero post mortem, imprimis si vitium aliquod organi, amplificatio, obstructio, &c. adfuerit, in magnis vasis prope cor, aut in ipsius cordis sacculis, coit in massam tenacem, quæ vocatur Polypus. Similes massæ quoque haud raro in utero formantur, et Molæ vocantur.

512. Quantitas universæ massæ, et singularium partium sanguinis, haud facile ad men-

suram reducitur. Multum variare potest, salva adhuc sanitate: quod, si vel nimium sanguinis vel nimis parum in corpore fuerit, vel aliena ejus partium proportio facta fuerit, vitium demum erit, non leve, et sæpe multorum et gravium morborum causa.

513. Nimia sanguinis copia colligitur usu multi cibi, validi, pinguis, ex carnibus præsertim, et potus validi (modo concoctio bona sit), et vitæ genere otioso et sedentario, et multo somno, præsertim in iis qui prius multum sese exercere solebant; exinanitionibus quibusvis solitis cohibitis; consuetudine exinanitionum, qualescunque fuerint, nimirum quæ vim vita-

omnibus, exhalatione per cutem vel sudorē,  
*all, by the exhalation by the skin (insensible perspiration) or the-sweat,*  
 aut suppressis aut paulatim deficientibus. Homines laxi et  
*either being suppressed or gradually failing. Persons lax and*  
 debiles (quoad) constitutionem corporis, sunt præ aliis obnoxii  
*weak (as to) their constitution of body, are more than others subject*  
 huic vitio.  
*to this disorder.*

514. Multa mala oriuntur a nimia plenitudine. Homo  
*Many diseases arise from excessive fulness. A person*  
 nonnunquam fere opprimitur, fit hebes, languidus, debilis, neque  
*sometimes is almost borne down, becomes dull, languid, weak, nor*  
 organa ipsa quæ movent sanguinem, valent ad impellendum  
*are the organs themselves which move the blood, able to drive forward*  
 tantum onus. Pulsus languet, et syncope, et vertigo, et  
*so great a load. The pulse languishes, even syncope, and vertigo, and*  
 palpitation aliquando observantur. Vero sæpius vasa nimis  
*palpitation sometimes are observed. But more frequently the vessels being over*  
 distenta, fiunt proclivia ad præter solitum vehementes et abnormes motus.  
*distended, become disposed to unusually violent and irregular motions.*

515. Hinc proclivitas (oritur) ad febres, inflammationes, inæqualem  
*Hence a tendency to fevers, inflammations, irregular*  
 distributionem sanguinis, insolitas congestiones ejusdem, lacerationes  
*distribution of blood, unusual congestions of the same, ruptures*  
 vasorum, et profuvia sanguinis. Porro, ob arctum nexum  
*of vessels, and flowings of blood. Moreover, because of the close connexion*  
 inter vasa ventilia sanguinem et nervosum genus, nimia  
*between the vessels carrying blood and the nervous system, excessive*  
 mobilitas, et proclivitas ad spasmos et alios morbos ejusdem generis,  
*irritability, and tendency to spasms and other diseases of the same kind,*  
 oriuntur a plenitudine.  
*arise from fulness.*

516. Hinc intelligitur cur aliquando obscurus pulsus, aliquando  
*Hence is understood why sometimes an obscure pulse, sometimes*  
 validus vel durus comitetur plenitudinem; cur ipsa (plenitudo)  
*a strong or hard one accompanies fulness; why it is*  
 causa et pars tot morborum; cur sæpe (est) effectus prosperæ  
*a cause and part of so many diseases; why often it is the effect of good*  
 valetudinis; quâ ratione optime adimatur; vel novis exinanitionibus  
*health: by what means it may be best removed; whether by new evacuations*

lem minuant, et excretiones languere faciant; præ omnibus, exhalatione per cutem vel sudore aut suppressis, aut paulatim deficientibus. Homines corporis constitutionem laxi et debiles, præ aliis, huic vitio sunt obnoxii.

514. Multa mala a nimia plenitudine oriuntur. Homo nonnunquam fere opprimitur, hebes, languidus, debilis fit, neque ipsa quæ sanguinem movent organa ad tantum onus impellendum valent. Pulsus languet, et aliquando syncope, et vertigo, et palpitation observantur. Sæpius vero vasa nimis distenta, ad motus præter solitum vehementes et abnormes proclivia fiunt.

515. Hinc proclivitas ad febres, inflamma-

tionem, inæqualem sanguinis distributionem, insolitas ejusdem congestiones, vasorum lacerationes, et sanguinis profuvia. Porro, ob arctum inter vasa sanguinem ventilia et genus nervosum nexum, mobilitas nimia, et proclivitas ad spasmos, et alios ejusdem generis morbos, a plenitudine oriuntur.

516. Hinc intelligitur cur aliquando pulsus obscurus, aliquando validus vel durus plenitudinem comitetur: cur ipsa tot morborum causa et pars; cur sæpe prosperæ valetudinis effectus; quâ ratione optime adimatur; vel novis institutis exinanitionibus, vel antiquis et suppressis restitutis, vel diæta tenui et parca, et valida et crebra corporis exercitatione.

instituitis, vel antiquis et suppressis restitutis, vel tenui being instituted, or the old and suppressed ones being restored, or by a slender et parca diæta, et validâ et crebrâ exercitatione. and spare diet, and by powerful and frequent exercise.

517. Medici crediderunt se perspexisse quoque haud paucas Physicians have believed that they had observed also not a few alias species plenitudinis diversas ab hac verâ et absolutâ de other kinds of fulness differing from this true and absolute (one) about quibus ratiocinati sunt multum, quamvis sæpe nimiam subtilitate. which they have reasoned a great deal, although often with too much subtlety.

518. Vocatur plenitudo ad spatium, siquando copia sanguinis It is called plethora ad spatium (of space), whenever the quantity of blood que mole ejus auctis nihil præter solitum, and the bulk (volume) of it being increased nothing beyond what is usual, vasa quæ continent eum (sanguinem) constringuntur, coarctantur, ita the vessels which contain it are constricted, straitened, so ut ægrè, nec sine incommodo, contineant that difficultly, nor without inconvenience, can they hold (so as with difficulty, nor without inconvenience, to hold) their usual quantity and volume of blood, veluti extremis et minutis vasis constrictis febre ingruente, like as the extreme and minute vessels being constricted by fever attacking, aut subito terrore, aut magno frigore: vel vasis ipsis or by sudden terror, or by great cold: or the vessels themselves demum concretescentibus, que nonnullis eorum factis imperviis, at length growing together, and some of them having become impervious, veluti in senibus; vel, denique, corpore ipso mutilato membro as in old persons; or, lastly, the body itself being mutilated by a limb amputato.

519. Alia spuria plenitudo, dicta ad molem dicitur accidere Another spurious plethora, named ad molem (of volume) is said to happen sicubi sanguis ipse, non auctus quantitate, expanditur, augetur whenever the blood itself, not increased in quantity, is expanded, is increased mole, que distendit vasa continentia non secus ac vera in volume, and distends the vessels containing it in like manner as real plenitudo. Ingens calor, vel externus, vel a febre, aut exercitatione, fulness. Great heat, either external, or from fever, or exercise, aut stimulantibus (oriens), fertur induxisse hoc genus mali, or stimulants, is said to have induced this kind of disorder, nimirum, sanguine, pro parte rata rarefacto plus quam vasa that is, the blood, in respect of the part being rarefied more than the vessels

517. Alias quoque haud paucas plenitudinis species, ab hac vera et absoluta diversas, medici crediderunt se perspexisse, de quibus multum, quamvis sæpe nimia subtilitate, ratiocinati sunt.

518. Plenitudo ad spatium vocatur, siquando, copia sanguinis ejusque mole nihil præter solitum auctis, vasa quæ eum continent, constringuntur, coarctantur, ita ut solitam sanguinis copiam et molem ægre, nec sine incommodo, contineant: veluti vasis extremis et minutis multum constrictis, ingruente febre, aut subito terrore, aut magno frigore; vel de-

mum vasis ipsis, veluti in senibus, concretescentibus, eorumque nonnullis imperviis factis: vel denique, ipso corpore, amputato membro, mutilato.

519. Plenitudo alia, spuria, ad molem dicta, accidere dicitur, sicubi sanguis ipse, quantitate non auctus, expanditur, mole augetur, vasaque continentia non secus ac vera plenitudo distendit. Ingens calor, vel externus, vel a febre, aut exercitatione, aut stimulantibus, hoc mali genus induxisse fertur sanguine nimirum pro parte plus rarefacto, quam vasa relaxata essent. Quin et insolita, præ-

essent relaxata. Quin et, insolita, præsertim subita levitas  
 were relaxed. Moreover, an unusual, especially sudden lightness (rarity)  
 æris, qualis accidit a magnâ mutatione tempestatis  
 of the air, such as occurs from a great change of the temperature (of the  
 weather), or happens to persons who ascend high mountains,  
 est dicta rarefacere sanguinem, aëre quem habet expanso.  
 has been said to rarefy the blood, by the air which it contains being expanded.

Annon Iatro-mathematici aliquando hallucinati sunt nonnihil de his  
 (Have) not the Iatro-mathematicians occasionally mistaken a little on these  
 rebus, credentes molem sanguinis augeri, quum auctus  
 subjects, believing that the volume of the blood was increased, when the increased  
 impetus ejûs, propter calorem, vehementem exercitationem, que alia  
 impetus of it, through heat, violent exercise, and other  
 stimulantia, potius esset in vitio?  
 stimulants, rather was in fault?

520. Talis abundantia sanguinis qualis opprimat moventis vires vocatur  
 Such an abundance of blood as oppresses the moving powers is called  
 plenitudo ad vires. Plenitudo hujûsmodi semper efficit ingens incommodum,  
 plethora ad vires. Plethora of this kind always causes great inconvenience,  
 et igitur potest dici ad vires. Tamen, vitium  
 and therefore it may be named against the strength. However, a disorder  
 istiusmodi frequenter observatur, si vires ægri fuerint  
 of the same sort is frequently observed, if the strength of the sick have been  
 multum fractæ quâcunque causâ, vel ab exiguo excessu  
 much broken (reduced) by any cause, even from a trifling excess  
 sanguinis, qualem validus homo tulisset impunè.  
 of blood, such as a strong person would have borne with impunity.

521. Facilè patebit varia genera plenitudinis posse simul  
 It will easily appear that the different kinds of fulness may at the same  
 accidere eidem homini, que graviora mala sæpe proflux-  
 time occur to the same person, and that very severe evils often will pro-  
 ura esse tali conjunctione.  
 ceed from such a combination.

522. Inopia sanguinis quoque nocet multum: debilitat hominem,  
 Scarcity of blood also injures very much: it debilitates a person,  
 reddit impotentem ad munera vitæ, facit motum sanguinis  
 renders him unable for the duties of life, causes the motion of the blood  
 languere, et tandem inducit syncopen, convulsiones, mortem: si  
 to languish, and at length brings on syncope, convulsions, death: if

sertim subita, æris levitas, qualis a magna tempestatis mutatione accidit, vel hominibus contingit qui altos montes ascendunt, sanguinem rarefacere, expanso quem habet aëre, dicta est. Annon aliquando de his rebus nonnihil hallucinati sunt, Iatro-mathematici molem sanguinis credentes augeri, quum auctus ejus impetus (452, 458, 467) propter calorem, exercitationem vehementem, aliaque stimulantia, potius in vitio esset?

520. Plenitudo ad vires vocatur, talis sanguinis abundantia, qualis vires moveutes opprimat (514). Ingens plenitudo hujusmodi incommodum semper efficit, et igitur ad vires

dici potest. Frequenter tamen observatur istiusmodi vitium, vel ab exiguo sanguinis excessu, qualem validus homo impune tulisset, si vires ægri quacunque causa multum fractæ fuerint.

521. Facile patebit varia plenitudinis genera eidem homini simul accidere posse, gravioraque mala a tali conjunctione sæpe esse profluxura.

522. Inopia sanguinis multum quoque nocet; hominem debilitat, ad omnia vitæ munera impotentem reddit, motum sanguinis languere facit, syncopen, convulsiones, et mortem tandem inducit: si levior fuerit defectus et diuturnior,

defectus fuerit leuior, et diuturnior, corpus marcescit ob  
*the deficiency should be less, but longer continued, the body emaciates through*  
 defectum nutrimenti, que functiones ipsius vitiantur variis modis.  
*deficiency of nutriment, and the functions of it are vitiated in various ways.*

523. Talis inopia oritur a longâ inediâ, pravo cibo, parum  
*Such a dearth arises from long fasting, bad food, no way*  
 nutriente, pravâ concoctione vel boni cibi, aut itinere  
*nourishing, depraved concoction even of good food, or the passage*  
 nutrimenti parati ex eo in sanguinem impedito; aut feбри-  
*of the nutriment prepared from it into the blood being obstructed; or from*  
 bus, que aliis morbis qui exhauriunt corpus et impediunt  
*fevers, and other diseases which exhaust the body and impede*  
 nutrimentum; vel demum a variis exinanitionibus, præsertim  
*(its) nourishment; or at length from various evacuations, chiefly*  
 sanguinis, imprimis si hæ fuerint subitæ; enim vasa accommodant  
*of blood, especially if they should be sudden; for the vessels accommodate*  
 se in mirum modum lentis exinanitionibus: præterea, si  
*themselves in a wonderful manner to slow evacuations: besides, if*  
 corpus depletur lente, excretiones minuuntur propter defectum  
*the body is emptied slowly, the excretions are diminished through defect*  
 vitalis vis, ita ut insolitum dispendium, pro parte saltem, facile  
*of vital power, so that the unusual expenditure, in part at least, is easily*  
 compenseetur insolita retentione. Quod si exinanitio fuerit subita  
*compensated by unusual retention. But if the evacuation should be sudden*  
 et magna, potest vel esse brevi lethalis vel frangere ita ho-  
*and great, it may either be (prove) quickly fatal or break up so the*  
 minem ut nunquam plene conualescat.  
*person (constitution,) that he never perfectly recovers.*

524. Magna aut diuturna inopia sanguinis potest vix non  
*Great or long-protracted deficiency of blood can scarcely not*  
 vitare qualitates ejus humoris. Nimirum, tenuior pars facile  
*vitiare the qualities of that fluid. Without doubt, the thinner part is easily*  
 et citò reparatur; vero crassa pars, fibrina, et rubræ particulae,  
*and quickly repaired; but the thick part, the fibre, and red particles,*  
 haud ita facilè (reparantur). Hinc (est) tenuis, pallidus, vix rubens  
*not so easily. Hence the thin, pale, scarcely red*  
 sanguis, neque bene concrescens neque bene nutriens corpus.  
*blood, neither perfectly concreting nor perfectly nourishing the body.*

525. Porro, sanguis fit nimis tenuis multo præsertim aquoso  
*Moreover, the blood becomes too thin by much especially watery*  
 potu, tenui et parum nutriente cibo, pravâ concoctione in ventriculo,  
*drink, poor and no way nourishing diet, depraved concoction in the stomach,*

corpus marcescit, ob defectum nutrimenti, et functiones ipsius variis modis vitiantur.

523. Talis inopia oritur a longa inedia, cibo pravo, parum nutriente, vel boni cibi prava concoctione, aut impedito nutrimenti ex eo parati in sanguinem itinere; aut febrilibus, aliisque morbis qui corpus exhauriunt et nutrimentum impediunt; vel demum a variis exinanitionibus, sanguinis præsertim, imprimis si hæ subitæ fuerint: lentis enim exinanitionibus vasa mirum in modum se accommodant: præterea, si lente depletur corpus, excretiones minuuntur, propter vis vitalis defectum, ita ut retentione insolita, insolitum

dispendium pro parte saltem facile compenseatur. Quod si subita et magna fuerit exinanitio, vel brevi lethalis esse potest, vel hominem ita frangere, ut nunquam plene conualescat.

524. Inopia sanguinis magna aut diuturna qualitates ejus humoris vix potest non vitare. Nimirum, pars tenuior facile et cito reparatur; pars vero crassa, fibrina, et particulae rubræ, haud ita subito. Hinc sanguis, tenuis, pallidus, vix rubens, neque bene concrescens, neque corpus bene nutriens.

525. Fit porro nimis tenuis sanguis, multo potu, præsertim aquoso, cibo tenui, et parum nutriente, prava concoctione in ventriculo, vel

vel forsitan in pulmonibus; que organis ipsis, quæ fingunt  
*or perhaps in the lungs; and the organs themselves, which elaborate*  
 crassiores partes, habentibus se male; solitis tenuibus excretionibus,  
*the thicker parts, having themselves badly; the usual thin excretions,*  
 scilicet sudore et urinâ, suppressis, veluti frigore aut vitio  
*for instance the sweat and urine, being suppressed, as by cold or disorder*  
 organorum; vel, demum, ut fere omnes medici putarunt,  
*of their organs; or, lastly, as almost all physicians have thought,*  
 putridâ corruptione universi corporis, et præsertim humorum: sed  
*by a putrid corruption of the whole body, and especially of the fluids: but*  
 est controversia de hac re; et si opinio sit ita  
*there is a controversy upon this subject; and if the opinion should be like*  
 ut fuit olim, tum est perspicuum alia vitia præter meram  
*as it was formerly, then it is manifest that other disorders besides mere*  
 tenuitatem sanguinis plerumque concurrere.  
*attenuation of the blood for the most part concur.*

526. Nimis tenuis vel aquosus sanguis facit vultum pallidum,  
*A too thin or watery blood renders the countenance pale,*  
 corpus debile, languidum, torpidum, solidas partes laxas, flaccidas,  
*the body weak, languid, torpid, the solid parts lax, flaccid,*  
 ob defectum nutrimenti, et nimiam quantitatem humidæ materia  
*through defect of nourishment, and the excessive quantity of fluid material*  
 in compage, inducit aquosas hydropicas effusiones in omni parte  
*in the system, brings on watery dropsical effusions in every part*  
 corporis; nimirum, exhalatione tenuis humoris, qui irrorat  
*of the body; that is, the exhalation of the thin fluid, which bedews*  
 omnia cava organa corporis, auctâ, partim ob sanguinem  
*all the hollow organs of the body, being increased, partly because of the blood*  
 ipsum nimis solutum, et elabentem facilius et copiosius  
*itself being too much dissolved, and escaping more easily and more copiously*  
 justo, partim ob vasa præter solitum relaxata,  
*than proper, partly on account of the vessels (being) unusually relaxed,*  
 neque renitentia ut decet: quin et, tantum abest ut resorbentes  
*nor resisting as they ought: moreover, so far is it from that the absorbing*  
 venæ in hoc statu hauriunt plus quam solent illius exhalati  
*veins in this state take up more than they are accustomed of that exhaled*  
 humoris, ut hæ quoque participes generalis debilitas, vix valeant  
*fluid, that they also partakers of the general debility, scarce are able*  
 ad sua solita munera.  
*for their ordinary functions.*

527. Verum enimvero Natura ipsa plerumque præcavit a  
*But indeed Nature herself for the most part has provided against*

forsitan in pulmonibus; ipsisque organis quæ partes crassiores fingunt male se habentibus; suppressis excretionibus solitis tenuibus, sudore acilicet et urina, veluti frigore, aut vitio organorum; vel demum, ut omnes fere medici putarunt, putrida universi corporis, et humorum præsertim, corruptione: sed de hac re controversia est; et si ita sit olim opinio fuit, tum præter meram tenuitatem, perspicuum est alia plerumque sanguinis vitia concurrere.

526. Sanguis nimis tenuis vel aquosus facit vultum pallidum, corpus debile, languidum, torpidum, partes solidas laxas, flaccidas, ob defectum nutrimenti, et nimiam humidæ ma-

teriæ in compage quantitatem (82, 88); effusiones aquosas hydropicas in omni corpora parte inducit, aucta nimirum exhalatione humoris tenuis qui omnia cava corporis organa irrorat, partim ob sanguinem ipsum nimis solutum, et facilius et copiosius justo elabentem, partim ob vasa præter solitum relaxata, neque ut decet renitentia: quin et tantum abest ut venæ resorbentes in hoc statu plus quam solent illius exhalati humoris hauriant, ut hæ quoque, generalis debilitatis participes, vix ad solita sua munera valeant.

527. Verum enimvero, Natura ipsa a tot tantisque malis simplicissimo plerumque modo

tot que tantis malis simplicissimo modo; neque  
*so many and such great evils in a most simple manner; nor does*  
 sanguis fit nimis tenuis adeo facilè ut multi crediderunt: neque, si  
*the blood become too thin so easily as many have believed: nor, if*  
 fuerit factus ita, idoneum remedium deest. Nam, si corpus  
*it should have become so, is a proper remedy wanting. For, if the body*  
 est alioquin sanum, tenuiores excretiones multum augmentur, fere  
*is otherwise sound, the thinner excretions are greatly increased, almost*  
 statim, et tota massa sanguinis, sæpe, brevi tempore, denuo  
*immediately, and the entire mass of blood, often, in a short time, is again*  
 reducitur ad justam spissitatem.  
*reduced to a proper thickness.*

528. Aliud et oppositum vitium sanguinis huic, scilicet, nimia  
*Another and an opposite disorder of the blood to this, namely, excessive*  
 spissitudo, qualem medici sæpe finxerunt, est observatum  
*spissitude, such as physicians often have imagined, has been observed*  
 rarissimis, si in ullis, exemplis. Asseruerunt (medici) tale vitium  
*in very few, if in any, examples. They have asserted that such a disorder*  
 oriri a spisso, sicco, tenaci, glutinosa cibo, vel a defectu  
*arose from thick, dry, tenacious, glutinous food, or from deficiency*  
 potûs, vel ab excessu tenuium excretionum, puta, a calore,  
*of drink, or from excess of the thin excretions, for instance, by heat,*  
 exercitatione, &c. Tamen, exempla talis vitii, vel compositorum  
*exercise, &c. However, examples of such a disorder, or of the compound*  
 morborum quæ deriventur ex eo, haud facilè ostenduntur. Profecto  
*diseases which are derived from it, are not easily shown. Truly*  
 quorundam, imprimis febrium et inflammationum, quos placuit  
*of some, especially of fevers and inflammations, which it has pleased*  
 medicis referre huic, est plane alia ratio.  
*physicians to refer to this head, there is evidently a different explanation.*

529. Quin, humanum corpus est ita constitutum a sapiente  
*Moreover, the human body has been so constituted by the wise*  
 Opifice rerum, ut, quamprimum sanguis fuerit redactus ad  
*Fabricator of things, that, as soon as the blood has been reduced to*  
 justam spissitatem, vel minimum quam ultra, tenues excretiones  
*its due consistency, or the least possible beyond it, the thin excretions*  
 vel supprimantur vel minuuntur, et corpus simul trahat plus  
*either are suppressed or are diminished, and the body at the same time abstracts more*  
 humoris ab aëre; tunc sitis quoque oritur, et quantum  
*moisture from the air (atmosphere); then thirst also arises, and as much as*  
 fuerit opus ad diluendum sanguinem bibitur. Quod si aqua  
*was necessary to dilute the blood is drunk. But if the water*

præcavit; neque adeo facile, ut multi crederent, sanguis nimis tenuis fit: neque si ita factus fuerit, deest idoneum remedium. Nam statim fere, si corpus alioquin sanum est, excretiones tenuiores multum augmentur, et tota sanguinis massa, sæpe brevi tempore, ad justam spissitatem denuo reducitur.

528. Aliud et huic oppositum sanguinis vitium, nimia scilicet spissitas, qualem medici sæpe finxerunt; rarissimis si in ullis in exemplis observatum est. Tale vitium a cibo spisso, sicco, tenace, glutinoso, vel a defectu potus, vel ab excessu excretionum tenuium, puta a calore, exercitatione, &c. oriri asseruerunt.

Haud facile tamen ostenduntur exempla talis vitii, vel morborum compositorum qui ex eo deriventur. Quorundam profecto, febrium imprimis, et inflammationum, quos medicis huic referre placuit, alia plane ratio est.

529. Ita enim corpus humanum a sapiente rerum Opifice constitutum est, ut quamprimum sanguis ad justam spissitatem, vel quam minimum ultra, redactus fuerit, excretiones tenues vel supprimantur vel minuuntur, et corpus simul plus humoris ab aëre trahat; sitis quoque tunc oritur, et quantum opus fuerit ad sanguinem diluendum bibitur. Quod si ipsa aqua deficit, neque miseri importunissimæ sitis,

ipsa deficit, neque possunt miseri indulgere importu-  
*itself fails, nor can the wretched persons indulge (satisfy) the very*  
 nissimæ siti quæ urget eos ad bibendum, demum tum tantum  
*urgent thirst which urges them to drink, even then so far is it*  
 abest ut sanguis spissetur, ut auctoribus ipsis qui stre-  
*from that the blood be inspissated, that the authors themselves who most*  
 nuissimè tuentur commenta hujusmodi de vitii humorum  
*strenuously defend theories of this kind concerning the disorders of the fluids*  
 fatentibus, putredine ortâ vel auctâ, (sanguis) multum  
*confessing, putridity having arisen or being increased, it is much*  
 solvatur, et fit acer que tenuis, ægre continendus suis  
*dissolved, and becomes acrid and thin, with difficulty to be retained in its*  
 vasis.  
*vessels.*

530. Medici scripserunt multum de acrimoniâ humorum, et  
*Physicians have written a great deal on the acrimony of the fluids, and*  
 conati sunt ædificare ingentem molem super hoc tenue et lubricum  
*have endeavoured to build a mighty structure upon this slender and slippery*  
 fundamentum.  
*foundation.*

531. Profecto, pleraque commenta medicorum de acrimoniâ  
*Indeed, most (of the) theories of physicians concerning the acrimony*  
 humorum jam obsoluerunt, et merito negliguntur tanquam  
*of the fluids have now grown obsolete, and deservedly are neglected as*  
 falsa, vel saltem incerta, et nihil conducentia ad medicum usum;  
*false, or at least uncertain, and in no way conducing to medical practice;*  
 et nunc graves controversiæ existunt etiam de iis acrimoniis  
*and now serious controversies exist even about those acrimonies*  
 quæ, consensu fere omnium, sunt diu habitæ certæ et  
*which, by the consent of almost all, were long considered certain and*  
 manifestæ. Et fatendum est esse adhuc locum dubitandi  
*evident. And we must confess that there is still room for doubting*  
 etiam de his, verbi gratiâ, de putredine humorum. Vero  
*even about them, for example, about the putridity of the fluids. But*  
 interim, dum lis est sub judice, decet cavere,  
*in the mean time, whilst the dispute is under the judge, it becomes us to take care,*  
 dum vitamus unum errorem, ne curramus in alium vix  
*whilst we avoid one error, that we do not run into another hardly*  
 minorem, et male negligamus rem alicujus momenti, saltem in  
*less, and badly neglect a matter of some moment, at least in*  
 medicâ re, quamvis non tanti ut fuit opinio olim.  
*medical practice, although not (of) so great as was the opinion formerly.*

quæ eos ad bibendum urget, indulgere possunt, tum demum, tantum abest ut sanguis spissetur, ut fatentibus ipsis auctoribus qui hujusmodi commenta de vitii humorum strenuissime tuentur, orta vel aucta putredine, multum solvatur, et acer tenuisque fiat (525), ægre suis vasis continendus.

530. De acrimonia humorum multum scripserunt medici, et super hoc tenue et lubricum fundamentum, ingentem molem ædificare conati sunt.

531. Obsoluerunt profecto jam, et merito negliguntur, pleraque medicorum commenta

de humorum acrimoniis, tanquam falsa, vel incerto saltem, et nihil ad usum medicum conducentia: et graves nunc existunt controversiæ de iis etiam acrimoniis quæ diu, omnium fere consensu, certæ et manifestæ sunt habitæ. Et fatendum est, de his etiam, verbi gratia, de humorum putredine, adhuc locum esse dubitandi. Interim vero, dum lis sub judice est, cavere decet, ne dum unum errorem vitamus, in alium curramus, vix minorem, et rein alicujus saltem momenti in re medica, quamvis non tanti ut olim opinio fuit, male negligamus. Juvabit certe novisse quæ de



Certe, juvabit novisse quæ visa sunt aut certa aut maxime  
*At least, it will benefit to know what have seemed either certain or most*  
 verisimilia de hac re.  
*probable concerning this matter.*

532. Sanguis, aliquantulum acer in sanissimo homine, potest fieri  
*The blood, a little acrid in the most healthy person, may become*  
 nonnihil acrior variis causis, et facere multa que ne levia  
*somewhat more acrid from various causes, and produce many and no slight*  
 mala: incitata actio cordis, aut arteriarum, aut secretorum  
*evils: the quickened action of the heart, or arteries, or secreting*  
 organorum, ab acris ingestis, docet: humores præter solitum  
*organs, from acrids being ingested, teaches: humours unusually*  
 acres secreti, et vasa aliquando multum stimolata, nonnunquam  
*acrid being secreted, and the vessels sometimes very much stimulated, occasionally*  
 planè inflammata, vel demum erosa, docent.  
*outright inflamed, or even eroded, teach.*

533. Plurima acria revera ingeruntur quotidie in corpus: autem  
*Very many acrids indeed are ingested daily into the body: but*  
 hæc vel corriguntur, concoquuntur, permutantur in ventriculo, et  
*these either are corrected, are digested, are changed in the stomach, and*  
 pulmone, priusquam veniunt in sanguinem aortæ, diffundenda  
*lungs, before that they come into the blood of the aorta, to be diffused*  
 per totum corpus; vel saltem diluta plurimâ aquâ, vel  
*through the whole body; or at least diluted with a great deal of water, or*  
 obtusa fibrinâ, albumine, gelatinâ, deponunt multum suæ  
*blunted with fibrine, albumen, gelatine, lay aside (lose) much of their*  
 acritudinis, et assidue excernuntur, tanquam noxia, e corpore.  
*acrimony, and are constantly excreted, as noxious, from the body.*

534. Hoc modo, ingens copia acidi, alcalini, medii,  
*In this manner, a great quantity of acidulous, alkaline, neutral,*  
 veluti, communis salis, potest transire per corpus, valetudine  
*for example, common salt, may pass through the body, the health*  
 parum vel nihil affectâ. Quod, si quantitas ejus fuerit  
*being little or not at all affected. But, if the quantity of it should be*  
 nimia, que hæc ne probe diluta, neque excreta, tum demum  
*excessive, and this not properly diluted, nor excreted, then indeed*  
 nocebit.  
*it will hurt.*

535. Videtur quoque verisimile, quamvis medici non desint  
*It seems also probable, although physicians are not wanting*  
 qui dubitant de hoc, hominem, etiam usque dum (is) vivit, putrescere,  
*who doubt of this, that man, even so long as he lives, putrefies,*

hac re aut certa aut maxime verisimilia visa sunt.

532. Sanguis in sanissimo homine aliquantulum acer, variis causis nonnihil acrior fieri potest, et multa neque levia mala facere: docet incitata cordis, aut arteriarum, aut organorum secretorum, actio, ab acris ingestis: docent humores secreti præter solitum acres, et vasa aliquando multum stimolata, nonnunquam planè inflammata, vel demum erosa.

533. Plurima acria revera ingeruntur: hæc autem in ventriculo, et intestinis, et pulmone, vel corriguntur, conco-

quantur, permutantur, priusquam in sanguinem aortæ veniunt, per totum corpus diffundenda; vel saltem plurima aqua diluta, vel fibrina, albumine, gelatina, obtusa, multum suæ acritudinis deponunt, et assidue e corpore tanquam noxia excernuntur.

534. Hoc modo ingens copia salis acidi, alcalini, medii, veluti communis, per corpus transire potest, valetudine parum vel nihil affecta. Quod si nimia quantitas ejus fuerit, neque hæc probe diluta, neque excreta, tum demum nocebit.

535. Verisimile quoque videtur, quamvis non desint medici qui de hoc dubitant, hominem

que gignere sive evolvere multum salem sui generis,  
*and generates or evolves much salt of its own (a peculiar) kind,*  
 qui possit non inepte dici animalis: scilicet magna  
*which may not improperly be called the animal (salt): because a great*  
 pars omnium (victuum?) quos ingerimus vertitur in hunc salem, et  
*part of all the things which we ingest is changed into this salt, and*  
 exit e corpore cum urinâ. Vero ista proclivitas ad putridam  
*goes out of the body with the urine. But that tendency to a putrid*  
 conditionem, si fuerit nimia, dabit quoque nimium hujus  
*condition, if it should be too great, will produce also too much of this*  
 salis, præsertim si multum salis fuerit assumptum cum cibo, et  
*salt, especially if much (of) salt should be taken with the food, and*  
 parum aquæ vel aliûs potûs fuerit in promptu, qui primo  
*little (of) water or other drink should be at hand, which at first*  
 dilueret, et tandem elueret salem e corpore. Quod genus  
*might dilute, and at last wash out the salt from the system. Which kind*  
 mali navales socii solent satis que super experiri  
*of disorder ships' crews are accustomed sufficiently and above to experience*  
 quum vivendum est (iis) plures menses nautico commeatu solo.  
*when they are obliged to live many months on ship provision; alone.*

536. Autem Natura suggerit idoneum remedium huic corruptioni  
*But Nature suggests a suitable remedy for this corruption*  
 corporis, si revera qua sit, quæ supervenit sponte; nempe,  
*of the body, if indeed any there be, which comes on spontaneously; namely,*  
 recentem, acescentem cibum, et imprimis comparatum frugibus,  
*fresh, ascendent food, and especially that prepared from vegetables,*  
 qui corrigit putridam corruptionem, et præbet salubre nutrimentum  
*which corrects the putrid corruption, and affords wholesome nutriment*  
 corpori.  
*to the body.*

537. Vero si cibus hujusmodi deficit, corpus videtur citius corrumpi,  
*But if food of this kind fails, the body appears more quickly to be cor-*  
 que insignis acrimonia et tenuitas humorum dicuntur  
*rupted, and a remarkable acrimony and tenuity of the fluids are said*  
 gigni; præsertim si aqua deest simul, aut excre-  
*to be generated; especially if water is wanting at the same time, or the ex-*  
 tiones, quæ vehunt putrida et acria e corpore, languent,  
*cretions, which carry the putrid and acrid things out of the body, are languid,*  
 veluti a frigore, ignaviâ, torpore, deprimentibus affectibus animi,  
*as from cold, idleness, torpor, depressing affections of the mind,*

etiam dum vivit putrescere usque; multumque salem (399) sui generis, qui non inepte animalis dici possit, gignere sive evolvere: scilicet in hunc salem magna pars omnium quos ingerimus vertitur, et cum urina e corpore exit. Ista vero ad putridam conditionem proclivitas, si nimia fuerit, nimium quoque hujus salis dabit, præsertim si multum salis cum cibo assumptum fuerit, et parum aquæ, vel aliûs potus, in promptu fuerit, qui salem dilueret primo, et tandem e corpore elueret. Quod mali genus socii navales satis superque experiri solent, quum plures menses solo commeatu nautico vivendum est.

536. Huic autem corruptioni corporis (535) si qua revera sit, quæ sponte supervenit, Natura idoneum remedium suggerit; cibum nempe recentem, et frugibus imprimis comparatum, acescentem, qui putridam corruptionem corrigit, et salubre nutrimentum corpori præbet.

537. Hujusmodi vero cibus si deficit, corpus citius corrumpi videtur, et insignis humorum acrimonia et tenuitas gigni dicuntur; præsertim si aqua simul deest, aut excretiones, quæ putrida et acria e corpore vehunt, languent, veluti a frigore, ignavia, torpore, deprimentibus animi affectibus, morbisque qui corpora

que morbis qui frangunt vires corporis; et demum si magnus calor adfuerit, qui semper favet tali corruptioni. *and diseases which break down the strength of the body; and finally if great heat should be present, which always favours such a corruption.*

538. Porro, medici crediderunt humores aliquando putrescere *Moreover, physicians have believed that the fluids sometimes putrefied* velocius, nimirum, putrido fermento recepto in corpus; *more speedily, that is, by a putrid ferment being received into the body;* veluti in quibusdam febribus ortis contagio, imprimis calore juvante, *as in certain fevers arising from contagion, especially heat assisting,* victu ex carnibus, quibusdam salibus, debilitate, immunditiâ. *a diet of meat, certain salts, debility, want of cleanliness.*

539. Denique, singularis pars corporis sæpe plane putrescit *Lastly, a particular part of the body often evidently putrefies* variis causis, veluti inflammatione, gangrænâ, algore; et nonnunquam *from various causes, as inflammation, gangrene, cold; and sometimes* inficit totum corpus: quamvis morbus hujusmodi plerumque evadat *infects the whole system: although a disease of this sort for the most part becomes* lethalis priusquam rapiat totum corpus in putredinem. *fatal before that it can hurry the whole body into putridity.*

540. Diu fuit sanctissimè persuasum, fere omnibus medicis, *It long has been most firmly persuaded, almost to all physicians,* massam sanguinis, quandocunque putresceret multum, non modo *that the mass of blood, whensoever it putrefied very much, not only* fieri acrem, sed quoque solvi, cogi ægre, et *became acrid, but also was dissolved, was congealed with difficulty, and* ostendere tenue et rarum crassamentum, et rubras particulas *shewed a thin and scanty crassamentum, and that the red particles* ipsas dilabi et frangi; vero sanguinem, sic solutum *themselves were decayed and broken down; but that the blood, so dissolved* et acrem, tum propter salem ipsius evolutum tum propter *and acrid, as well on account of the salt of itself being evolved as because of* suam fibrinam rancidam et putridam, stimulare et erodere omnia *its fibrine being rancid and putrid, stimulated and eroded all* vasa, et elabi ex iis, et efficere maculas primo rubras, *the vessels, and escaped from them, and produced spots at first red,* postea livescentes vel nigrescentes, tumores, ulcera vix sanabilia, *afterward becoming livid or blackening, tumours, ulcers scarcely curable,* nisi tempestive occurreretur putredini, *except it be seasonably resisted to the putridity (the putridness be resisted),* profuvia sanguinis, ab omni parte corporis, vix compescenda, *profuvia of blood, from every part of the body, scarcely to be restrained,*

vires frangunt; et demum si magnus calor adfuerit, qui tali corruptioni semper favet.

538. Porro, medici crediderunt humores velocius aliquando putrescere, putrido nimirum fermento in corpus recepto; veluti in febribus quibusdam contagio ortis, juvante imprimis calore, victu ex carnibus, salibus quibusdam, debilitate, immunditiâ.

539. Denique, pars singularis corporis variis causis plane sæpe putrescit, veluti inflammatione gangrænâ, algore; et totum corpus nonnunquam inficit: quamvis plerumque lethalis evadat hujusmodi morbus, priusquam totum corpus in putredinem rapiat.

540. Medicis fere omnibus diu sanctissimè persuasum fuit massam sanguinis, quandocunque multum putresceret, non modo acrem fieri, sed solvi quoque, ægre cogi, et tenue et rarum crassamentum ostendere, et ipsas particulas rubras dilabi et frangi; sanguinem vero sic solutum et acrem, tum propter salem ipsius evolutum, tum propter fibrinam suam rancidam et putridam, vasa omnia stimulare et erodere, et ex iis elabi, et maculas primo rubras, postea livescentes, vel nigrescentes, tumores, ulcera vix sanabilia nisi tempestive putredini occurreretur, sanguinis profuvia ab omni corporis parte vix compescenda, et factorem

et insignem et intolerabilem fætorem halitûs, et omnium  
*and a remarkable and intolerable factor of the breath, and of all*  
 excretionum, qualla sæpe observantur in scorbuto, vel in quibusdam  
*the excretions, such as often are observed in the scurvy, or in some (of)*  
 pessimis febribus; et inducere laxitatem solidarum partium, que  
*the worst fevers; and brought on laxity of the solid parts, and*  
 summam debilitatem, (scilicet, nervosâ vi ipsâ læsâ tali  
*the greatest debility, (that is, the nervous power itself being injured by such*  
 putredine, tanquam veneno,) et tandem mortem.  
*putridness, as if by poison,) and at length death.*

541. Acida acrimonia vix unquam videtur contingere humano  
*An acidulous acrimony scarcely ever seems to belong to human*  
 sanguini, neque ulli humorum quum primum secernitur ex  
*blood, nor to any one of the humours when first it is secreted from*  
 eo, quamvis profecto unus ex iis jam secretus, scilicet lac, sponte  
*it, although indeed one of them when secreted, namely milk, spontaneously*  
 et brevi acescat.  
*and quickly becomes acid.*

542. Neque sanguis videtur infici magis alcalinâ acrimoniâ.  
*Nor does the blood seem to be infected more with an alkaline acrimony.*  
 Revera putredo vergit ad hanc, et tandem desinit in hanc, autem  
*Truly putridness tends to this, and at length ends in it, but*  
 vix vitâ durante; autem quidam humor secretus a  
*scarcely (while) life remaining; but a certain fluid secreted from*  
 sanguine, scilicet urina, etiam recens, sæpe distat parum ab  
*the blood, namely the urine, even recent, often differs little from*  
 alcalinâ naturâ; et aliquando, ut fertur, est reddita plane  
*an alkaline nature: and sometimes, as it is said, has been voided quite*  
 alcalina.  
*alkaline.*

543. Variæ acrimoniæ possunt fortasse inesse sanguini, veluti  
*Various (kinds of) acrimonies may perhaps exist in the blood, as*  
 a nimio usu multorum acrium, puta, aromatum, meracioris  
*from the excessive use of many acrid things, for instance, of spices, of strong*  
 potûs: sed nihil certi est notum de his.  
*drink: but nothing certain is known of these.*

544. Tamen, variæ morbosæ acrimoniæ plane existunt, quæ sæpe  
*However, various morbid acrimonies without doubt exist, which often*  
 videntur quodammodo inficere corpus et corrumpere quibusdam gravibus  
*seem in some degree to infect the body and corrupt it with some severe*  
 morbis: cujûsmodi sunt acrimoniæ variolæ, morbillorum, carcinomatis,  
*diseases: of which sort are the acrimonies of small-pox, of measles, cancer,*

insignem et intolerabilem halitus, et omnium  
 excretioum, qualia in scorbuto, vel in pessimis  
 quibusdam febribus sæpe observantur, efficere;  
 et laxitatem solidarum partium, summamque  
 debilitatem (læsa scilicet ipsa vi nervosa tali  
 putredine tanquam veneno) et mortem tandem,  
 inducere.

541. Acrimonia acida vix unquam sanguini  
 humano contingere videtur, neque humorum  
 ulli quum primum ex eo secernitur, quamvis  
 profecto unus ex iis jam secretus, lac scilicet,  
 sponte et brevi acescat.

542. Neque magis videtur sanguis alcalina  
 acrimonia infici. Putredo revera ad hanc

vergit, et in hanc tandem desinit, vix autem  
 durante vita: humor autem quidam a sanguine  
 secretus, urina scilicet, sæpe parum distat,  
 etiam recens, ab alcalina natura; et nonnun-  
 quam, ut fertur, plane alcalina reddita est.

543. Variæ fortasse acrimoniæ sanguini in-  
 esse possunt, veluti a nimio usu multorum  
 acrium, puta aromatum, aut potus meracioris;  
 sed de his nihil certi notum est.

544. Variæ tamen plane existunt acrimoniæ  
 morbosæ; quæ corpus sæpe quodammodo in-  
 ficere videntur, et gravibus quibusdam morbis  
 corrumpere: cujûsmodi sunt acrimoniæ variolæ,  
 morbillorum, carcinomatis, luis venereæ, quarum

*luis venereæ, natura et origo quarum, et modus quo  
of lues venerea, the nature and origin of which, and the manner in which  
adeo nocent, sunt parum intellecta, vero effects satis que  
they so hurt, are little understood, but the effects (are) sufficiently and  
super noti.  
more (too well) known.*

545. Vero Natura præcavit a plerisque acrimoniis haud minore  
*But Nature has guarded against many (of the) acrimonies with no less  
curâ quam a nimiâ spissitate sanguinis; antidoto dato  
care than against too great spissitude of the blood; an antidote being given  
nonnullis, vel siti excitatâ, ut diluantur probe  
for some, either by thirst being excited, that they may be washed out thoroughly  
bibendo; vel, idoneis excretionibus auctis, ut ejciantur;  
by drinking; or, the proper excretions being increased, that they may be  
ejected; or, lastly, various motibus et actionibus excitatis,  
by which they become subdued, and changed, or harmless, or  
quibus fiant domitæ, et permutatæ, vel innocuæ, vel  
are expelled from the body, by new and unusual channels and excretions.*

CAP. XVII.

CHAP. XVII.

*De respiratione, que usibus et varietatibus, et vitiis ejûs; voce,  
Of respiration, and the uses and varieties, and disorders of it; (of) the  
loquelâ, nixu, suspirio, oscitatione, risu, fletu, singultu,  
voice, speech, straining, sighing, yawning, laughter, weeping, hiccup,  
dyspnœâ, tussi, sternutatione.  
dyspnœa, cough, sneezing.*

546. Superest adhuc et alia functio consideranda, nempe,  
*There remains yet also another function to be considered, namely,  
respiratio, quæ jure habetur vitalis; quoniam in homine et  
respiration, which rightly is considered vital; since in man and  
animalibus, quæ habent similem structuram corporis, est adeo necessaria  
animals, which have a similar structure of body, it is so necessary*

natura, et origo, et modus quo adeo nocent parum intellecta, effectus vero satis superque noti sunt.

545. A plerisque vero acrimoniis Natura præcavit haud minore cura quam a nimia spissitate sanguinis; nonnullis antidoto dato, vel excitata siti, ut probe diluantur bibendo; vel auctis idoneis excretionibus, ut ejciantur; vel denique variis excitatis motibus et actionibus, quibus domitæ et permutatæ, vel innocuæ

fiant, vel novis et insolitis viis et excretionibus e corpore expellantur.

CAP. XVII.—*De respiratione, ejusque usibus, et varietatibus, et vitiis; voce, loquelâ, nixu, suspirio, oscitatione, risu, fletu, singultu, dyspnœa, tussi, sternutatione.*

546. SUPEREST et alia functio adhuc consideranda, respiratio nempe, quæ jure vitalis habetur; quoniam in homine, et animalibus quæ

ad vitam, ut possit ne suspendi, quidem per brevissimum spatium  
*to life, that it cannot be suspended, even for a very short space*  
 temporis, sine maximo incommodo aut instante periculo.  
*of time, without the greatest inconvenience or instant danger.*

547. Est nulla in foetu; incipit statim a partu;  
*There is none in the foetus; it begins immediately after birth;*  
 perficitur duplici motu, nimirum, inspiratione et expiratione,  
*it is performed by a twofold motion, namely, inspiration and expiration,*  
 alterâ quarum aër recipitur in pulmonem, alterâ vicissim  
*by the one of which the air is admitted into the lung, by the other in turn,*  
 expellitur ex eo.  
*it is expelled from it.*

548. Jam satis constat ex observationibus medicorum pulmo-  
*It is now sufficiently established by the observations of physicians, that the*  
 nem jacere proxime sub pleurâ costarum; scilicet, nullo aëre  
*lungs lie close under the pleura of the ribs; that is, no air*  
 interposito, ut olim fuit opinio: igitur, thorax ampliatus,  
*being interposed, as formerly was the opinion: therefore, the thorax being enlarged,*  
 oportet vel vacuum fiat inter pleuram et pulmonem, vel  
*it behoves either that a vacuum be made between the pleura and lung, or*  
 hic quoque sic distendatur, ut iterum accurate impleat  
*that the latter also be so distended, that again it accurately fills up*  
 cavum thoracis.  
*the cavity of the thorax.*

549. Vis resiliendi, et igitur aucta moles aëris qui inest  
*The elasticity, and therefore the increased volume of the air which is in*  
 pulmoni, vetat ne vacuum fiat, et pondus  
*the lung, prevents that a vacuum take place, also the weight (pressure)*  
 externi aëris intrantis per asperam arteriam, que habentis liberum  
*of the external air entering by the aspera arteria, and having a free*  
 commeatum cum aëre qui est in pulmone; et igitur prementis  
*communication with the air which is in the lungs; and therefore pressing*  
 hunc aëra, jam nonnihil expansum sub inspirationem, et ideo  
*this air, now somewhat expanded during inspiration, and consequently*  
 renitentem minus, quoquoversum per pulmonem.  
*resisting less, in every direction through the lung.*

550. Vero machinatio, quâ solemus ampliari cavum  
*But the mechanism, by which we are accustomed to enlarge the cavity*  
 thoracis, est duplex; aut transverso septo contrahente se,  
*of the thorax, is twofold; either the transverse septum contracting itself,*  
 descendente, trahente suum centrum deorsum, et, a concavo  
*descending, drawing its centre downwards, and, from being concave*

similem corporis structuram habent, ad vitam adeo necessaria est, ut ne quidem per brevissimum spatium temporis sine maximo incommodo aut instante periculo suspendi possit (5).

547. In foetu nulla est; statim a partu incipit: duplici motu perficitur, inspiratione nimirum et expiratione, quarum altera aër in pulmonem recipitur, altera ex eo vicissim expellitur.

548. Medicorum observationibus jam satis constat, pulmonem proxime sub pleura costarum jacere, nullo scilicet interposito aëre, sicut olim opinio fuit: ampliatus igitur thorax oportet, vel vacuum, inter pleuram, pulmonemque

fiat, vel hic quoque sic distendatur, ut cavum thoracis iterum accurate impleat.

549. Ne vacuum fiat, vetat resiliendi vis et aucta igitur moles aëris qui pulmoni inest, et pondus aëris externi per asperam arteriam intrantis, liberumque cum aëre qui in pulmone est commeatum habentis; et hunc igitur aëra jam sub inspirationem nonnihil expansum, et ideo minus renitentem, quoquoversum per pulmonem prementis.

550. Duplex vero machinatio est, qua cavum thoracis ampliari solemus: aut septo transverso se contrahente, descendente, centrum suum deorsum trahente, et a concavo abdomen

versus abdomen, verso fere in planum; aut musculis qui  
*towards the abdomen, changed almost into a flat; or the muscles which*  
 jacent inter costas contrahentibus se, que elevantibus costas:  
*lie between the ribs contracting themselves, and elevating the ribs:*  
 autem hæ, propter obliquum situm et nexum quem  
*but these, on account of the oblique position and joining (articulation) which*  
 habent cum spinâ dorsî, nequeunt elevari, quin ipsæ  
*they have with the spine of the back, cannot be elevated, but that themselves*  
 simul protrudantur, et quoque protrudent sternum, et  
*are at the same time protruded, and also protrude the sternum, and*  
 dimoveant aliquantum opposita latera pectoris invicem a  
*move apart to some extent the opposite sides of the chest mutually from*  
 se.  
*each other.*

551. Igitur thorax ampliatur quoquoersum his viribus,  
*Wherefore the thorax is enlarged in every direction by these powers,*  
 quibus solemus uti vel singulis aut omnibus junctis simul  
*which we are accustomed to use either single (y) or all joined together*  
 prout res postulaverit; nimirum, fit  
*(conjointly) according as the occasion shall require; that is, it becomes*  
 longior, et latior, et profundior.  
*longer, and broader, and deeper.*

552. Vero alii musculi quoque conspirant in validissimâ aut difficili  
*But other muscles also co-operate in a very strong or difficult*  
 inspiratione, scilicet, quotquot possint vel elevare vel firmare supe-  
*inspiration, namely, as many as are able either to elevate or fix the*  
 riores costas, ut inferiores trahantur validius et certius  
*superior ribs, that the inferior ones may be drawn more powerfully and certainly*  
 ad eas.  
*to them.*

553. Thorax sic dilatatus brevi reducit ad pristinam amplitudi-  
*The thorax thus dilated is quickly reduced to its former capacity;*  
 nem; imprimis omnibus musculis inspirationis relaxatis, ita ut  
*first by all the muscles of inspiration being relaxed, so that*  
 propria vis resiliendi dimotarum partium conducat haud parum  
*the proper elasticity of the separated parts may contribute not a little*  
 ad hunc effectum. Enim costæ junctæ, ope cartilaginum et fortium  
*to this effect. Moreover the ribs joined, by means of cartilages and of strong*  
 ligamentorum, cum sterno et dorso, fere statim redeunt  
*ligaments, with the sternum and back, almost immediately return*  
 hoc modo ad pristinum situm; et quidem sponte et facillime,  
*by this means to their former position; and even spontaneously and very easily,*

versus in planum fere verso; aut musculis qui  
 inter costas jacent se contrahentibus costasque  
 elevantibus: hæ autem, propter obliquum quem  
 cum spina dorsî habent situm et nexum, elevari  
 nequeunt, quia simul protrudantur ipsæ et  
 sternum quoque protrudent, et latera pectoris  
 opposita a se invicem aliquantum dimoveant.

551. His itaque viribus, quibus vel singulis,  
 vel omnibus simul junctis, uti solemus, prout  
 res postulaverit, thorax quoquoersum ampliatur;  
 nimirum longior et latior, et profundior fit.

552. In validissima vero aut difficili inspira-

tionem, alii quoque musculi conspirant, quotquot  
 scilicet costas superiores vel elevare possint,  
 vel firmare, ut inferiores validius et certius ad  
 eas trahantur.

553. Thorax sic dilatatus ad pristinam ampli-  
 tudinem brevi reducit; relaxatis imprimis  
 omnibus musculis inspirationis, ita ut propria  
 partium dimotarum vis resiliendi haud parum  
 ad hunc effectum conducat. Costæ enim, ope  
 cartilaginum, et fortium ligamentorum, cum  
 sterno et dorso junctæ, statim fere ad primum  
 situm hoc modo redeunt; et quidem sponte et  
 facillime, scilicet sine ullo hominis ipsius

sine ullo voluntario conatu, hominis ipsiùs, aut ullâ invitâ  
*without any voluntary effort, the man himself, or any unwilling (forced)*  
 contractione cujùsvis musculi. Mediastinum quoque dicitur trahere  
*contraction of any muscle. The mediastinum also is said to draw*  
 centrum transversi septi sursum; vero musculi abdominis  
*the centre of the transverse septum upwards; but the muscles of the abdomen*  
 distenti per inspirationem, non modo resilièntes, sed contracti quoque  
*distended by inspiration, not only rebounding, but contracted also*  
 vitali vi, premunt transversum septum sursum, et trahunt  
*by a vital power, press the transverse septum upwards, and draw*  
 costas deorsum: àër iterum expellitur hoc modo e pulmone,  
*the ribs downwards: the air is again expelled in this manner from the lung,*  
 contractione musculosarum fibrarum, quibus bronchia instruuntur,  
*the contraction of the muscular fibres, with which the bronchia are furnished,*  
 simul juvante.  
*at the same time assisting.*

554. Autem alii musculi quoque adjuvant in valida expiratione:  
*But other muscles also assist in a strong expiration:*  
 nimirum, qui queant deprimerè costas; aut, demum, musculi  
*namely, those which can depress the ribs; or, lastly, the muscles*  
 ipsi abdominis, qui, parentes voluntati, possunt contrahi  
*themselves of the abdomen, which, obeying the will, can be contracted*  
 insigni vi.  
*with great force.*

555. Igitur respiratio absolvitur his alternis viribus. Fuit  
*Therefore respiration is performed by these alternate powers. It has been*  
 diu et multum disputatum inter medicos quantum thorax  
*long and much disputed amongst physicians how much the thorax*  
 amplaretur sub inspirationem, vel quanta mensura externi  
*was enlarged during inspiration, or how great a quantity of the external*  
 àëris descenderet in pulmonem singulis inspirationibus; neque est  
*air descended into the lungs at single (each) inspiration(s); nor has*  
 lis hactenus prorsus composita. Autem non desunt  
*the dispute hitherto been completely settled. But there are not wanting*  
 multæ observationes et experimenta instituta variis auctoribus, quæ  
*numerous observations and experiments instituted by various authors, which*  
 faciunt verisimile adultum hominem solitæ magnitudinis, (nam  
*render it probable that an adult person of the usual size, (for*  
 amplitudo thoracis ipsiùs valet multum hic,) accipere circiter  
*the capacity of the thorax itself avails much here,) takes in about*  
 quadraginta cubicos pollices (metaph. ponitur) àëris in communi inspiratione;  
*forty cubic thumbs (met. for inches) of air in a common inspiration;*

conatu voluntario, aut ulla musculi enjusvis  
 contractione invita. Mediastinum quoque dicitur  
 centrum septi transversi sursum trahere; musculi  
 vero abdominis, per inspirationem distenti, non  
 modo resilièntes, sed vi quoque vitali contracti  
 (306, 321) septum transversum sursum premunt,  
 et costas deorsum trahunt: hoc modo àër iterum  
 e pulmone expellitur, juvante simul contractione  
 fibrarum musculosarum quibus bronchia instruuntur.

554. In valida autem expiratione alii quoque  
 musculi adjuvant; nimirum qui costas deprimerè  
 queant; aut demum ipsi musculi abdominis, qui  
 voluntati parentes, insigni vi contrahi possunt.

555. His igitur alternis viribus respiratio  
 absolvitur. Diu multumque inter medicos  
 disputatum fuit quantum sub inspirationem  
 amplaretur thorax, vel quanta mensura externi  
 àëris in pulmonem singulis inspirationibus  
 descenderet; neque hactenus de his rebus  
 prorsus composita lis est. Non desunt autem  
 multæ observationes et experimenta, a variis  
 auctoribus instituta, quæ verisimile faciunt  
 hominem adultum, solitæ magnitudinis (nam  
 multum hic valet ipsius thoracis amplitudo) in  
 communi inspiratione, quadraginta circiter  
 pollices cubicos àëris in pulmones accipere;  
 post naturalem expirationem, centum et amplius  
 pollices cubicos àëris in iis superesse;



centum cubicos pollices et amplius aëris superesse in iis post  
*that a hundred cubic inches and more of air remain in them after*  
 naturalem expirationem; post validissimam expirationem vix  
*a natural expiration; after a very strong expiration that scarcely*  
 quinquaginta cubicos pollices aëris fortasse includi in iis. et  
*fifty cubic inches of air are perhaps inclosed in them: and*  
 demum per fortissimam expirationem, post talem inspirationem fere  
*lastly by the strongest expiration, after such an inspiration that nearly*  
 ducentos cubicos pollices aëris expelli e pulmonibus.  
*two hundred cubic inches of air are expelled from the lungs.*

556. Respiratio tenet fere medium locum inter actiones  
*Respiration holds nearly an intermediate place between the actions*  
 quæ pendent a voluntate, et eas quæ perficiuntur homine  
*which depend upon the will, and those which are performed by the person*  
 inscio aut invito. Quatenus sit necessaria ad vitam, Natura  
*while unconscious or involuntary. As far as it is necessary to life, Nature*  
 probe curavit ut semper exerceatur; vero quatenus inserviat  
*has specially provided that it always should be exercised; but so far as it is subservient*  
 plurimis, et admodum diversis, neque perpetuis muneribus vivi  
*to the many, and very different, nor constant functions of the living*  
 corporis, permisit eandem (sc. respirationem) quodammodo nostro  
*body, she has left the same in some measure to our own*  
 voluntati et arbitrio. Omnes musculi respirationis, ut videtur,  
*will and pleasure. All the muscles of respiration, as it appears,*  
 subjiciuntur imperio voluntatis; autem Natura suggerit idoneum  
*are subjected to the control of the will; but Nature supplies a suitable*  
 perpetuum stimulum, qui cieat eos ad idoneam actionem, homine  
*incessant stimulus, which excites them to a proper action, the person*  
 etiam inscio vel interdum invito aut nitente contra.  
*being even unconscious or sometimes unwilling or endeavouring against it.*

557. Quis iste stimulum fuerit medici quæsierunt multum  
*What that stimulus may (have) be(en) physicians have enquired very much,*  
 et cur infans, qui, donec lateret in utero, nunquam  
*and why the infant, who, while it was lying hid in the uterus, had never*  
 spiraverat, statim inciperet spirare, quamprimum objiceretur  
*breathed, immediately began to breathe, as soon as it was exposed*  
 aëri.  
*to the air.*

558. Alii tribuunt respirationem incipientem statim a partu  
*Some attribute respiration beginning immediately after birth*  
 singulari naturali instinctui; alii generali nixui quem novum  
*to a particular natural instinct; others to a general struggle which the new*

post validissimam expirationem, vix quinquaginta pollices cubicos aëris in pulmonibus manere; per fortissimam inspirationem, ducentos et quinquaginta fortasse pollices cubicos aëris in iis includi: et demum, per fortissimam expirationem, post talem inspirationem, ducentos fere pollices cubicos aëris e pulmonibus expelli.

556. Medium fere locum tenet respiratio inter actiones quæ a voluntate pendent, et eas quæ inscio aut invito homine perficiuntur. Quatenus ad vitam necessaria sit, probe curavit Natura ut semper exerceatur; quatenus vero plurimis, et admodum diversis, neque perpe-

tuis, vivi corporis muneribus inserviat, eandem voluntati atque arbitrio nostro quodammodo permisit. Musculi omnes, ut videtur, respirationis, voluntatis imperio subjiciuntur; suggerit autem Natura idoneum atque perpetuum stimulum, qui eos, etiam inscio vel interdum invito aut contra nitente homine, ad idoneam actionem cieat

557. Quis fuerit iste stimulum, medici multum quæsierunt, et cur infans, qui donec in utero lateret, nunquam spiraverat, quamprimum aëri objiceretur, statim spirare inciperet.

558. Respirationem statim a partu incipientem alii singulari instinctui naturali tribuunt; alii

animal edit, (et profecto est opus inspiratione ad omnem  
*animal makes, (and indeed there is need of inspiration for every*  
 validiorem nixum, ut partes quibus magni musculi corporis  
*more powerful effort, that the parts to which the large muscles of the body*  
 annectuntur rite firmentur;) demum, alii tribuunt primum  
*are attached may be properly fixed;) lastly, others attribute the first*  
 spiritum contractioni transversi septi ipsiûs, quod, quamvis  
*breathing to the contraction of the transverse septum itself, which, although*  
 maxime distentum, et daturum (sit) validissimam contractionem primâ  
*very much distended, and would produce a very powerful contraction on the first*  
 occasione, potuit efficere nihil omnino, dum infans latebat in  
*opportunity, could effect nothing at all, while the infant was lying hid in*  
 utero; quia non aër, sed aquosus latex circumdabat eum, et hic  
*the uterus; because not air, but a watery liquor surrounded it, and this*  
 nequit transire glottidem, sed contra, arctissime claudit  
*cannot pass through the glottis, but on the contrary, it very closely shuts up*  
 ejûs rimam, forti contractione excitatâ ibi.  
*its aperture, by the powerful contraction excited there.*

559. Expiratio, facta viribus jam recensitis, succedit  
*An expiration, made by the powers already enumerated, succeeds*  
 primæ inspirationi; et huic iterum inspiratio, cum forsitan  
*the first inspiration; and to this again an inspiration, as well perhaps*  
 simplice contractione transversi septi pressi sursum, nec  
*by the simple contraction of the transverse septum pressed upwards, nor*  
 parum distenti actione musculorum abdominis; tum  
*a little distended (and greatly) by the action of the muscles of the abdomen; as*  
 quoque fortasse stimulo quem sanguis collectus in arteriis et  
*also perhaps by the stimulus which the blood collected in the arteries and*  
 venis dat; vero maxime illo peculiari stimulo, quem aër  
*veins produces; but most of all by that peculiar stimulus, which the air*  
 retentus in pulmone ipso, que inquinatus variis materiis per  
*retained in the lung itself, and adulterated with different matters through*  
 spiritum, et forsân quoque aliter vitiat, impertit, per  
*the breathing, and perhaps also otherwise vitiated, imparts, by*  
 aliquem consensum, ut videtur, omnibus musculis inspirationis:  
*some (kind of) consent, as it appears, to all the muscles of inspiration:*  
 vix percipimus hunc stimulum in communi respiratione, quippe  
*we scarcely perceive this stimulus in ordinary respiration, as being*  
 qui sit familiaris nobis; verum, si cohibemus spiritum  
*that which is familiar to us; but, if we restrain the breathing*

nixi generali quem novum animal edit, (et profecto ad omnem nixum validiorem inspiratione opus est, ut partes quibus magni musculi corporis annectuntur rite firmentur); alii demum ipsius septi transversi contractioni primum spiritum tribuunt, quod, quamvis maxime distentum, et prima occasione validissimam daturum contractionem, dum in utero latebat infans, nihil omnino efficere potuit; quia non aër, sed aquosus latex, eum circumdabat, et hic glottidem transire nequit, sed contra rimam ejus arctissime claudit, forti contractione ibi excitata.

559. Primæ inspirationi expiratio succedit,

viribus jam (553) recensitis facta; et huic iterum inspiratio, cum forsitan simplice contractione septi transversi sursum pressi, nec parum distenti, actione musculorum abdominis; tum quoque fortasse stimulo quem sanguis in arteriis et venis pulmonis collectus dat; maxime vero stimulo illo peculiari, quem aër in ipso pulmone retentus, variisque materiis per spiritum inquinatus (59, 564), forsân et aliter quoque vitiat (565), per consensum (358) aliquem, ut videtur, omnibus inspirationis musculis impertit: hunc stimulum, quippe qui nobis familiaris sit, in communi respiratione vix percipimus; verum, si diutius spiritum

diutius, sentimus eundem esse molestum et quidem validissimum, a long time, we feel the same to be troublesome and even very powerful, et quali possumus non resistere. and such as we can not resist.

560. Porro aliquid conatûs cuius simus conscii requiritur ad inspirationem: expiratio perficitur sponte et sine conatu. *Moreover something of an effort of which we are conscious is required for inspiration: expiration is performed spontaneously and without effort.* Hinc inspiratio est ultimus nisus in moribundo; efflat *Hence inspiration is the last struggle in the dying person; he breathes out animam sine conatu; nam omnes moriuntur in expiratione. his soul without an effort; for all die in an expiration.*

561. Respiratio inservit variis usibus. Plerique medici existimarunt hanc esse non modo utilem, sed prorsus necessariam, scilicet quia *Respiration serves for various uses. Most physicians have imagined that it was not only useful, but absolutely necessary, that is, because esset opus eâ, ut crederent, ad promovendum circuitum sanguinis per pulmonem. Enim pulmo, donec est collapsus et compressus, veluti in fœtu, vel etiam in adulto homine, (ut quidam putarunt,) sub expirationem, nequit recipere tantum sanguinis quantum dextrum cor tradat ipsi. Igitur alia via as the right (ventricle of the) heart delivers to it. Therefore another course patet huic sanguini in fœtu: vero in adulto homine, ubi est nulla alia, medici putarunt sanguinem accumulari quodammodo in pulmone, (quod) primo (sit) daturum in-gratum, quamvis levem, sensum molestiæ cum cupiditate inspirandi; unpleasant, although slight, sense of uneasiness with a desire inspiring; vero postea, nisi homo prius traxerit spiritum, horrendum sensum suffocationis. Quoque persuaserunt sibi sanguinem transire vix melius per pulmonem etiam sub inspirationem: enim quamvis aliquanto major copia sanguinis posset recipi in pulmonem*

cohibemus, eundem molestum et quidem validissimum esse sentimus, et quali non possumus resistere.

560. Ad inspirationem porro conatus aliquid cuius conscii simus requiritur: expiratio sponte et sine conatu (553) perficitur. Hinc ultimus in moribundo nisus inspiratio est; animam sine conatu efflat; nam omnes in expiratione moriuntur.

561. Respiratio variis usibus inservit. Plerique medici existimarunt hanc non utilem modo esse, sed prorsus necessariam, scilicet quia ea opus esset, ut crederent, ad sanguinis circuitum per pulmonem promovendum. Pulmo enim, donec

collapsus et compressus est, veluti in fœtu, vel etiam in adulto homine (ut quidam putarunt) sub expirationem, tantum sanguinis recipere nequit, quantum cor dextrum ipsi tradat. In fœtu igitur alia huic sanguini patet via: in adulto vero homine, ubi nulla alia est, medici putarunt sanguinem in pulmone quodammodo accumulari, primo ingratum quamvis levem molestiæ sensum, cum inspirandi cupiditate; postea vero, nisi prius homo spiritum traxerit, horrendum suffocationis sensum daturum. Sibi quoque persuaserunt sanguinem etiam sub inspirationem vix melius per pulmonem transire: quamvis enim aliquanto major san-

in hoc statu, putarunt hanc (copiam) transmitti ægre  
*in this state, they thought that it was transmitted with difficulty*  
 per eum (pulmonem) propter minutissimos ramulos pulmonalis  
*through it because of the very minute ramifications of the pulmonary*  
 arteriæ nimis compressos distentis cellulis pulmonis. Sed  
*artery being too much compressed by the distended cells of the lung. But*  
 omnia hæc, quamvis non prorsus falsa, sunt saltem minus  
*all these things, although not utterly false, are at least not*  
 firma, et minoris momenti, quam multi et graves auctores  
*established, and of less moment, than many and grave authors*  
 existimarunt.  
*have imagined.*

562. Quod si res habet se ita ut hi auctores  
*But if the matter has itself so as (like as) these authors*  
 docuerunt, potest non fieri, quin quidam status pulmonis,  
*have taught, it cannot happen but that a certain state of the lung,*  
 medius quasi inter compressionem et maximam amplificationem,  
*intermediate as it were between compression and the greatest enlargement,*  
 et libere accipiat et transmittat sanguinem: nempe, qui reddet  
*both freely should receive and transmit the blood: that is, which will render*  
 vasa vehentia sanguinem maxime capacia quam. Et profecto,  
*the vessels carrying the blood the most capacious possible. And, indeed,*  
 jam constat per idonea experimenta, scilicet, aquâ infusâ in  
*it is now established by suitable experiments, namely, water poured into*  
 thoracem vivi animalis, compressionem pulmonis multo majorem  
*the thorax of a living animal, that a compression of the lung much greater*  
 quam quæ fit in communi expiratione, parum impedire motum  
*than what takes place in common expiration, little hinders the motion*  
 sanguinis per eum, neque lædere spiritum adeo ut fuit  
*of the blood through it, nor hurts the breathing so much as was*  
 olim opinio.  
*formerly the opinion.*

563. Vero Natura potuit evitare istam necessitatem, si revera qua  
*But Nature could have avoided that necessity, if indeed any*  
 sit vel nullo pulmone dato homini, vel homine  
*be (any such there be) either by no lung being given to man, or by man*  
 instructo simplice corde et pulmone fere arbitrario,  
*being furnished with a simple (single) heart and a lung almost arbitrary,*  
 qui accepisset totum suum sanguinem a ramo aortæ,  
*which might have received the whole of its blood from a branch of the aorta,*  
 qualem fabricam spectamus in amphibis, et (in) plerisque animalibus  
*such a mechanism as we observe in amphibia, and in most animals*

guinis copia in hoc statu in pulmonem recipi  
 posset, hæc putarunt ægre per eum transmitti,  
 propter ramulos minutissimos arteriæ pulmonalis,  
 distentis cellulis pulmonis, nimis compressos.  
 Sed hæc omnia, quamvis non prorsus falsa,  
 saltem minus firma sunt, et minoris momenti,  
 quam multi et graves auctores existimarunt.

562. Quod si ita res se habet ut hi auctores  
 docuerunt, fieri non potest, quin status quidam  
 pulmonis, medius quasi inter compressionem  
 et amplificationem maximam, sanguinem et  
 accipiat et transmittat libere: nempe, qui vasa

sanguinem vehentia quam maxime capacia  
 reddet. Et profecto constat jam per idonea ex-  
 perimenta, aqua scilicet in thoracem vivi ani-  
 malis infusa, multo majorem pulmonis com-  
 pressionem, quam quæ in communi expiratione  
 fit, motum sanguinis per eum parum impedire,  
 neque spiritum adeo lædere, ut olim opinio fuit.

563. Istam vero necessitatem (561), si qua  
 revera sit, Natura evitare potuit, vel nullo  
 homini dato pulmone, vel homine corde sim-  
 plice instructo, et pulmone fere arbitrario, qui  
 totum suum sanguinem a ramo aortæ accepisset,  
 qualem in amphibis, et plerisque frigidis san-

frigidi sanguinis. Præterea, leges philosophandi vetant (nos) fingere  
of cold blood. Besides, the laws of philosophising forbid us to devise  
vel quærere plures causas quam quæ sufficient ad explicandam  
or seek more causes than what are sufficient to explain

rem: et sunt aliæ (causæ) neque dubiæ cur spiritus  
the subject: and there are others nor doubtful why the breath  
interclusus, vel sub inspirationem, vel expirationem, vel demum  
stified, either during inspiration, or expiration, or lastly  
sub medium statum, quo vasa debent esse capacissima  
during the intermediate state, in which the vessels ought to be most capacious  
et liberrima, brevi extingueret hominem.  
and free, would quickly destroy a person.

564. Scilicet docemur alios usus respirationis ex effectibus ejus.  
Indeed we are taught other uses of respiration from the effects of it.  
Omne spirans, præter aquosum halitum, usque exhalat  
Every breathing animal, besides a watery vapour, continually exhales  
plurimum carbonicum acidum e pulmone, quod foret lethali  
a great deal of carbonic acid from the lungs, which would be a deadly  
veneno vel ipsi vel aliis (animalibus) si esset retentum in  
poison either to itself or to others if it were retained in  
pulmone vel iterum receptum in eum. Excernere hoc noxium  
the lung or again received into it. To void this noxious principle  
certe, est non minimus usus respirationis.  
indeed, is not the least (important) use of respiration.

565. Constat quoque per innumera experimenta, insignem  
It is established also by innumerable experiments, that a remarkable  
mutationem sanguinis ipsius, et summi momenti, fieri per  
change of the blood itself, and of the greatest moment, is caused by  
spiritum in pulmone. Enim ille redux per venas cavas ab  
the air in the lung. For it returning by the venæ cavæ from  
omni parte corporis, impellitur, nigricans colore, per dextrum  
every part of the body, is driven, blackish in colour, by the right  
cor in pulmones, et dum animal spirat rubens  
heart (ventricle) into the lungs, and whilst the animal breathes reddening  
lætius (quod notum est diu) et aliter mutatus  
more brightly, (which has been known a long time) and otherwise changed  
redit ex his ad sinistrum cor, et probe excitat hoc  
returns from these to the left (side of the) heart, and powerfully excites this  
ad suum munus. Vero spiritu intercluso, sanguis transmissus  
to its proper duty. But the breathing being stopped, the blood transmitted  
per pulmones neque rubet solito more, neque satis  
through the lungs neither reddens in the usual manner, nor sufficiently

guinis animalibus, fabricam spectamus. Præterea, leges philosophandi vetant plures causas fingere vel quærere, quam quæ ad rem explicandam sufficient: et aliæ sunt neque dubiæ, cur spiritus interclusus, vel sub inspirationem, vel expirationem, vel demum sub medium statum, quo vasa capacissima et liberrima esse debent, hominem brevi extingueret.

564. Alios scilicet respirationis usus ex effectibus ejus docemur. Omne spirans, præter halitum aquosum, plurimum acidum carbonicum e pulmone usque exhalat, quod vel ipsi, vel aliis, lethali veneno foret, si in pulmone reten-

tum, vel iterum in eum receptum esset. Non minimus certe respirationis usus est, hoc noxium excernere.

565. Constat quoque per innumera experimenta, insignem, et summi momenti sanguinis ipsius, mutationem per spiritum in pulmone fieri. Ille enim per venas cavas ab omni parte corporis redux, colore nigricans, per cor dextrum in pulmones impellitur, et, dum spirat animal, ex his lætius rubens (quod diu notum est) et aliter mutatus ad cor sinistrum redit, et hoc ad suum munus probe excitat. Intercluso vero spiritu, sanguis per pulmones

irritat sinistrum cor, motus cujus statim fatiscit, (et) irritates the left heart, the motion of which immediately fails, and periturus (est) brevi. Animale iterum spirante, sanguis advectus will be destroyed quickly. The animal again breathing, the blood brought a pulmone ad cor denuo rubescit, et hoc simul from the lung to the heart again becomes red, and this at the same time integrat suum motum et vitam moribundo. Hæ chemicæ restores its own motion and life to the dying (animal.) These chemical mutationes sanguinis in pulmone videntur pendere maxime ab changes of the blood in the lung seem to depend principally upon oxygenio (quod est tantum exigua pars communis aëris oxygen (which is (forms) only a small portion of the common air quem solemus spirare) accepto quodammodo in sanguinem et which we are accustomed to breathe) received in some way into the blood, and probe permisto cum eo. thoroughly mixed with it.

566. Porro exhalatio, carbonici acidi istiusmodi qualis fit Moreover an exhalation of carbonic acid of that sort such as takes place e pulmonibus, habetur apud chemicos certum signum cuiusdam from the lungs, is considered by chemists a certain sign of some mutationis compositionis in corpore unde ipsa oritur. Et est change of composition in the body whence it arises. And it is satis verisimile, sanguinem subire quandam aliam chemicam very probable, that the blood undergoes some other chemical mutationem ibi loci, cuius exhalatio istius acidi est signum change in that place, of which the exhalation of that acid is a sign et effectus; præsertim si attendamus animum ad hoc and effect; especially if we apply the mind to this (when we reflect) nimirum, omne nutrimentum transire per pulmonem, prius quam namely, that all the nourishment passes through the lung, before that intret majorem circuitum, nec crudum unquam conspici, saltem it enters the greater circulation, nor is any crude thing ever seen, at least in sano homine, in eo sanguine quem sinistrum cor miserit in a healthy person, in that blood which the left heart has sent ad reliquum corpus. Fortasse cruda materies, qualis defertur to the rest (of the) body. Perhaps the crude matter, such as it is conveyed ex intestinis, oleosa, subdulcis, aescens, mediæ naturæ from the intestines, oily, sweetish, acescent, of an intermediate nature quasi, inter fruges et carnes, subigitur in pulmone, vertitur as it were, between vegetables and flesh, is reduced in the lung, is changed in verum sanguinem, penitus concoquitur, demum induit animale into true blood, is completely concocted, at length it puts on the animal

transmissus neque more solito rubet, neque cor sinistrum satis irritat, cujus motus statim fatiscit, brevi periturus. Spirante iterum animale, sanguis a pulmone ad cor advectus denuo rubescit, et hoc simul motum suum, et vitam moribundo, integrat. Hæ mutationes chemicæ sanguinis in pulmone maxime pendere videntur ab oxygenio (quod exigua tantum pars est communis aëris quem spirare solemus) in sanguinem quodammodo accepto, et probe cum eo permisto.

566. Porro, istiusmodi acidicarbonici exhalatio, qualis e pulmonibus fit (568), apud chemicos certum signum habetur mutationis cuiusdam com-

positionis, in corpore unde ipsa oritur. Et satis verisimile est, sanguinem aliam quandam mutationem chemicam ibi loci subire, cuius acidi istius exhalatio signum sit et effectus; præsertim si animum ad hoc attendamus, nimirum nutrimentum omne prius per pulmonem transire, quam majorem circuitum intret, nec unquam, saltem in sano homine, crudum in eo sanguine conspici, quem cor sinistrum ad reliquum corpus miserit. Cruda fortasse materies, qualis ex intestinis defertur, oleosa, subdulcis, aescens, mediæ quasi naturæ inter fruges et carnes, in pulmone subigitur, in verum sanguinem (492, et seq.) vertitur, concoquitur

naturam, facta putrescens neque postea  
 character, (having) become putrescent (capable of putrefying) nor afterwards  
 distinguenda a pristinis humoribus corporis.  
 to be distinguished from the former humours of the body.

567. Denique, sunt qui credunt calorem animalium quodammodo  
 Lastly, there are who believe that the heat of animals is in some way  
 gigni in pulmone. Nam in aliis exemplis, dum calor fit,  
 generated in the lungs. For in other examples, whilst heat takes place,  
 plurimum carbonicum acidum formatur; nimirum oxygenio aëris  
 a great deal (of) carbonic acid is formed; truly the oxygen of the air  
 consumpto et conjuncto cum carbone. Discimus hoc imprimis  
 being consumed and combined with carbon. We learn this first of all  
 ex flammâ, ubi est magnus calor, et, simul,  
 from flame, where (in which) there is great heat, and, at the same time,  
 ingens vis istius acidi avolat. Ille lenis calor qui oritur  
 a great quantity of that acid passes off. That gentle heat which arises  
 inter fermentandum, in multis exemplis docet idem.  
 during fermenting (fermentation), in many examples teaches the same.

568. Iste venenatus halitus, undecunque derivatus, videtur esse similis,  
 That poisoned vapour, whencesoever derived, seems to be similar  
 sive evolutus spiritu, sive igne, sive  
 (the same), whether evolved by the breathing, or by fire (combustion), or  
 fermentando. Extinguit pariter vitam et flammam:  
 by fermenting (fermentation). It extinguishes alike life and flame (com-  
 bustion): a part of it, namely, the carbonic acid, is attracted by quick lime:  
 pars ejus, scilicet, carbonicum acidum, attrahitur vivâ calce:  
 vero quod superest, nimirum azotium, sine oxygenio, redditur non  
 but what remains, namely the azote, without the oxygen, is rendered non  
 minus eo (acido carb.), infestum vitæ et flammæ.  
 less than it, destructive to life and flame.

569. Autem animalia quo sunt calidioris sanguinis co,  
 But animals by what they are of warmer blood by that,  
 observantur, citius corrumpere aëra quem spirant,  
 they are observed, the more quickly to corrupt the air which they breathe,  
 et consumere oxygenium; et quo habent respirationem perfectiorem  
 and to consume the oxygen; and by what they have respiration more perfect  
 eo (observantur) plus calere. Sic vermes, qui spirant per  
 by that to grow more warm. Thus worms, which breathe through  
 spiracula in cute, vix calent unum gradum thermometri  
 spiracles in the skin, scarcely warm one degree of the thermometer  
 Fahrenheitiani supra elementum quod habitant; pisces qui itant  
 of Fahrenheit above the element which they inhabit; fishes which move

penitus, naturam animale demum induit, putrescens facta, neque postea a pristinis corporis humoribus distinguenda.

567. Denique, sunt qui credunt calorem animalium in pulmone quodammodo gigni. Nam, in aliis exemplis, dum calor fit, plurimum acidum carbonicum formatur; consumpto nimirum aëris oxygenio et cum carbone conjuncto. Hoc ex flamma imprimis discimus; ubi magnus calor est, et simul ingens vis istius acidi avolat. Idem docet calor ille lenis qui in multis exemplis inter fermentandum oritur.

568. Halitus iste venenatus, undecunque deri-

vatus, similis fere esse videtur, sive spiritu, sive igne, sive fermentando evolutus. Vitam pariter et flammam extinguit: pars ejus, scilicet carbonicum, calce viva attrahitur; quod superest vero, azotium nimirum, sine oxygenio, non eo minus vitæ et flammæ infestum redditur.

569. Animalia autem, quo calidioris sanguinis sunt, eo citius aëra quem spirant corrumpere, et oxygenium consumere, observantur; et quo perfectiorem respirationem habent, eo plus calere. Sic vermes, qui per spiracula in cute spirant, vix unum gradum thermometri Fahrenheitiani supra elementum quod habitant calent;

branchias duos ve tres gradus; amphibia quæ utuntur  
*(breathe by) gills two or three degrees; amphibia which use*  
 arbitrario pulmone paulo plus. Omnibus his est simplex cor,  
*a voluntary lung a little more. All these have a single heart,*  
 et pulmonalis arteria derivata ab aortâ, et spiritus,  
*and the pulmonary artery derived (given off) from the aorta, and the breath,*  
 qui tarde corrumpit aëra vel aquam ubi degunt, et sanguis  
*which slowly corrupts the air or water where they live, and the blood*  
 frigidus, saltem multo frigidior nostro. Calor quoque multorum,  
*cold, at least much colder than ours. The heat also of many,*  
 fortasse omnium animalium hujusmodi, variat plurimum secundum  
*perhaps of all animals of this class, varies very much according to*  
 calorem aquæ vel aëris in quo ipsa vivunt: ut experimenta,  
*the heat of the water or air in which they live: as the experiments,*  
 haud pauca, instituta a claro viro, Joanne Hunter, docent.  
*by no means few, instituted by a celebrated man, John Hunter, teach.*

570. Vero animalia, quotquot instruuntur duplici corde,  
*But, the animals, as many as are furnished with a double heart;*  
 totus sanguis quorum transit per pulmones priusquam redeat  
*the whole blood of whom passes through the lungs before that it returns*  
 iterum in aortam a venis cavis, quibus spiritus constans,  
*again into the aorta from the venæ cavæ, to whom the breathing is constant,*  
 onustus multo carbonico acido, potest ne intercludi quidem per  
*loaded with much carbonic acid, can not be interrupted even for*  
 breve spatium sine discrimine vitæ, omnia, ad unum,  
*a short time without danger of life, all, to one (without excep-*  
 tion) homo, quadrupedia, aves, genus cetæ, phocæ, sive  
*tion) man, quadrupeds, birds, the tribe of the whale, of the seal, whether*  
 habitant terras sive aquas, sunt calidi sanguinis: scilicet  
*they inhabit the land or the waters, are of warm blood: that is,*  
 calent circiter centum gradus, secundum instrumentum  
*they have a heat of about one hundred degrees, according to (of) the instrument*  
 jam dictum. Neque profecto calor horum variat multum,  
*already mentioned. Nor truly does the heat of these alter much,*  
 utcunque varius calor aquæ vel aëris quem habitant fuerit.  
*however altered the heat of the water or air which they inhabit shall be.*

571. Denique, quædam insecta spirantia, vel saltem multum et  
*Lastly, some insects breathing, or at least much and*  
 cito corrumpentia aëra, sunt ejusdem caloris: hoc est  
*speedily corrupting the air, are of the same temperature: this is*  
 præsertim verum de apibus, calor quarum singularum vix  
*especially true of bees, the temperature of which individuals is scarcely*

pisces, qui branchias agitant duos tresve gradus; amphibia, quæ arbitrario utuntur pulmone, paulo plus. His omnibus cor simplex est, et arteria pulmonalis ab aorta derivata, et spiritus qui aëra vel aquam ubi degunt tarde corrumpit, et sanguis frigidus, nostro saltem multo frigidior. Multorum quoque, fortasse omnium, hujusmodi animalium, calor plurimum variat, secundum calorem aquæ vel aëris in quo ipsa vivunt: ut docent experimenta haud pauca a claro viro Joanne Hunter instituta.

570. Animalia vero quotquot corde duplici instruuntur, quorum totus sanguis prius per pulmones transit quam a venis cavis in aortam

iterum redeat, quibus spiritus constans, multo acido carbonico onustus, ne quidem per breve spatium, sine vitæ discrimine, intercludi potest, ad unum omnia, homo, quadrupedia, aves, genus cetæ, phocæ, sive terras sive aquas habitant, calidi sanguinis sunt: calent scilicet centum circiter gradus, secundum instrumentum jam dictum. Neque profecto multum variat horum calor, utcunque varius fuerit calor aquæ vel aëris quem habitant.

571. Denique, insecta quædam spirantia, vel saltem aëra multum et cito corrumpentia, ejusdem caloris sunt: de apibus præsertim hoc verum est, quarum singularum calor vix explo-



explorandus; vero calor examinis earundem est vix minor  
*to be examined; but the heat of the swarm of the same is hardly less (inferior to) than the temperature of the human body.*

572. Vero hæc (sc. opinio) non secus ac aliæ opiniones  
*But this not otherwise than as the other opinions*  
 de ortu caloris animalium, non caret suis difficultatibus;  
*of the production of the heat of animals, does not want its own difficulties;*  
 quoniam hic calor semper est fere idem, sive aër qui  
*because this heat always is nearly the same, whether the air which*  
 circumdat et (is) quem trahimus, fuerit frigidissimus sive  
*surrounds and that which we breathe, (shall) be very cold or*  
 fervidissimus; scilicet, quo egemus majore subsidio caloris  
*very hot; that is, by what we require a greater supply of heat*  
 eo comparamus plus caloris nobismet; quo est opus  
*by that we provide more heat for ourselves; by what there is need*  
 minore eo gignimus minus. Quin et, quo calidior aër fuerit,  
*of a less by that we generate less, Moreover, the hotter the air (shall) be,*  
 et quo plus homo ipse caluerit eo frequentius et  
*and the more man himself shall become warm the more frequently and*  
 plenius reciprocatur spiritum.  
*fully he returns back the air (respires).*

573. Denique, sunt qui contendunt, totis viribus,  
*Lastly, there are they who contend, with all their main,*  
 corpus aliquando non modo gignere nullum calorem, sed,  
*that the body sometimes not only generates no heat, but,*  
 reverà, (gignere) frigus, et sic servare semet multo frigidius  
*in fact, (that it generates) cold, and thus keeps itself much cooler*  
 calido aëre qui circumdat; veluti si quis permanserit,  
*than the warm air which surrounds it; as if a person should remain,*  
 parum calefactus, haud exiguum spatium temporis in clibano aut  
*little heated, no short space of time in an oven or*  
 vaporario.  
*stove bath.*

574. Est non dubitandum, vaporationem tum a cute, sed  
*It is not to be doubted, that the evaporation as well from the skin, but*  
 multo magis ab pulmone ipso, multum temperare calorem  
*much more from the lung itself, greatly moderates the temperature*  
 corporis, quacunq; ratione is fuerit genitus: neque est in-  
*of the body, in whatever way it have been generated: nor is it in-*

randus; examinis earundem vero calor humani corporis calore vix minor est.

572. Hæc vero, non secus ac aliæ de ortu animalium caloris opiniones, suis difficultatibus non caret; quoniam hic calor semper fere idem est, sive aër qui circumdat, et quem trahimus, frigidissimus fuerit (570) sive fervidissimus; scilicet, quo majore caloris subsidio egemus, eo plus caloris nobismet comparamus; quo minore opus est, eo minus gignimus. Quin et quo calidior aër fuerit, et quo plus ipse homo caluerit, eo frequentius et plenius spiritum reciprocatur.

573. Denique, sunt qui totis viribus contendunt, corpus aliquando non modo nullum gignere calorem, sed revera frigus gignere, et sic semet multo frigidius servare aëre calido qui circumdat; veluti si quis spatium temporis haud exiguum in clibano, aut vaporario, parum calefactus permanserit.

574. Non est dubitandum, vaporationem tum a cute, sed multo magis ab ipso pulmone, calorem corporis, qua ratione cunq; is fuerit genitus, temperare multum; neque incredibile est, hanc vaporationem aliquando calorem re-

credibile hanc vaporationem aliquando plus quam compensare  
*credible that this evaporation sometimes more than compensates*

calorem genitum respirando, et itaque revera reddere corpus frigidius.  
*the heat produced by respiring, and thus in fact renders the body cooler.*

575. Tamen, oportet fateri multum adhuc requiri, ut hæc  
*However, it behoves us to confess that much as yet is required, that this*  
 opinio recipiatur pro certâ et stabilitâ doctrinâ. Sane multa  
*opinion be admitted as a certain and established doctrine. Truly many*  
 et pulcherrima experimenta instituta sunt nostris temporibus  
*and very beautiful experiments have been instituted in our own times*  
 de hac re, quæ faciant fidem chemicos tandem ingres-  
*upon this subject, which cause the belief that chemists at length have en-*  
 sos esse idoneam viam, quam nuper et olim mathematici et  
*tered upon the proper path, which lately and formerly mathematicians and*  
*physiologi quæsierant frustra, ut detegerent et patefacerent hoc*  
*physiologists had sought after in vain, to detect and lay open this*  
 arcanum Naturæ. Neque profecto mirum latissimum  
*secret of Nature. Nor indeed is it wonderful that this most extensive*  
 campum, adeo nuper patefactum, nondum esse ita explorata  
*field, so lately laid open, should not yet have been so far explored*  
 ut habeamus plenam notitiam ejûs.  
*that we should have a full knowledge of it.*

576. Fuerunt, et nuper et olim, multi qui crediderunt  
*There have been, both lately and formerly, many who believed*  
 sanguinem, calefactum alibi, potius frigescere in pulmone: enim  
*that the blood, heated elsewhere, rather grew cold in the lung: for*  
 aër, quem traxeramus frigidum, emissus spiritu calet.  
*the air, which we had drawn in cold, sent forth by the breath is warm.*

577. Medici scriptores quoque imposuerunt haud pauca alia officia  
*Medical writers also have assigned not a few other duties*  
 pulmوني; scilicet, fingendi et tornandi rubros globulos sanguinis,  
*to the lung; namely, of moulding and polishing the red globules of the blood,*  
 et hauriendi ab aëre multa necessaria ad vitam, imprimis  
*and of drawing in from the air many things necessary to life, especially*  
*oxygenium et similia. Vero nihil certi constat de his,*  
*oxygen and the like. But nothing certain is established upon these sub-*  
 habemus ne quidem multum verisimilis.  
*jects, we have not even much of probable (respecting them).*

578. Naturalis respiratio fere absolvitur hac lege, ut circiter  
*Natural respiration mostly is performed by this law, that about*  
 quatuor ictus cordis et arteriarum fiant tempore unius  
*four strokes of the heart and arteries are made in the time of one*

spirando genitum plus quam compensare, et corpus itaque revera frigidius reddere.

575. Tamen fateri oportet, multum adhuc requiri, ut hæc opinio pro certa et stabilitâ doctrinâ recipiatur. Multa sane et pulcherrima de hac re nostris temporibus instituta sunt experimenta, quæ fidem faciunt, *chemicos* tandem idoneam ingressos esse viam, quam frustra nuper et olim quæsierant mathematici et *physiologi*, ut hoc Naturæ arcanum detegerent et patefacerent. Neque profecto mirum, latissimum campum, adeo nuper patefactum, nondum ita exploratum esse, ut plenam ejus notitiam habeamus.

576. Multi et nuper et olim fuerunt, qui crediderunt potius sanguinem alibi calefactum in pulmone frigescere: calet enim aër spiritu emissus quem frigidum traxeramus.

577. Alia quoque officia haud pauca scriptores medici pulmوني imposuerunt; globulos scilicet rubros sanguinis fingendi et tornandi, multaque ad vitam necessaria, *oxygenium* imprimis, ab aëre hauriendi, et similia. De his vero nihil certi constat, ne quidem multum verisimilis habemus.

578. Respiratio naturalis hac fere lege absolvitur, ut quatuor circiter cordis et arteriarum ictus fiant tempore unius respirationis. Lucif-

respirationis. Pulsu incitato, spiritus plerumque fit  
*respiration. The pulse being quickened, the breathing generally becomes*  
 celerior, temperato, tardior (fit). Sed talis convenientia non  
*quicker, being moderated, slower. But such a correspondence is not*  
 semper observatur: enim spiritus est non adeo celer in infantibus,  
*always observed: for the breathing is not so quick in infants,*  
 quibus est pulsus velocissimus: idem nonnunquam observatur  
*who have the pulse very quick: the same thing sometimes is observed*  
 in febribus. Vero in difficill et laboriosâ respiracione, duodecim  
*in fevers. But in difficult and laborious respiration, twelve*  
 pulsus et amplius aliquando observantur (in) tempore unius  
*pulsations and more sometimes are observed in the time of one*  
 respirationis. Quin et, possumus facile efficere, imperio solo  
*respiration. Moreover, we can easily effect, by the control alone*  
 voluntatis, ut pulsus fiant plures triplo vel quadruplo  
*of the will, that the pulsations be made more (exceed) by triple or quadruple*  
 solito, antequam reciprocemus spiritum. Vero urinatores, ut ferunt,  
*than usual, before that we reciprocate the breath. But divers, as they say,*  
 discunt cohibere suum spiritum fere decies diutius quam alii  
*learn to restrain their breathing almost ten times longer than other*  
 homines.  
*persons.*

579. Habemus imperium in omnes musculos respirationis, quippe  
*We have control over all the mudes of respiration, as being*  
 qui inserviant variis usibus præterquam spiritui.  
*what serve for various uses besides the breathing.*

580. Igitur, imprimis, omne animal cui pulmo datur,  
*Therefore, in the first place, every animal to which a lung is given,*  
 edit vocem, quâ exprimat suas varias  
*utters a word (is gifted with voice), by which it can express its various*  
 cupiditates, que alios affectus animi. Vero hæc fit aëre  
*desires, and other affections of its mind. But this is caused by the air*  
 transeunte per glottidem, nunc magis nunc minus constrictam, tantâ  
*passing through the glottis, now more now less constricted, with so much*  
 vi, ut conjiciat cartilagine et ligamenta laryngis in tremores,  
*force, as to throw the cartilages and ligaments of the larynx into tremors,*  
 quales faciunt sonum, et quorum aër ipse fiat particeps.  
*such as cause a sound, and of which the air itself becomes a partaker.*

Vox quoque fit fortior, clarior, gratior, dum transit  
*The voice also becomes stronger, louder, more agreeable, while it passes*  
 per os et nares, ossa quarum partium et cartilagine  
*through the mouth and nose, the bones of which parts and the cartilages*

tato pulsu, celerior plerumque fit spiritus, temperato tardior. Sed non semper talis convenientia observatur: in infantibus enim, quibus pulsus velocissimus est, spiritus non adeo celer: idem in febribus nonnunquam observatur. In respiracione vero difficili et laboriosa, pulsus aliquando duodecim et amplius observantur tempore unius respirationis. Quin et solo voluntatis imperio facile efficere possumus, ut pulsus triplo vel quadruplo plures solito fiant, antequam spiritum reciprocemus. Urinatores vero, ut ferunt, decies fere diutius, quam alii homines, spiritum suum cohibere discunt.

579. Imperium in omnes respirationis musculos habemus, quippe qui variis usibus, præterquam spiritui, inserviant (331, 334, 556).

580. Imprimis igitur omne animal cui pulmo datur vocem edit, qua varias suas cupiditates, aliosque animi affectus, exprimat. Hæc vero fit transeunte aëre per glottidem, nunc magis nunc minus constrictam, tanta vi, ut cartilagine et ligamenta laryngis in tremores conjiciat, quales sonum faciunt, et quorum aër ipsa particeps fit. Vox quoque fortior, clarior, gratior fit, dum per os et nares transit, quarum partium ossa, et cartilagine, membranæque

que demum membranæ ipsæ juvant, sono quem  
*and even the membranes themselves assist, by the sound which*  
 acceperant repercusso et aucto. Vox insuper, variat,  
*they had received being reverberated and increased. The voice moreover, varies,*  
 non modo secundum variam aperturam glottidis, sed prout  
*not only according to the varied aperture of the glottis, but according as*  
 tota larynx fuerit strictior vel laxior, depressa vel elevata :  
*the whole larynx shall be more constricted or lax, depressed or elevated :*  
 et plurimi minuti muscoli conspirant in hos fines. Fabrica  
*and many minute muscles conspire for these purposes. The mechanism*  
 partium ipsarum explorata per scalpellum, et quidem visus et  
*of the parts themselves explored by the scalpel, and indeed the sight and*  
 tactus gutturis vel nasi dum aliquis edit vocem, et  
*touch of the throat or nose whilst any one utters words (speaks), and*  
 vox ipsa corrupta variis et miris modis, propter  
*the voice itself corrupted in various and wonderful ways, on account of*  
 quæ dicta sunt vitia partium, docent omnia hæc.  
*what have been named disorders of the parts, shew all these things.*

581. Loquela datur homini soli, quippe qui solus noverit  
*Speech is given to man alone, as being who alone would (have)*  
 uti mirabili dono. Profecto, multa animalia didicerunt  
*know how to use the admirable gift. Indeed, many animals have learned*  
 loqui, vero nulla uti loquelâ; scilicet, quia mens deest.  
*to speak, but none to use speech; that is, because the mind is wanting.*  
 Loquela fit ope linguæ, labiorum, gingivarum, dentium,  
*Speech is effected by means of the tongue, of the lips, gums, teeth,*  
 vell penduli palati, ossis palati et nasi, et demum  
*velum pendulum palati, the bone of the palate and of the nose, and lastly*  
 gutturis conspirantium variis modis; quâ machinatione tandem,  
*of the throat contributing in various ways; by which mechanism at length,*  
 vox, interrupta et mutata, formatur in distinctas literas seu  
*the voice, interrupted and changed, is formed into distinct letters or*  
 elementa; discimus has primâ ætate, quasi per instinctum et  
*elements; we learn these at the first age, as it were by instinct and*  
 imitationem, nedum conscii laboris, nec modi quo  
*imitation, (while) not yet conscious of the labour, nor of the manner in which*  
 efficimus singulas literas.  
*we form (articulate) single letters.*

582. Vero ratio proferendæ uniuscujusque literæ, et machinatio  
*But the method of pronouncing every single letter, and the mechanism*  
 partium quâ formatur, sunt detectæ sedulâ observatione,  
*of the parts by which it is formed, have been detected by sedulous observation,*

demum ipsæ, juvant, sono quem acceperant repercusso et aucto. Variat insuper vox non modo secundum variam glottidis aperturam, sed prout larynx tota strictior vel laxior, depressa vel elevata fuerit: et in hos varios fines plurimi minuti muscoli conspirant. Hæc omnia plane docent ipsarum partium fabrica per scalpellum explorata, et quidem visus et tactus gutturis vel nasi dum vocem edit aliquis, et vox ipsa variis et miris modis corrupta, propter vitia quæ dicta sunt partium.

581. Soli homini loquela datur, quippe qui solus mirabili dono uti noverit. Multa pro-

fecto animalia loqui didicerunt, nulla vero loquela uti; scilicet quia mens deest. Fit autem loquela ope linguæ, labiorum, gingivarum, dentium, veli penduli palati, ossis palati, et nasi, et demum gutturis, variis modis conspirantium; qua tandem machinatione, vox interrupta et mutata, in literas distinctas seu elementa formatur: has prima ætate per instinctum quasi et imitationem discimus, nedum laboris conscii, nec modi quo singulas literas efficimus.

582. Uniuscujusque vero literæ ratio proferendæ, et machinatio partium qua formatur,

neque tantus labor fuit prorsus inutilis humano generi: enim  
*nor has so great labour been wholly useless to the human race: for*  
 docemur corrigere varia vitia loquelæ hac notitiâ.  
*we are taught to correct the various disorders of speech by this knowledge.*  
 Immo, sunt quibus est unum opus docere mutos  
*Nay, there are those to whom it is the sole labour to teach the dumb*  
 sermonem. Plerique hi nascuntur tantum surdi, non manci aut  
*speech. Most (of) these are born only deaf, not deficient or*  
 imperfecti organis loquelæ: nec possunt imitari voces quas  
*imperfect in the organs of speech: nor can they imitate words which*  
 nunquam noverint existere. Quin et, pueri jam loquentes, si  
*they never knew to have existed. Moreover, children already speaking, if*  
 fiunt surdi, quovis casu, solent obmutescere. Vero  
*they become deaf, by any accident, are accustomed to become dumb. But*  
 nunc utrique, sive facti sunt surdi et ideo muti naturâ  
*now both, whether they have become deaf and therefore dumb by nature*  
 sive morbo, tactu et visu organorum loquelæ dum  
*or by disease, by the touch and sight of the organs of speech whilst*  
 aliquis loquitur, discunt distinguere et tandem proferre  
*some one is speaking, learn to distinguish and at length to pronounce*  
 literas suis organis: revera opus plenum tædii, sed  
*letters with their own organs: truly a work full of weariness, but*  
 præmium nobile.  
*the reward noble.*

583. Præterea, musculi respirationis opitulantur variis actionibus  
*Besides, the muscles of respiration assist the various actions*  
 viscerum abdominis. Videntur promovere motum sanguinis  
*of the viscera of the abdomen. They seem to promote the circulation of the blood*  
 per abdomen ipsum, et præsertim jecur, alterno et  
*through the abdomen itself, and especially the liver, by the alternate and*  
 valido motu quo sæpe agitantur. Vero transverso septo  
*powerful motion by which they often are agitated. But the transverse septum*  
 et musculis abdominis simul contractis, totum  
*and muscles of the abdomen being at the same time contracted, the whole*  
 abdomen, et quicquid est in eo, comprimuntur veluti in prelo.  
*abdomen, and whatever is in it, are compressed as if in a press:*  
 Plerumque est opus his viribus ad evacuandam alvum  
*For the most part there is need of these powers to evacuate the belly*  
 et reddendam urinam (imprimis ad superandum renixum qui  
*and to void the urine (especially to overcome the resistance which*  
 oritur a musculis claudentibus ostium vesicæ et anum;  
*arises from the muscles shutting up the mouth of the bladder and the anus:*

sedula observatione detectæ sunt; neque tantus labor generi humano prorsus inutilis fuit: hac enim notitia varia loquelæ vitia corrigere docemur. Immo sunt quibus unum opus est sermonem mutos docere. Hi plerique surdi tantum, non organis loquelæ manci aut imperfecti, nascuntur: nec voces possunt imitari, quas nunquam noverint existere. Quin et pueri jam loquentes, si casu quovis surdi fiunt, obmutescere solent. Nunc vero utrique, sive natura sive morbo surdi et ideo muti facti sunt, tactu et visu organorum loquelæ, dum loquitur aliquis, discunt literas distinguere, et tandem

suis organis proferre: opus revera tædii plenum, sed nobile præmium.

583. Opitulantur præterea respirationis musculi variis actionibus viscerum abdominis. Ipsum per abdomen, et jecur præsertim, sanguinis motum promovere videntur, alterno et valido sæpe quo agitantur motu. Contractis vero septo transverso simul et musculis abdominis, abdomen totum, et quicquid in eo est, veluti in prelo comprimuntur. His viribus plerumque opus est ad alvum evacuandam et urinam reddendam (imprimis ad superandum renixum qui a musculis ostium vesicæ et anum

enim hoc (renixu) superato, contrahens vis intestinorum et vesicæ  
*for this being overcome, the contracting power of the intestines and bladder*  
 sufficit ad expellendum urinam et sterces;) promovent partum  
*suffices to expel the urine and fæces;) they promote parturition*  
 pari ratione, et conspirant cum ventriculo male affecto et  
*for a similar reason, also concur with the stomach badly affected and*  
 jam nauseante, et faciunt vomitum.  
*now nauseated, and cause vomiting.*

584. Præterea inspiratio, quatenus distendat thoracem, si spiritus  
*Moreover inspiration, inasmuch as it distends the thorax, if the breathing*  
 reprimitur, figit humeros et dorsum et cervicem, et sic dat  
*is restrained, fixes the shoulders and back and neck, and thus affords*  
 firmiter fundamentum validissimis musculis trunci et  
*a steadier basis (fulcrum) to the most powerful muscles of the trunk and*  
 brachiorum, quale requiritur in omne majore nisu.  
*arms, such as is required in every more powerful effort.*

585. Denique, quædam affectiones respirationis nedum morbidæ,  
*Lastly, certain affections of respiration not quite morbid,*  
 indicant statum tum animi tum corporis, que id homine  
*point out the state as well of the mind as of the body, and that the person*  
 sæpe inscio aut nolente.  
*often being unconscious or unwilling.*

586. Plena exspiratio, facta tantâ vi ut feriat aures  
*A deep expiration, made with so much force as to strike the ears*  
 astantium, dicitur suspirium. Præter solitum vehemens et  
*of the bystanders, is called sighing. An unusually strong and*  
 plena inspiratio sæpe præcedit. Fit propter sanguinem male  
*full inspiration often precedes. It arises on account of the blood badly*  
 expeditum per pulmonem, ob debiliorem actionem  
*dispatched (difficultly passed) through the lung, because of the weaker action*  
 cordis que aliarum moventium virium. Hinc comitatur multos  
*of the heart and other moving powers. Hence it accompanies many*  
 morbos; tamen familiare sanis, viribus exhaustis  
*diseases; nevertheless common to the healthy, the strength being exhausted*  
 longâ vigillâ, aut nimio labore. Demum, est sæpe index  
*by long watching, or by excessive labour. In fine, it is often an index*  
 animi, quatenus ducat originem a mœstitiâ, vel metu, vel  
*of the mind, so far as it may derive its origin from grief, or fear, or*  
 quovis graviore affectu frangente vires corporis.  
*any more severe passion breaking down the strength of the body.*

claudentibus oritur; hoc enim superato, vis contrahens intestinorum et vesicæ sufficit ad urinam et sterces expellendum; pari ratione partum promovent, et cum ventriculo male affecto et jam nauseante conspirant, et vomitum faciunt.

584. Inspiratio præterea, quatenus thoracem distendat, si spiritus reprimitur, humeros, et dorsum, et cervicem, figit, et sic firmiter fundamentum dat musculis trunci et brachiorum validissimis, quale in omni majore nisu requiritur.

585. Denique, affectiones quædam respirationis, nedum morbidæ, statum tum animi tum

corporis indicant, idque sæpe inscio aut nolente homine.

586. Suspirium dicitur plena exspiratio tanta vi facta, ut aures astantium feriat. Præcedit sæpe inspiratio præter solitum vehemens et plena. Fit propter sanguinem per pulmonem male expeditum, ob debiliorem cordis aliarumque virium moventium actionem. Hinc multos morbos comitatur; sanis tamen familiare, exhaustis viribus longa vigilia aut nimio labore. Animi demum index sæpe est, quatenus a mœstitiâ, vel metu, vel graviore quovis affectu corporis vires frangente, originem ducat.

587. Oscitatio est quodammodo affinis huic, quantum oriatur a  
*Yawning is in some degree akin to it, so far as it arises from*  
 languidiore motu sanguinis per pulmones; ita ut alterum  
*the more languid motion of the blood through the lungs; so that the one*  
 (suspirium) possit, non indecore, substitui pro altera (oscitatione).  
*may, not unbecomingly, be substituted for the other.*

Oscitatio est ingens, plena, sonora inspiratio, facta ore  
*Yawning is a large, full, sonorous inspiration, made with the mouth*  
 hiante, quam (sc. inspir.) æqua exspiratio solet excipere, et  
*gaping, which an equal expiration is accustomed to succeed, and*  
 valida extensio omnium artuum interdum comitatur, quæ solet  
*a powerful extension of all the limbs sometimes accompanies, which is used*  
 vocari *pandiculatio*. Affectio familiaris esurientibus, somniculosis,  
*to be called pandiculation. An affection common to the hungry, drowsy,*  
 exhaustis labore et vigiliis; frequens *hystericis*, et  
*those exhausted by labour and watchings; frequent in hysterical persons, and*  
 sæpe propagata, etiam inter sanissimos, in mirum modum,  
*often propagated, even amongst the most healthy, in a wonderful manner,*  
 contagio seu imitatione.  
*by contagion or imitation.*

588. Risus est plena inspiratio, cui repetitæ, interruptæ, et  
*Laughter is a full inspiration, to which repeated, interrupted, and*  
 valde sonoræ expirationes succedunt, adeo ut spiritus nonnunquam  
*very loud expirations succeed, so that the breath sometimes*  
 fere intercludatur, vel vasa pulmonis vehentia sanguinem  
*is nearly stopped, or the vessels of the lungs carrying blood*  
 distenta ultra modum, demum rumpantur, non sine periculo  
*distended beyond bounds, at length are ruptured, not without the danger*  
 suffocationis. Nascitur, plerumque, ab aliqua nova, levi, grata,  
*of suffocation. It arises, generally, from some new, slight, agreeable,*  
 ludicra, ægre definienda affectione animi; vel a titillatione  
*ludicrous, difficultly to be defined affection of the mind; or from the tickling*  
 quarundam partium corporis, quæ habent acriorem sensum.  
*of certain parts of the body, which have a more acute sensibility.*  
 Vehemens, non caret periculo: modicus, habetur saluberrimus;  
*Violent, it is not free from danger: moderate, it is considered very salutary;*  
 enim grate promovet cursum sanguinis, et quatit que excitat  
*for it agreeably promotes the course of the blood, and shakes and excites*  
 totum corpus; quod forsitan nec minus pertinet ad rem,  
*the whole body; and what perhaps does not less relate to the matter,*

587. Huic quodammodo affinis est Oscitatio, quantum a languidiore sanguinis motu per pulmones oriatur; ita ut alterum pro altera non indecore substitui possit. Oscitatio est ingens, plena, sonora inspiratio, hiante ore facta, quam æqua exspiratio solet excipere, et interdum omnium artuum valida extensio comitatur, quæ *pandiculatio* vocari solet. Affectio esurientibus, somniculosis, labore et vigiliis exhaustis, familiaris; *hystericis* frequens, et inter sanissimos etiam contagio seu imitatione (351) mirum sæpe in modum propagata.

interruptæ, et valde sonoræ expirationes succedunt, adeo ut spiritus nonnunquam fere intercludatur, vel vasa sanguinem vehentia pulmonis ultra modum distenta demum rumpantur, non sine suffocationis periculo. Nascitur plerumque ab animi affectione aliqua nova, levi, grata, ludicra, ægre definienda; vel a titillatione partium corporis quarundam, quæ acriorem sensum habent. Vehemens periculo non caret; modicus saluberrimus habetur; cursum enim sanguinis grate promovet, et totum corpus quatit excitatque; nec minus forsitan ad rem pertinet, quod mentem graviori-

denotat mentem (esse) vacuam gravioribus curis. Hilaris  
*it shews the mind to be free from the more weighty cares. A cheerful*  
 vultus, haud facile depingendus, comitatur risum.  
*countenance, not easily to be described, accompanies laughter.*

589. Fletus, oppositus huic, si spectamus excitantes causas, differt  
*Weeping, opposite to this, if we look to the exciting causes, differs*

parum machinatione partium quâ (machinatione) fit.  
*little in the mechanism of the parts by which it is caused.*

Plena inspiratio quoque contingit huic, et breves, fractæ, sonoræ  
*A full inspiration also belongs to this, and short, broken, sonorous*

expirations, cum editâ, querulâ, atque ingrâtâ voce. Vultus  
*expirations, with a lofty, querulous, and disagreeable voice. The countenance*

est simul tristis, et lachrymæ effunduntur. Plerumque oritur  
*is at the same time sorrowful, and tears are shed. It generally arises*

ab aliquo gravi affectu animi, imprimis mœrore, que solet  
*from some depressing affection of the mind, especially grief, and is accustomed*

multum levare eundem: saltem præcavere, quam optime,  
*greatly to relieve the same: at least to provide against, in the best manner possible,*

pericula instantia a tali affectu animi. Infantes quoque  
*the dangers impending from such an affection of the mind. Infants also*

sæpe flent, a dolore corporis. Est raro periculosus, nisi  
*often weep, from pain of the body. It is seldom dangerous, unless*

aliquando infantibus, quibus et risus et fletus, a levissimis  
*sometimes to infants, to whom both laughing and weeping, from the slightest*

causis, sunt vehementiores quam adultis. Uterque (est) frequentissimus  
*causes, are more violent than to adults. Both is very frequent*

et immodicus hysteriis, non tamen, ut videtur, sine  
*and immoderate to hysterical persons, not however, as it appears, without*

aliquâ causâ, verâ vel imaginariâ, quamvis sæpe nolint fateri  
*some cause, real or imaginary, although they often are unwilling to confess*

hanc causam. Uterque (est) proprius homini, fortasse quia oritur  
*this cause. Both is peculiar to man, perhaps because it arises*

ab affectionibus animi, quolibet belluæ carent.  
*from affections of the mind, such as brutes want.*

590. Singultus, forsitan, est annumerandus his, quippe qui  
*Hiccup, perhaps, ought to be reckoned with these, as being that which*

sæpe accidat utentibus integrâ valetudine, veluti si secutus  
*often happens to those enjoying sound health, as when it has*

fuerit immodicum risum; quamvis sæpe etiam sit morbidus, et  
*followed immoderate laughter; although often also it is morbid, and*

in quibusdam morbis signum pessimi ominis. Vero est nihil  
*in some diseases a symptom of the worst omen. But it is nothing*

bus curis vacuam denotat. Risum comitatur vultus hilaris, verbis haud facile depingendus.

589. Fletus huic oppositus, si causas excitantes spectamus, machinatione partium qua fit parum differt; huic quoque plena inspiratio contingit, et breves, fractæ, sonoræ expirations, cum voce editâ querula atque ingrata. Vultus simul tristis est, et lachrymæ effunduntur. Ab aliquo gravi animi affectu, imprimis mœrore, plerumque oritur, eundemque multum levare solet: saltem pericula a tali animi affectu instantia (61, 346) quam optime præcavere. Infantes quoque a dolore corporis sæpe flent. Raro periculosus est, nisi aliquando in-

fantibus, quibus et risus et fletus a levissimis causis vehementiores sunt quam adultis. Uterque hysteriis frequentissimus, et immodicus, non tamen, ut videtur, sine causa aliqua, verâ vel imaginaria, quamvis causam hanc sæpe nolint fateri. Uterque homini proprius, fortasse quia ab animi affectionibus oritur, quolibet belluæ carent.

590. Singultus forsitan his annumerandus est, quippe qui sæpe integra valetudine utentibus accidat, veluti si risum immodicum secutus fuerit; quamvis sæpe etiam morbidus sit, et in quibusdam morbis pessimi ominis signum. Est vero nihil aliud quam subita et sonora convulsio



aliud quam subita et sonora convulsio transversi septi;  
*else than a sudden and loud convulsion of the transverse septum;*

ventriculus quoque, ut videtur, aliquando convellitur; frequentissima  
*the stomach also, as it appears, is sometimes convulsed; the more frequent*

causa ejûs, (præter (quod) jam dictum (est), scilicet,  
*cause of it, (besides what already has been mentioned, namely,*

vehementem actionem transversi septi,) est aliquod irritamentum  
*the violent action of the transverse septum,) is some irritation*

afficiens ventriculum: distentio sola ejûs sæpe inducit singultum;  
*affecting the stomach: distention alone of it often brings on hiccup;*

hinc familiarem ebriosis, aut gravibus crapulâ.  
*hence common to drunken persons, or those oppressed by a surfeit.*

Solet comitari inflammationem et gangrænam ventriculi  
*It is accustomed to accompany inflammation and gangrene of the stomach*

vel intestinorum. Sæpe observatur importunissimus a debilitate,  
*or of the intestines. Often it is observed very troublesome from debility,*

sub finem longorum morborum, aut in paralyti. Sæpe,  
*towards the end of long (protracted) diseases, or in paralysis. Often,*

post calculum exsectum ex vesicâ, si curatio est  
*after a calculus having been cut out from the bladder, if the cure (operation) is*

cessura male. Interdum quoque, pergens diu,  
*about to fall out (terminate) badly. Sometimes also, going on for a long time,*

insidet corpori quasi per aliquam consuetudinem, sistendus  
*it settles in the body as if by some habituation, to be stopped*

difficillime. Autem ratio singultûs est sæpe valde obscura.  
*most difficultly. But the cause of hiccup is often very obscure.*

591. Quin et, respiratio sæpissime impeditur plus minus, insigni  
*Moreover, respiration very often is impeded more (or) less, to the great*

incommodo ægrotantis, nec raro periculo.  
*inconvenience of the sick, nor unfrequently danger.*

592. Malum vocatur apud medicos *Dyspnœa*, siquando spiritus  
*The disorder is called by physicians Dyspnœa, whenever the breath*

trahitur difficilium, laboriose, neque plene, neque sine dolore;  
*is drawn more difficultly, laboriously, nor fully, nor without pain;*

perfecto frequentissimum vitium, que comes et pars multorum  
*truly a very frequent disorder, and an attendant and part of many*

morborum.  
*diseases.*

593. Agnoscit varias causas propter multa organa quæ  
*It acknowledges various causes on account of the many organs which*

inserviunt respirationi, que (propter) eadem connexa cum aliis partibus,  
*subserve to respiration, and the same being connected with other parts,*

septi transversi: ventriculus quoque, ut videtur, aliquando convellitur; frequentissima ejus causa (præter jam dictam, vehementem scilicet septi transversi actionem) est irritamentum quodvis ventriculum afficiens: distentio ejus sola singultum sæpe inducit: hinc ebriosis aut crapula gravibus familiarem. Ventriculi vel intestinorum inflammationem et gangrænam comitari solet. Sæpe a debilitate, sub finem longorum morborum, aut in paralyti, sæpe post exsectum calculum ex vesica, si male cessura est curatio, observatur importunissimus. Interdum quoque diu pergens, quasi per con-

suetudinem aliquam (369, 386, 387,) corpori insidet difficillime sistendus. Singultus autem ratio sæpe valde obscura est.

591. Quin et sæpissime respiratio variis morbis plus minus impeditur, insigni ægrotantis incommodo, nec raro periculo.

592. *Dyspnœa* apud medicos vocatur malum, siquando spiritus difficilium, laboriose, neque plene, neque sine dolore, trahitur: vitium perfectio frequentissimum, multorumque morborum comes et pars.

593. Varias agnoscit causas, propter multa organa quæ respirationi inserviunt, eademque

et demum propter multas externas res, imprimis qualitates  
*and lastly on account of many external things, especially the qualities*  
 aëris, densitatem, raritatem, calorem, &c. quæ possunt cor-  
*of the air, density, rarefaction, heat, &c. which may be cor-*  
 rumpi variis modis.  
*rupted in various ways.*

594. Igitur respiratio impeditur, homine prorsus sano, multis  
*Therefore respiration is impeded, the person being quite healthy, by many*  
 vitiis aëris ipsiûs; veluti nimiâ, præsertim subitâ, levitate,  
*faults of the air itself; as by excessive, especially sudden, levity,*  
 raritate, humiditate, impuritate, corruptione, imprimis si fuerit onustus  
*rarefaction, humidity, impurity, corruption, especially if it should be loaded*  
 noxiis et acribus, aut venenatis vaporibus, vis quorum  
*with noxious and acrid, or poisoned vapours, the influence of which*  
 est nonnunquam tanta, ut non modo impediunt respirationem,  
*is sometimes so great, as (that they) not only (to) impede respiration,*  
 sed brevi extinguant vitam ipsam.  
*but quickly extinguish life itself.*

595. Porro variæ obstructiones, sive a mero tumore sive ab  
*Moreover various obstructions, whether from mere tumour or from*  
 inflammatione, sive contractione oris, narium, gutturis, glottidis,  
*inflammation, or contraction of the mouth, nostrils, throat, glottis,*  
 asperæ arteriæ, bronchiorum, quæ claudant, aliquo modo, vias  
*aspera arteria, bronchia, which may close, in any way, the passages*  
 quas aër debet subire, impediunt respirationem.  
*which the air ought to enter, impede respiration.*

596. Impeditur quoque omni vitio pulmonis, inflammati,  
*It is impeded also by every disease of the lung, being inflamed,*  
 obstructi tumoribus, inundati multâ aquâ, muco, sero, sanguine,  
*obstructed by tumours, inundated with much water, mucus, serum, blood,*  
 neque dilatato ut decet.  
*and not dilated as it ought.*

597. Vero pulmone sano et omnibus viis liberis,  
*But the lung being sound and all the passages being free,*  
 quibus itur, (impersonaliter) ad eum, thorax ipse oppletus aquâ,  
*by which it is gone, (there is access) to it, the thorax itself filled with water,*  
 sanguine pure, aëre ipso admisso per vulnus impedi-  
*blood, pure, the air itself being admitted through a wound will hinder*  
 amplificationem pulmonis et ideo respirationem. Vulnus vel unius  
*the enlargement of the lung and therefore respiration. A wound even of one*  
 lateris thoracis (tunc nimirum aliâ via, patente  
*side of the thorax (then truly another way, being open*

cum aliis partibus connexa, et demum propter multas externas res, aëris imprimis qualitates, densitatem, raritatem, calorem, &c. quæ variis modis corrumpi possunt.

594. Igitur impeditur respiratio, sano prorsus homine, multis vitiis aëris ipsius: veluti nimia, præsertim subita, levitate, raritate, humiditate, impuritate, corruptione, imprimis si vaporibus noxiis, et acribus, aut venenatis, onustus fuerit: quorum nonnunquam tanta vis est, ut non modo respirationem impediunt, sed vitam ipsam brevi extinguant (54).

595. Porro, obstructiones variæ, sive a mero tumore, sive ab inflammatione, sive contrac-

tionem, oris, narium, gutturis, glottidis, asperæ arteriæ, bronchiorum, quæ vias quas aër subire debet aliquo modo claudant, respirationem impediunt.

596. Impeditur quoque omni vitio pulmonis, inflammati, tumoribus obstructi, inundati multa aqua, muco, sero, sanguine, neque ut decet dilatato.

597. Sano vero pulmone, et liberis omnibus viis quibus ad eum itur, thorax ipse oppletus aqua, sanguine, pure, aëre ipso per vulnus admissio, pulmonis amplificationem, et ideo respirationem impediunt. Vulnus vel unius lateris thoracis (alia tunc nimirum aëri patente via,

aëri, si thorax ampliatur, quam per asperam arteriam) to the air, if the thorax be enlarged, than through the aspera arteria) impedit respirationem; vero vulnus utriusque lateris brevi supprimit impedes respiration; but a wound of both sides quickly suppresses eandem. the same.

598. Multiplicia vitia quoque organorum quæ ampliant pectus, The manifold disorders also of the organs which enlarge the chest, debilitas, paralysis, spasmus, inflammatio, dolor, rigiditas transversi debility, paralysis, spasm, inflammation, pain, rigidity of the transverse septi, aut musculorum abdominis, aut eorum qui jacent septum, or of the muscles of the abdomen, or of those which lie inter costas, reddent respirationem imperfectam et difficilem. Quin et, between the ribs, will render respiration imperfect and difficult. Moreover, moventibus organis ipsis sanis, actio eorum impedita quovis the moving organs themselves being sound, the action of them impeded in any modo, quo pectus minus amplietur, [faciet difficilem way, by which the chest may not be so well enlarged, will cause difficult respirationem: veluti costæ factæ rigidæ, movendæ ægre, vel respiration; as when the ribs become rigid, are to be moved difficultly, or descensus transversi septi impeditus propter aquam, aut the descent of the transverse septum is hindered on account of water, or aëra, aut cibum, aut potum, aut fœtum, distendentia abdomen vel air, or food, or drink, or the fœtus, distending the abdomen or uterum, vel intestina, vel ventriculum, ve auctam molem cujusvis uterus, or intestines, or stomach, or the increased bulk of any visceris, vel demum omnia prementia sursum plus justo; hinc viscus, or lastly all pressing upwards more than proper; hence fere omnis difficultas spirandi gravior ægro decumbenti. almost every difficulty of breathing more severe to the patient lying down.

599. Denique, organa respirationis, tum magni musculi tum quoque, Lastly, the organs of respiration, as well the great muscle as also, ut videtur, minutissimæ fibræ quibus bronchia instruuntur, as it appears, the minutest fibres with which the bronchia are furnished, vel interdum rapta in abnormes motus, convelluntur, per consensum either sometimes hurried into irregular motions, are convulsed, by consent cum aliis partibus, imprimis ventriculo, vel ægre valent ad solitos with other parts, especially the stomach, or hardly are able for the usual motus: unde respiratio impedita. motions: from whence respiration (is) impeded.

600. Postremo, sanguis ipse, transmissus ægrius per In fine, the blood itself, transmitted with more difficulty through

si thorax ampliatur, quam per asperam arteriam) respirationem impedit: utriusque vero lateris vulnus eandem brevi supprimit.

598. Vitia quoque multiplicia organorum quæ pectus ampliant, debilitas, paralysis, spasmus, inflammatio, dolor, rigiditas, septi transversi, aut musculorum abdominis, aut eorum qui inter costas jacent, respirationem imperfectam et difficilem reddent. Quin et, sanis ipsis organis moventibus, actio eorum quovis modo impedita, quo minus pectus amplietur, respirationem faciet difficilem: veluti costæ rigidæ factæ, ægre, movendæ, vel descensus septi transversi impeditus, propter aquam, aut aëra,

aut cibum, aut potum, aut fœtum, abdomen vel uterum, vel intestina, vel ventriculum, distendentia, auctamve visceris cujusvis molem, vel demum omnia plus justo sursum prementia: hinc gravior fere omnis spirandi difficultas decumbenti ægro.

599. Denique, organa respirationis, tum magni musculi, tum quoque ut videtur, fibræ minutissimæ, quibus bronchia instruuntur, per consensum cum aliis partibus, ventriculo imprimis, vel convelluntur interdum in motus abnormes rapta, vel ad solitos motus ægre valent: unde impedita respiratio.

600. Postremo, sanguis ipse per pulmones

pulmones, vel a vitio, puta fabricâ organorum  
*the lungs, either from disorder, for instance, from the structure of the organs*  
 quæ movent eum læsâ, vel a debilitate moventium  
*which move it being injured, or from debility of the moving*  
 virium, sæpe facit spiritum difficilem et laboriosum, qualis  
*powers, often renders the breathing difficult and laborious, such as*  
 solet accidere moribundis.  
*is accustomed to happen to persons dying.*

601. Tot tamque diversis causis impeditæ respiratiõis bene  
*The many and so different causes of impeded respiration being clearly*  
 perspectis, (quarum aliæ invicem inducunt que intendunt alias) ratio  
*understood, (of which some by turns bring on and increase others) the reason*  
 erit in promptu, cur malum (est) adeo frequens, cur comes  
*will be at hand, why the disorder (is) so frequent, why the attendant*  
 et signum tot morborum, cur sæpe malum nervosi  
*and sign of so many diseases, why often (it is) a disorder of the nervous*  
 generis, cur nunc leve et fugax, nunc grave et  
*system, why one time (it is) slight and transient, at another severe and*  
 insanabile, aliquando hæreditarium, aliquando plenum periculi, et  
*incurable, sometimes hereditary, sometimes full of danger, and*  
 subito lethale, vero nonnunquam vacuum periculo; cur sæpe recurrat  
*suddenly fatal, but sometimes devoid of danger; why it often recurs*  
 per intervalla; cur inductum calore et validâ exercitatione  
*at intervals; why (it is) brought on by heat and strong exercise*  
 corporis, vero sublevatum modicâ exercitatione, ingravescens plenitudine,  
*of the body, but relieved by moderate exercise, increasing by plethora,*  
 sæpe fugatum, vel saltem factum mitius, sanguine detracto e  
*often removed, or at least rendered milder, by blood being drawn from*  
 venis.  
*the veins.*

602. Impedita respiratio, qualiscunque demum fuerit causa  
*Impeded respiration, whatever at length may have been the cause*  
 ejûs, plus ve minus impedit motum sanguinis: et simul  
*of it, more or less impedes the motion of the blood: and at the same time*  
 obest quodammodo expulsioni noxiæ materiæ e pulmone, et  
*obstructs in some manner the expulsion of noxious matter from the lung, and*  
 isti salutari et necessariæ mutationi sanguinis quæ fiunt per  
*that salutary and necessary change of the blood which are caused by*  
 naturalem spiritum: hinc generalis debilitas, variæ impeditæ functiones,  
*natural breathing: hence general debility, various impeded functions,*  
 et multi morbi, imprimis hydropici generis. Pulmo quoque  
*and many diseases, especially of the dropsical kind. The lung also*

sæpius transmissus, vel a vitio, puta læsa fabrica, organorum quæ eum movent, vel a virium moventium debilitate, spiritum sæpe facit difficilem et laboriosum, qualis moribundis solet accidere.

601. Tot tamque diversis impeditæ respiratiõis bene perspectis causis (quarum aliæ alias invicem inducunt intenduntque) ratio in promptu erit, cur malum adeo frequens, cur tot morborum comes et signum, cur sæpe malum nervosi generis, cur nunc leve et fugax, nunc grave et insanabile, aliquando hæreditarium, aliquando periculi plenum, et subito lethale, nonnunquam vero periculo vacuum; cur per

intervalla sæpe recurrat; calore et valida corporis exercitatione cur inductum, modica vero exercitatione interdum sublevatum, plenitudine ingravescens, detracto e venis sanguine sæpe fugatum, vel saltem mitius factum.

602. Impedita respiratio, qualiscunque demum ejus causa fuerit, motum sanguinis plus minusve impedit: et simul expulsionis materiæ noxiæ e pulmone, et mutationi isti salutari et necessariæ sanguinis (564, 565) quæ per spiritum naturalem fiunt, quodammodo obest: hinc generalis debilitas, variæ functiones impeditæ, et multi morbi, generis hydropici imprimis (468, 472). Pulmo quoque compressus ali-

aliquando compressus et nunquam dilatatus ut decet, ægrius  
*sometimes compressed and never dilated as it ought, more difficultly*  
 neque plene exhalat suum halitum; hinc sæpe obruitur  
*and not fully exhales its own vapour; hence often it is overwhelmed*  
 aquoso humore: quin et irritatur simul quo fit  
*with watery fluid: besides it is irritated at the same time, by which it happens*  
 ut plus ejus mucii, que ejus tenacioris, secernatur, qui demum  
*that more of its mucus, and that more tenacious, is secreted, which at last*  
 obstruit vias quas aër subit, stimulat que excitat  
*obstructs the passages which the air enters, stimulates and excites*  
 vehementem et molestam tussim, quâ pulmo tandem liberet  
*a violent and troublesome cough, but the lung at length frees*  
 se suo onere.  
*itself from its load.*

603. Hæcce vitalis functio est obnoxia aliis vitiis quoque, nimirum,  
*This vital function is liable to other disorders also, namely,*  
 tussi, et sternutationi; quæ, quamvis videantur, primo intuitu,  
*cough, and sneezing; which, though they may seem, at first sight,*  
 gravissima, tamen non carent suis usibus, et merito  
*very severe, nevertheless do not want their own uses, and deservedly*  
 recensentur sæpe inter saluberrimos conatus Naturæ; tamen sæpe  
*are reckoned often amongst the most salutary efforts of Nature; however often*  
 non vacant periculo et gravi incommodo, sive conatus  
*they are not free from danger and serious inconvenience, whether the efforts*  
 fuerint tantum nimis vehementes, sive demum inepti, neque instituti  
*shall be only too violent, or indeed unsuited, nor instituted*  
 sapiente consilio. Tamen utcunque hæc res habuerit se, est  
*with wise design. But howsoever this matter shall have itself, it is*  
 medici novisse naturam et causas et effectus earum  
*the duty of the physician to know the nature and causes and effects of these*  
 affectionum, quo melius sciat promovere salutare, temperare  
*affections, that he may the better know how to promote the salutary, to moderate*  
 nimias, compescere noxias et ineptas (sc. affectiones).  
*the excessive, to restrain the noxious and unsuitable ones.*

604. Vehemens sonora, sæpe invita, expiratio, subito expellens  
*A violent sonorous, often involuntary, expiration, suddenly expelling*  
 magno impetu, aëra per glottidem, nunc magis, nunc  
*with great force, the air through the glottis, sometimes more, sometimes*  
 minus fortiter clausam, vocatur tussis. Convulsio musculorum  
*less strongly closed, is called coughing. A convulsion of the muscles*  
 expirationis dat insignem impetum aëri: contractio glottidis  
*of expiration gives a remarkable impetus to the air: the contraction of the glottis*

quando, et nunquam ut decet dilatatus, suum halitum difficiliter, neque plene exhalat; hinc sæpe humore aquoso obruitur: quia et simul irritatur, quo fit ut plus ejus mucii, ejusque tenacioris, secernatur, qui demum vias quas aër subit obstruit, stimulat, tussimque vehementem et molestam excitat, qua tandem pulmo suo se onere liberet.

603. Aliis quoque vitiis, tussi nimirum et sternutationi, obnoxia est vitalis hæc functio, quæ, quamvis primo intuitu gravissima videatur, suis tamen usibus non caret, et merito sæpe inter saluberrimos Naturæ conatus recensentur (65, 70, 364, 368); sæpe tamen peri-

culo non vacent, et gravi incommodo, sive tantum nimis vehementes, sive demum inepti fuerint conatus (70, 368), neque sapiente consilio instituti. Utcunque tamen hæc se res habuerit, medici est, naturam, et causas, et effectus earum affectionum novisse, quo melius sciat salutare promovere, nimias temperare, noxias et ineptas compescere.

604. Tussis vocatur vehemens sonora expiratio, sæpe invita, aëra per glottidem, nunc magis minus fortiter clausam, magno impetu subito expellens. Convulsio musculorum expirationis dat insignem aëri impetum: contractio glottidis dat sonum. Tussis sæpe repe-

dat sonum. Tussis est sæpe repetita et diuturna, reciproca produces the sound. Coughing is often repeated and lasting, a reciprocal sed difficili, obstructa, imperfecta inspiratione, nimirum, propter but difficult, obstructed, imperfect inspiration, indeed, on account of glottidem contractam, intercedente post singulas expirationes. the glottis being contracted, intervening after each expiration.

605. Tussis excitatur quovis acri, sive chemico sive mechanico, admoto viis quas aer subit a glottide ad imam partem pulmonis. Hæ (sc. viæ) obducuntur delicatissimâ membranâ, que adeo impatiente omni stimuli, ut ne ferat tactum quidem blandissimi corporis, veluti guttulæ aquæ, quin musculi expirationis statim rapiantur in violentam convulsionem, que glottis simul, claudatur, propter consensum quo hæ partes, fungentes communi munere, junguntur. Hinc aer expellitur tantâ vi, ut aperiat rimam glottidis, quamvis fortiter clausam, et sæpe dimoveat et ejiciat irritamentum, quicquid fuerit, quod excitaverat tussim: actio non modo utilis, sed tutamen necessarium vitæ, quippe quæ sola possit liberare pulmonem ab irritamento aut onere, quod brevi suffocaret hominem.

606. Quicquid fuerit præter solitum in istis viis, nimius mucus, ipse spissus, tenuis, acer, sanguis, serum, pus, aqua, excitant tussim: fere inseparabilis comitatur omnem inflammationem pulmonis, que omnem difficiliorem respirationem. Quin et, ne

tita et diuturna est, intercedente nimirum reciproca, post singulas expirationes, inspiratione, sed difficili, obstructa, imperfecta, propter contractam glottidem.

605. Excitatur tussis acri quovis vel chemico vel mechanico, viis quas aer subit a glottide ad imam partem pulmonis admoto. Hæ membrana obducuntur delicatissima, stimuli que omni adeo impatiente, ut ne quidem blandissimi corporis, veluti guttulæ aquæ, tactum ferat, quin statim musculi expirationis in violentam convulsionem rapiantur, glottisque simul claudatur, propter consensum (358) quo hæ partes,

communi munere fungentes, junguntur. Hinc aer tanta vi expellitur, ut rimam glottidis, quamvis fortiter clausam, aperiat, et irritamentum quicquid fuerit quod tussim excitaverat sæpe dimoveat et ejiciat: non utilis modo actio, sed necessarium vitæ tutamen, quippe quæ sola pulmonem liberare possit ab irritamento, aut onere, quod hominem brevi suffocaret.

606. Quicquid præter solitum in istis viis fuerit, mucus ipse nimius, spissus, tenuis, acer, sanguis, serum, pus, aqua, tussim excitant: omnem pulmonis inflammationem, omnemque respirationem difficiliorem, comitatur fere in-

quidem purissimus aër potest trahi sine dolore, irritatione, que  
*even the purest air can be drawn in without pain, irritation, and*  
 vehemente tussi, asperâ arteriâ que bronchiis nimis  
*violent cough, from the aspera arteria and the bronchia being too*  
 sentientibus vel inflammatis, vel orbatis suo muco, qui  
*sentient or inflamed, or deprived of their natural mucus, which*  
 solet defendere ab aëre ipso. Denique, exempla non  
*is accustomed to defend them from the air itself. In fine, examples are not*  
 desunt ubi frequens et molestissima tussis  
*wanting where (in which) a frequent and very troublesome cough*  
 excitata fuerit a vitiis et irritationibus aliarum partium vel  
*has been excited by disorders and irritations of other parts or*  
 universi nervosi generis; irritationes auris, vel ventriculi,  
*of the whole nervous system; irritations of the ear, or of the stomach,*  
 vel intestinorum a vermibus, vel jecoris ab inflammatione  
*or intestines from worms, or of the liver from inflammation*  
 fecerunt hoc.  
*have caused this.*

607. Tussis potest quoque excitari voluntate, et tum regitur  
*Coughing may also be excited by the will, and then it is governed*  
 ad nostrum arbitrium; sæpe etiam cum est prorsus invita  
*at our own pleasure; often even when it is altogether involuntary,*  
 possumus temperare eandem, vel suppressere contrario conatu:  
*we can moderate the same, or suppress it by a contrary effort:*  
 tamen resistendum vehementi propensioni ad tussim (impersonal  
*however it is to be resisted to a violent propensity to cough (a violent pro-*  
 verb governing a dative) nullo modo.  
*ensity to cough is to be resisted) in no way.*

608. Semel excitata solet pergere donec vel irritamentum  
*Once excited it is accustomed to continue until either the irritating matter*  
 fuerit expulsum, vel sensus irritationis fuerit deletus, sopitus,  
*have been expelled, or the feeling of irritation have been destroyed, lulled,*  
 fortasse superatus graviore sensu, quem tussis ipsa dedit:  
*perhaps overcome by a severer feeling, which the cough itself produced:*  
 tum irritatione redeunte post intervallum, tussis redit denuo.  
*then the irritation returning after an interval, the cough returns anew.*  
 Hinc docemur rationem sæpe sublevandi et sopiendi impor-  
*Hence we are taught a method often of relieving and lulling this very*  
 tunissimum malum, quamvis non detur penitus tollere  
*troublesome disorder, although it may not be given entirely to remove*  
 causam ejûs.  
*the cause of it.*

separabilis. Quia et sæpe aspera arteria, bronchiis que nimis sentientibus, vel inflammatis, vel suo muco, qui ab aëre ipso defendere solet, orbatis, ne purissimus quidem aër sine dolore, irritatione, tussique vehemente, trahi potest. Denique, exempla non desunt ubi a vitiis et irritationibus aliarum partium, vel universi generis nervosi, tussis frequens et molestissima excitata fuerit; auris aliquando, vel ventriculi vel intestinorum a vermibus, vel jecoris ab inflammatione, irritationes hoc fecerunt.

607. Tussis quoque voluntate excitari potest, et tum ad arbitrium nostrum regitur; sæpe

etiam cum invita prorsus est, eandem temperare, vel contrario conatu suppressere possumus: vehementi tamen ad tussim propensioni nullo modo resistendum est.

608. Excitata semel, pergere solet, donec vel expulsum fuerit irritamentum, vel sensus irritationis deletus, sopitus, fortasse superatus fuerit, graviore sensu, quem ipsa tussis dedit: tum redeunte post intervallum irritatione, tussis denuo redit. Hinc rationem docemur importunissimum malum sublevandi sæpe et sopiendi, quamvis non detur causam ejus penitus tollere.

609. Vehementissima sæpe est (pro affert) periculo; (sc. homini)  
*(When) very violent it often brings danger;*  
 nimirum, spiritu intercluso, et valido nisu,  
*for indeed, by the breathing being obstructed, and by the powerful effort,*  
 plurimus sanguis congeretur in pulmone, vasa cuius dis-  
*a great deal of blood is congested in the lung, the vessels of which are dis-*  
 tenduntur, nonnunquam rumpuntur; unde aliquando ingens, vel  
*tended, sometimes are broken; whence sometimes a great, or*  
 forsân lethale profluvium sanguinis; vero sæpius origo lentioris  
*perhaps fatal flow of blood; but more often the origin of a slower*  
 sed vix minus exitialis morbi: quâ et, crebra et molesta  
*but hardly less pernicious disease: moreover, a frequent and troublesome*  
 tussis, sine gravi aut sane ullo profluvio sanguinis, potest  
*cough, without severe or indeed any profluvium of blood, may*  
 inferre tantam labem pulmôni, imprimis si hic fuerit debillioris  
*bring so great a mischief on the lung, especially if it should be of a weaker*  
 fabricæ, ut jecerit fundamenta vix non immedicabilis  
*structure, as (that it) will lay the foundations of a scarcely not incurable*  
 phthiseos.  
*(scarcely curable) phthisis.*

610. Denique transitu sanguinis per pulmonem impedito  
*Indeed the passage of the blood through the lung being impeded*  
 a longâ et vehemente tussi, sanguis refluit per venas,  
*by long and violent coughing, the blood flows back through the veins,*  
 imprimis ad caput: hinc rubor, et sæpe livor vultûs,  
*especially to the head: hence redness, and often lividity of the countenance,*  
 que interdum oculorum ipsorum, et nonnunquam profluvia sanguinis,  
*and sometimes of the eyes themselves, and occasionally profluvia of blood,*  
 vel e naribus, vel ex internis vasis in cerebro ipso,  
*either from the nostrils, or from the internal vessels in the brain itself,*  
 et aliquando lethalia paralysis, aut apoplexia, aut convulsio.  
*and sometimes fatal paralysis, or apoplexy, or convulsion.*

611. Postremo, hernia, prolapsus, abortus, et similia mala,  
*Lastly, hernia, prolapsus, abortion, and similar disorders,*  
 possunt accidere, si quædam pars fuerit præter solitum debilis,  
*may happen, if any part should be unusually weak,*  
 visceribus, quotquot continentur in abdomine, compressis  
*by the viscera, as many as are contained in the abdomen, being compressed*  
 insigni vi.  
*with great force.*

612. Quod si tussis fuerit lenior, sed importuna et frequens,  
*But if the cough should be slighter, but troublesome and frequent,*

609. Vehementissima periculo sæpe est: intercluso nimirum spiritu, et valido nisu, plurimus sanguis in pulmone congeretur, cuius vasa distenduntur, nonnunquam rumpuntur; unde sanguinis profluvium aliquando ingens, vel forsân lethale; sæpius vero origo lentioris, sed vix minus exitialis morbi: quâ et tussis crebra, et molesta, sine gravi aut sane ullo sanguinis profluvio, tautam pulmôni inferre potest labem, imprimis si hic debillioris fuerit fabricæ, ut phthiseos vix non immedicabilis fundamenta jecerit.

610. Denique, a longâ et vehemente tussi,

impedito per pulmonem sanguinis transitu, sanguis per venas refluit, imprimis ad caput: hinc vultus, ipsorumque interdum oculorum, rubor, et sæpe livor, et nonnunquam sanguinis profluvia, vel e naribus, vel ex vasis internis in ipso cerebro, et paralysis, aut apoplexia, aut convulsio, aliquando lethalia.

611. Postremo, compressis insigni vi quotquot in abdomine continentur visceribus, si pars quædam præter solitum debilis fuerit, hernia, prolapsus, abortus, et similia mala accidere possunt.

612. Quod si lenior fuerit tussis, sed impor-



quamvis nil istiusmodi sit metuendum, tamen non carebit  
*although nothing of that sort may be to be feared, however it will not be free from*  
 periculo: nimirum, agitatur, fatigatur ægrum, frangitur vires  
*danger: for instance, it agitates, fatigues the patient, breaks down the strength*  
 corporis, adimit somnum, quatit et irritat pulmonem ipsum,  
*of the body, takes away sleep, shakes and irritates the lung itself,*  
 impedit concoctionem cibi, que fere cæteras functiones,  
*impedes the concoction of the food, and nearly the rest of the functions,*  
 tandem evasura intolerabilis ægro.  
*at length will become intolerable to the patient.*

613. Sternutatio est multum affinis huic, nimirum, ingens, plena  
*Sneezing is much akin to this, that is, a large, full*  
 inspiratio, cui sonora et violentissima expiratio succedit, directa  
*inspiration, to which a loud and very violent expiration succeeds, directed*  
 ita ut aër expellatur per os et nares immani vi,  
*so that the air is expelled through the mouth and nose with great force,*  
 quas partes verrat transeundo. Convulsio ipsa est multo  
*which parts it sweeps in passing through. The convulsion itself is much*  
 vehementior tussi, vix excitanda aut imitabilis ad arbitrium,  
*more violent than cough, scarcely to be excited or imitated at pleasure,*  
 si fortis propensio adest difficillime compescenda, que quatiens  
*if a strong propensity is present very difficultly to be restrained, and shaking*  
 et excitans universum corpus magis quam tussis.  
*and exciting the whole body more than coughing.*

614. Ut tussis oritur ab irritatione glottidis et asperæ arteriæ,  
*As coughing arises from irritation of the glottis and aspera arteria,*  
 et bronchiorum et pulmonis, sic sternutatio plerumque (oritur) ab  
*and bronchia and lung, so sneezing generally arises from*  
 irritatione membranæ narium, rarius a consensu cum  
*irritation of the membrane of the nostrils, more rarely from consent with*  
 remotis partibus; fere pari ratione ac tussis, summovet vel  
*remote parts; nearly in a like manner as cough, it removes or*  
 abstergit causam irritationis, et igitur sæpe prodest corpori,  
*wipes away the cause of irritation, and therefore often benefits the body,*  
 vero aliquando nocet, scilicet si fuerit nimis vehemens, aut nimis  
*but sometimes hurts it, that is if it should be too violent, or too*  
 sæpe repetita, aut nimis diu continuata.  
*often repeated, or too long continued.*

tuna et frequens, quamvis nil istiusmodi metuendum sit, periculo tamen non carebit: ægrum nimirum agitatur, fatigatur, vires corporis frangitur, somnum adimit, febrem intendit, ipsum pulmonem quatit et irritat, cibi concoctionem cæterasque fere functiones impedit, ægro tandem intolerabilis evasura.

613. Huic multum affinis est sternutatio, ingens nimirum plena inspiratio, cui sonora et violentissima succedit expiratio, ita directa, ut aër, immani vi, per os et nares, quas partes transeundo verrat, expellatur. Convulsio ipsa tussi multo vehementior est, vix ad arbitrium

excitanda aut imitabilis, si propensio fortis adest, difficillime compescenda, corpusque universum, magis quam tussis, quatiens et excitans.

614. Ut tussis ab irritatione glottidis, et asperæ arteriæ, et bronchiorum, et pulmonis, sic sternutatio ab irritatione membranæ narium plerumque oritur, rarius a consensu cum remotis partibus; pari fere ac tussis ratione, causam irritationis summovet, vel abstergit, et corpori igitur sæpe prodest, aliquando vero nocet, scilicet si nimis vehemens fuerit, aut nimis sæpe repetita, aut nimis diu continuata.

## CAP. XVIII.

## CHAP. XVIII.

De concoctione alimentorum.  
Of the concoction of aliments.

615. Corpus brevi exhauritur, variis actionibus, tum  
*The body is shortly exhausted, by the various actions, as well*  
animalibus tum vitalibus, nimirum fluidis partibus dissipatis,  
*animal as vital, truly the fluid parts being dissipated,*  
solidis attritis, et utrisque, forsitan, sponte vergentibus ad  
*the solid worn down, and both, perhaps, spontaneously verging to*  
putredinem.  
*putridity.*

616. Vero monemur et incitatur importunissimo appetitu,  
*But we are admonished and incited by a most importunate appetite,*  
et dirigimur instinctu quem gustus juvat, et olfactus et  
*and we are directed by an instinct which taste assists, also smell and*  
experientia, ad ingerendas res quales fuerint idoneæ ad reparandam  
*experience, to ingest things such as shall be fit to repair*  
jacturam corporis, que arcendam et corrigendam corruptionem ejûs.  
*the loss of the body, and to prevent and correct the corruption of it.*

617. Ventriculo jam vacuo, et corpore quoque nonnihil  
*The stomach being now empty, and the body also being somewhat*  
exhausto inediâ, que solitis laboribus vitæ, ingratus sensus,  
*exhausted by fasting, and the usual labours of life, an unpleasant sensation,*  
quem referimus ad ventriculum, cum cupiditate edendi, oritur, primo  
*which we refer to the stomach, with a desire of eating, arises, at first*  
levis, ingravescens paulatim, tandem evasurus immanis, et quali  
*slight, increasing gradually, at length to become intolerable, and such as*  
resistendum sit (nobis) nullo modo, nisi fuerit pacatus idoneo  
*we can resist in no way, unless it shall be appeased by suitable*  
cibo. Hic appetitus vocatur Fames.  
*food. This appetite is called Hunger.*

618. Autem fluidis partibus multum dissipatis, vel quovis acri, vel  
*But the fluid parts being greatly dissipated, or any acrid, or*  
tantum sicciore cibo, ingesto in corpus, fauces arescunt, cum  
*only dryer food, being ingested into the body, the fauces grow dry, with*

## CAP. XVIII.—De concoctione alimentorum.

615. CORPUS variis actionibus, tum animalibus, tum vitalibus, brevi exhauritur, fluidis nimirum partibus dissipatis, solidis attritis et utrisque forsitan ad putredinem sponte vergentibus (6, 539).

616. Monemur vero et incitatur importunissimo appetitu, et dirigimur instinctu, quem juvat gustus, et olfactus, et experientia, ad res ingerendas, quales idoneæ fuerint ad corporis jacturam reparandam, ejusque corruptionem arcendam et corrigendam.

617. Vacuo jam ventriculo, et corpore quoque nonnihil exhausto, inediâ, solitisque vitæ laboribus, sensus ingratus, quem ad ventriculum referimus, cum edendi cupiditate, oritur, primo levis, paulatim ingravescens, nisi idoneo cibo pacatus fuerit, tandem immanis evasurus, et quali nullo modo resistendum sit.—Hic appetitus Fames vocatur.

618. Fluidis autem partibus multum dissipatis, vel acri quovis, vel cibo tantum sicciore, in corpus ingesto, fauces arescunt, cum sensu peculiari ingrato, et ingens simul bibendi

peculiari ingrato sensu, et ingens cupiditas bibendi simul  
*a peculiar unpleasant sensation, and a great desire of drinking at the same*  
 oritur. Hic appetitus vocatur Sitis.  
*time arises. This appetite is called Thirst.*

619. Neque profecto homo semper esurit a vacuo ventriculo:  
*Nor truly does a person always hunger from an empty stomach:*  
 aliqua exinanitio universi corporis, imprimis libera excretio  
*any evacuation of the whole body, especially the free (excessive) excretion*  
 per cutem conducit haud parum ad hunc effectum. Quin et,  
*by the skin conduces not a little to this effect. Moreover,*  
 quædam contractio musculosarum fibrarum ventriculi ipsiûs, videtur  
*a certain contraction of the muscular fibres of the stomach itself, seems*  
 subessè que efficere famem: nam multa stimulantia, recepta  
*to enter into and cause hunger: for many stimulating things, received*  
 in eum, que demum modica distentio, ipsiûs conciliabunt aliquem  
*into it, and indeed moderate distention, of itself will excite some*  
 appetitum homini alioquin non esurituro: quod helluones  
*appetite to a man that otherwise would not hunger: which gluttons*  
 sæpe experiuntur, non sine suo magno malo.  
*often experience, not without their own great injury.*

620. Porro, si cibus assumptus fuerit prorsus fluidus et tenuis,  
*Moreover, if the food taken should be wholly fluid and thin,*  
 haud bene alit aut reficit corpus; igitur, Natura  
*it does not sufficiently support or refresh the body; therefore, Nature*  
 docuit hominem querere et appetere aliquem crassiorem vel  
*has taught man to seek out and to desire some more solid or*  
 sicciorem cibum, quem sumat simul, quamvis sæpe insul-  
*drier food, which he may take at the same time, although often unsa-*  
 sum, et parum<sup>n</sup> nutrientem.  
*voury, and little nutritive.*

621. Omnis cibus derivatur vel ex animalibus vel ex frugibus.  
*All food is derived either from animals or from vegetables.*  
 Homo naturâ appetit utrumque genus: et vel altero vel  
*Man by nature (naturally) desires both kind: and either by one or*  
 utroque simul, quod est usitatus et melius, satis alitur,  
*both together, which is more usual and better, is sufficiently nourished,*  
 et habet se bene. Quamvis nonnulli, credentes se sapientiores  
*and has himself well. Although some, believing themselves wiser*  
 Naturâ, vetent animalia imponi mensis, et jubeant (nos)  
*than Nature, forbid animals to be placed on the tables, and order us*  
 vivere frugibus solis.  
*live on vegetables alone.*

cupiditas oritur.—Hic appetitus Sitis vocatur.

619. Neque profecto homo semper esurit a vacuo ventriculo: exinanitio aliqua universi corporis, libera imprimis per cutem excretio, ad hunc effectum haud parum conducit (357). Quin et contractio quædam fibrarum musculosarum ipsius ventriculi subesse videtur, famemque (617) efficere: nam multa stimulantia in eum recepta, ipsiusque demum modica distentio, appetitum aliquem homini, alioquin non esurituro, conciliabunt: quod helluones sæpe, non sine magno suo malo, experiuntur.

620. Porro, si cibus prorsus fluidus et tenuis

assumptus fuerit, corpus haud bene alit aut reficit; docuit igitur Natura hominem, crassiorem vel sicciorem aliquem cibum querere et appetere, quem sumat simul, quamvis sæpe insulsum, et parum nutrientem.

621. Omnis cibus vel ex animalibus vel ex frugibus derivatur. Utrumque genus homo natura appetit: et vel altero, vel utroque simul, quod usitatus est et melius, satis alitur, et bene se habet. Quamvis nonnulli, se credentes Natura sapientiores, vetent animalia mensis imponi, et jubeant solis frugibus vivere.

622. Fossilia quædam, et multæ fruges, quæ

622. Quædam fossilia et multæ fruges quæ nutriant parum  
*Certain fossil (things) and many vegetables which nourish little*  
 vel nihil, sumuntur pro condimentis. Omne animal, et præsertim  
*or not at all, are taken as condiments. Every animal, and especially*  
 homo, appetit condimenta hujûsmodi, nimirum aliquid  
*man, desires condiments of this sort, doubtless as something (as containing*  
 grati gustui, vel saltem acris, quamvis sæpe  
*something) (of) agreeable to the taste, or at least (of) sharp, although often*  
 rancidi et fœtidi, et admodum ingrati, donec consuetudo  
*(of) rancid and fetid, and very unpleasant, until habit*  
 docuit amare. Neque condimenta istûsmodi carent  
*has taught (him) to like (them). Nor do condiments of this description want*  
 suis usibus. Stimulant linguam, que faciunt gustare melius, quo  
*their uses. They stimulate the tongue, and cause it to taste better, that*  
 cibus, ipse forsân habens parum saporis, evadat gratior:  
*the food, itself perhaps having little (of) taste, may become more agreeable:*  
 quin et sunt (pro afferunt) quoque stimulo ventriculo, et  
*moreover they bring (prove) also a stimulus to the stomach, and*  
 sic opitulantur concoctioni, præsertim si ille fuerit debilior: neque  
*thus assist concoction, especially if it should be weaker: nor*  
 concoquitur bene (impersonaliter dicitur) si solita condimenta  
*is it digested well (nor is digestion so good) if the customary condiments*  
 fuerint negata.  
*have been denied.*

623. Parum concoctionis vel mutationis, præter solutionem solidarum  
*Little (of) concoction or change, except the solution of the solid*  
 partium, requiritur, ut animalis cibus sit (pro afferet) nutrimento  
*parts, is required, that animal food may bring nourishment*  
 humano corpori: quippe qui differat parum omnino a  
*to the human body: as being that which differs in no way at all from*  
 naturâ humani corporis. Vero olea, tam animalium quam  
*the nature of the human body. But oils, as well of animals as*  
 frugum, quæ alunt multum, distant longius a naturâ  
*of vegetables, which nourish much, differ further from the nature*  
 humorum aut carniûm humani corporis. Glutinosæ fruges, vel  
*of the juices or flesh of the human body. Glutinous vegetables, or*  
 quæ præbent farinam aut saccharum, et demum radices et olera,  
*which afford flour or sugar, and indeed roots and coleworts,*  
 quibus tamen omne animal nutritur, vel ipsum depas-  
*by which notwithstanding every animal is nourished, either itself feeding*  
 cens herbas, vel vivens aliis, quæ depaverant eas, videntur  
*upon the herbs, or living upon others, which had fed upon them, seem*  
 esse adhuc remotiora (pon. neutro gen).  
*to be still more remote.*

parum vel nihil nutriant, pro condimentis sumuntur. Hujusmodi condimenta, aliquid nimirum gustui grati, vel saltem acris, quamvis sæpe rancidi et fœtidi, et admodum ingrati, donec consuetudo amare docuit, omne animal, et homo præsertim, appetit. Neque suis usibus carent istiusmodi condimenta. Linguam stimulant, meliusque gustare faciunt, quo gratior cibus evadat, ipse forsân parum saporis habens: quin et ventriculo quoque stimulo sunt, et sic concoctioni, præsertim si ille debilior fuerit, opitulantur: neque bene concoquitur, si condimenta solita negata fuerint.

623. Parum concoctionis vel mutationis, præter solutionem partium solidarum, requiritur, ut cibus animalis nutrimento corpori humano sit: quippe qui parum omnino differat a natura corporis humani. Olea vero, tam animalium quam frugum, quæ multum alunt, longius distant a natura humorum aut carniûm humani corporis. Remotiora adhuc videntur esse fruges glutinosæ, vel quæ farinam aut saccharum præbent, et demum radices, et olera, quibus tamen omne animal nutritur, vel ipsum herbas depascens, vel aliis vivens, quæ eas depaverant.

624. Prehendimus cibum labiis, volvimus in ore his  
*We take the food with the lips, we roll it in the mouth by these*  
 et buccis et linguâ, dividimus, contundimus, conficimus  
*and the cheeks and tongue, we divide, we bruise, we chew it*  
 dentibus: vero plurimâ salivâ affluente, et muco, et  
*by the teeth: but a great deal of saliva flowing forth, also mucus, and*  
 aliis humoribus oris, cum ob stimulum et  
*the other fluids of the mouth, as well on account of the stimulus and*  
 saporem cibi, tum quoque ob motum partium dum  
*taste of the food, as also on account of the motion of the parts whilst*  
 manditur, cibus subigitur in mollem, fere fluidam massam,  
*it is masticated, the food is reduced into a soft, almost fluid mass,*  
 quam tradimus pharyngi, neque habemus amplius potestatem in  
*which we deliver to the pharynx, nor have we longer power over*  
 eam; neque profecto est opus: enim impellitur in gulam  
*it; nor indeed is there need: for it is driven into the gullet (œsophagus)*  
 contractione hujûs (pharyngis), quam dilatat, et ciet ad contrac-  
*by the contraction of this, which it dilates, and excites to contrac-*  
 tionem, quâ contractione demum, incipiente a pharynge et  
*tion, by which contraction indeed, beginning from the pharynx and*  
 propagatâ ad ventriculum, cibus pervenit ad ventriculum, ibi  
*propagated to the stomach, the food arrives at the stomach, there*  
 detinendus tempus quo sit opus. Neque sane cibus  
*to be detained the time of which there may be need. Nor truly does the food*  
 descendit tantum suo pondere quantum motu et contractione  
*descend so much by its own weight as by the motion and the contraction*  
 gulæ ipsius: enim multa animalia devorant sursum, quod  
*of the œsophagus itself: for many animals swallow upwards, which*  
 et homo ipse potest facere.  
*even man himself can do.*

625. Autem cibus non statim transit per ventriculum:  
*But the food does not immediately pass through the stomach:*  
 detinetur ibi aliquamdiu, scilicet pyloro contracto, et  
*it is detained there some time, that is by the pylorus being contracted, and*  
 simul nonnihil elevato, cum a fibris quæ circumdant  
*at the same time somewhat elevated, as well by the fibres which surround*  
 ipsum, tum quoque a longioribus quæ occupant superiorem partem  
*itself, as also by the longer ones which occupy the superior part*  
 ventriculi inter cardiam et pylorum; vero tandem, pyloro  
*of the stomach between the cardia and the pylorus; but at length, the pylorus*  
 relaxato iterum et descendente, cibus traditur duodeno,  
*being relaxed again and descending, the food is delivered to the duodenum,*

624. Cibum labiisprehendimus, his, et buccis, et lingua, in orevolvimus, dentibus dividimus, eontundimus, conficimus: affluente vero plurima saliva, et muco, et aliis oris humoribus, cum ob stimulum et saporem cibi, tum quoque ob motum partium dum manditur, cibus in massam mollem, fere fluidam, subigitur, quam pharyngi tradimus, neque amplius in eam potestatem habemus; neque profecto opus est: hujus enim contractione in gulam impellitur, quam dilatat, et ad contractionem ciet, qua demum contractione a pharynge incipiente, et ad ventriculum propagata, cibus ad ventricu-

lum pervenit, ibi quo opus sit tempus detinendus. Neque sane tantum suo pondere, quantum motu et contractione ipsius gulæ, descendit cibus: multa enim animalia sursum devorant, quod et homo ipse facere potest.

625. Cibus autem non statim per ventriculum transit; detinetur ibi aliquamdiu, contracto scilicet, et nonnihil simul elevato pyloro, cum a fibris quæ ipsum circumdant, tum quoque a longioribus, quæ partem ventriculi superiorem inter cardiam et pylorum occupant; tandem vero, relaxato iterum et descendente pyloro, duodeno traditur cibus, jam multum solutus,

jam multum solutus et subactus, agitatus, propulsus, actione  
*now much dissolved and reduced, agitated, propelled, by the action*  
 ventriculi.

*of the stomach.*

626. Similis alimentaria massa, confecta ex carnibus et frugibus  
*A similar alimentary mass, made up of flesh and vegetables*  
 mixtis, probe subacta, et mollita et diluta cum aquâ aut salivâ,  
*mixed, well reduced, and softened and diluted with water or saliva,*  
 in mollem pulpam, et demum fota calore qualis est in corpore,  
*into a soft pulp, and at last heated by a heat such as is in the body,*  
 continuo incipit fermentescere extra corpus; scilicet, multum  
*immediately begins to ferment without the body; that is, it is much*  
 agitatur, et exhalat plurimum aëra, et primo acescit, et  
*agitated, and exhales a great deal (of) air, and at first grows acid, and*  
 deinde putrescit.  
*then putrefies.*

627. Ructus docet idem sæpe accidere, etiam in vivo  
*Belching proves that the same often happens, even in the living*  
 homine, dolor ventriculi, et vomitus acidæ, vel putridæ  
*man, the pain of the stomach, and the vomiting of an acid, or a putrid*  
 materiæ familiaria concoquentibus male, docent.  
*matter common to those digesting badly, teach it.*

628. Porro, haud pauca experimenta instituta de industriâ ostenderunt  
*Moreover, no few experiments instituted on purpose have shewn*  
 alimenta semper fermentescere aliquantum in ventriculo hominis,  
*that aliments always ferment somewhat in the stomach of a man,*  
 quamvis sanissimi, que totam alimentariam massam  
*although most healthy, and that the whole alimentary mass*  
 acescere paucis horis post prandium.  
*becomes acescent a few hours after a meal.*

629. Tamen, fatendum est (nobis) vel nulla, vel saltem levissima,  
*However, we must confess either that no, or at least very slight,*  
 indicia mutationis istiusmodi unquam manifeste prodere se in  
*signs of a change of this sort ever manifestly shew themselves in*  
 sano homine: et est bene notum, quo vehementius fuerit  
*a healthy man: and it is well known, the more violently it has been*  
 fermentatum (imponaliter utitur) in ventriculo, fere eo pejus  
*fermented (the more active the fermentation) in the stomach, commonly the worse*  
 et tardius hominem concoquere.  
*and the more slowly the person digests.*

630. Igitur allquid videtur esse in ventriculo, quod impedit  
*Therefore something seems to be in the stomach, which impedes*

et actione ventriculi subactus, agitatus, propulsus.

626. Similis massa alimentaria, ex carnibus et frugibus mixtis confecta, cum aqua aut saliva in pulpam mollem probe subacta, et mollita, et diluta, et demum calore, qualis in corpore est, fota, extra corpus continuo fermentescere incipit; agitatur scilicet multum, et plurimum aëra exhalat, et acescit primo, et deinde putrescit.

627. Sæpe etiam in vivo homine idem accidere docet ructus, docent dolor ventriculi, et vomitus materiæ acidæ vel putridæ, male concoquentibus familiaria.

628. Porro, experimenta haud pauca, de industria instituta, ostenderunt alimenta in ventriculo hominis, quamvis sanissimi, semper aliquantum fermentescere, ipsamque massam alimentariam, paucis post prandium horis, totam acescere.

629. Fatendum tamen est, vel nulla vel levissima saltem istiusmodi mutationis indicia, in sano homine, se unquam manifeste prodere: et bene notum est, quo vehementius fermentatum fuerit in ventriculo, eo fere hominem pejus et tardius concoquere.

630. Videtur igitur allquid in ventriculo esse, quod istud incommodum impedit, neque sinat

istud incommodum, neque sinat alimenta fermentescere adeo  
*that disadvantage, nor permits the aliments to ferment so*  
 vehementer. Proprius succus ventriculi ipsius, copiosus secretus,  
*vehemently. The proper juice of the stomach itself, copious(ly) secreted,*  
 videtur præstare hoc. Vero si cibi fuerint detenti diutius  
*seems to effect this. But if the food should be detained longer*  
 justo in ventriculo, (quod sane vix acciderit si concoctio  
*than proper in the stomach, (which indeed scarce will happen if the concoction*  
 fuerit alioquin bona,) hic succus non sufficit ad compescendam  
*(should) be otherwise good,) this juice does not suffice to restrain*  
 istam proclivitatem alimentorum ad fermentandum quæ tum prodit  
*that tendency of the aliments to ferment which then shews*  
 sese manifestis signis.  
*itself by manifest signs.*

631. Quin et idem succus solvit cibos, neque ventriculus  
*Moreover the same juice dissolves the food, nor (will) the stomach*  
 facile tradiderit cibos quos continet intestinis, priusquam  
*easily deliver the foods which it contains to the intestines, before that*  
 fuerint probe soluti. Neque est solvens vis eadem in  
*they have been well dissolved. Nor is the solvent power the same in*  
 omnibus animalibus: enim sunt quæ facile solvunt carnes,  
*all animals: for there are those which easily dissolve flesh,*  
 sunt quæ (facile solvunt) fruges, neque omnino  
*there are those which (easily dissolve) grain (vegetables), nor do they at all*  
 tangunt alterum genus. Vero homo, et omnivora animalia, nempe,  
*touch the other kind. But man, and omnivorous animals, namely,*  
 quæ promiscue vescuntur aliis animantibus, et herbis, solvunt  
*which promiscuously feed upon other animals, and vegetables, dissolve*  
 pariter utrumque genus. Quædam experimenta instituta extra corpus,  
*alike either kind. Some experiments instituted without the body,*  
 docent, et adhuc melius et certius quæ facta sunt  
*shew, and still better and more certainly (some) which have been made*  
 nuper in vivis animalibus, et quidem in homine ipso, a variis  
*lately upon living animals, and even upon man himself, by different*  
 auctoribus, præsertim a clarissimò Spallanzani et Stevens. Autem  
*authors, especially by the very celebrated Spallanzani and Stevens. But*  
 plurimæ fruges, tam duræ quam molles, neque solvuntur,  
*a great many vegetables, as well hard as soft, neither are dissolved,*  
 nec concoquantur ullo modo ab sanissimo homine, nisi  
*nor are concocted in any way by the most healthy person, unless*

alimenta adeo vehementer fermentescere. Succus ipsius ventriculi proprius, copiosus secretus, hoc præstare videtur. Si vero diutius justo cibi in ventriculo detenti fuerint (quod sane vix acciderit si concoctio alioquin bona fuerit) hic succus non sufficit ad compescendam istam alimentorum ad fermentandum proclivitatem, quæ tum sese manifestis signis prodit.

631. Quin et idem succus cibos solvit, neque facile ventriculus quos continet cibos prius intestinis tradiderit, quam probe soluti fuerint. Neque vis solvens in omnibus animalibus eadem est: sunt enim quæ carnes, sunt quæ fruges,

facile solvunt, neque alterum genus omnino tangunt. Homo vero, et animalium omnivora, nempe quæ aliis animantibus et herbis promiscue vescuntur, utrumque genus pariter solvunt. Docent experimenta quædam extra corpus instituta, et melius adhuc et certius, quæ nuper in vivis animalibus, et quidem in ipso homine, facta sunt a variis auctoribus, præsertim a clar. Spallanzani et Stevens. Plurimæ autem fruges, tam duræ quam molles, neque solvuntur, nec ullo modo concoquantur ab homine sanissimo, nisi prius dentibus confectæ, vel alio modo fractæ aut contusæ fuerint.

fuertint prius confectæ dentibus, vel fractæ aut contusæ  
*they have been first chewed by the teeth, or broken or bruised*  
 alio modo.  
*in some way.*

632. Neque cibi jam quodammodo soluti, ostendunt ulla  
*Nor do the foods already in some degree dissolved, shew any*  
 indicia (saltem in sano corpore) acoris, postquam demissi  
*signs (at least in the healthy body) of tartness, after that they have*  
 sunt in intestina, et si permansissent  
*been sent down into the intestines, although if they should (have had) remain(ed)*  
 in ventriculo brevi acquisituri (essent) insignem acorem. Succus  
*in the stomach they would shortly acquire very great sourness. The juice*  
 intestinorum, haud dissimilis succo ventriculi, fortasse obstat,  
*of the intestines, not unlike the juice of the stomach, perhaps prevents (it),*  
 et copiosus latex pancreatis, simillimus salivæ, sed præ  
*and the abundant juice of the pancreas, very like to the saliva, but before*  
 omnibus fel ipsum delatum a jecinore, quod non sinit  
*all things the bile itself conveyed from the liver, which does not permit*  
 massam alimentorum amplius fermentescere, neque accedere proprius  
*the mass of aliments farther to ferment, nor to approach nearer*  
 ad acidam naturam, et sane mirabiliter corrigit acorem jam  
*to an acid nature, and indeed wonderfully corrects the acidity already*  
 existentem. Quin et fel videtur promovere solutionem alimentorum  
*existing. Moreover the bile seems to promote the solution of the aliments*  
 miscendo probe oleosa (alimenta) cum aquosis; et quoque  
*by mixing thoroughly the oily with the watery; and also*  
 (videtur) incitare intestina ad justam contractionem.  
*(it seems) to excite the intestines to due contraction.*

633. Igitur cibi rediguntur in fluidam formam actione  
*Therefore the food(s) (are) is reduced into the fluid form by the action*  
 manducandi, et solvente vi humorum oris, et  
*of chewing, and by the solvent power of the fluids of the mouth, and*  
 ventriculi, et intestinorum, et demum fellis, proclivitate ipsorum  
*stomach, and intestines, and finally of the bile, the tendency of themselves*  
 ad fermentescendum forsitan juvante, quæ laxet vincula  
*to be fermented perhaps assisting, which may loosen the bonds*  
 adhæisionis. Vero nutriens humor, dum tota massa  
*of adhesion. But the nourishing (nutritious) juice, whilst the entire mass*  
 descendit per intestina, sorbetur lacteis vasis pendulis  
*is descending through the intestines, is absorbed by the lacteal vessels pendulous*  
 vel hiantibus in intestina, defertur ad thoracicum ductum his  
*or opening into the intestines, is conveyed to the thoracic duct by these*

632. Neque cibi jam quodammodo soluti, et insignem acorem, si permansissent in ventriculo brevi acquisituri, postquam in intestina demissi sunt, ulla (saltem in sano corpore) acoris indicia ostendunt. Obstat fortasse succus intestinorum, ventriculi succo haud dissimilis, et copiosus pancreatis latex, salivæ simillimus, sed, præ omnibus, fel ipsum a jecinore delatum, quod non sinit massam alimentorum amplius fermentescere, neque proprius ad acidam naturam accedere, et sane acorem jam existentem mirabiliter corrigit. Quin et solu-

tionem alimentorum promovere videtur fel, oleosa cum aquosis probe miscendo; et intestina quoque incitare ad justam contractionem.

633. Actione igitur manducandi, et vi solvente humorum oris, et ventriculi, et intestinorum, et demum fellis, cibi in fluidam formam rediguntur, juvante forsitan ipsorum ad fermentescendum proclivitate, quæ vincula adhæisionis laxet. Humor vero nutriens, dum tota massa per intestina descendit, vasis lacteis pendulis vel hiantibus in intestina sorbetur, his per mesenterium repetibus ad ductum



repentibus per mesenterium, et recipitur in sanguinem, penitus  
*creeping through the mesentery, and is received into the blood, entirely*  
 mutatus in animale naturam postquam absolverit iter  
*changed into an animal nature after it has performed the passage*  
 per pulmones. Vero plurimo humore affluente ex intestinis,  
*through the lungs. But a great deal of fluid flowing forth from the intestines,*  
 jecore, pancreate, massa quæ superest vix spissescit donec  
*liver, pancreas, the mass which remains scarcely thickens until*  
 pervenitur (intellige, ab eâ) ad crassa intestina: vero tum parcius  
*it arrives (it is arrived by it) to the large intestines: but then more sparingly*  
 diluta, et multo humore decedente, tandem induit formam  
*diluted, and much fluid going off, at length puts on the character*  
 stercoris, sæpe firmi et retinentis vestigia cellularum coli.  
*of fæces, often firm and retaining traces (the forms) of the cells of the colon.*

634. Vero multum abest ut habeamus plenam  
*But it is far from that we have (we are far from having) a perfect*  
 notitiam mutationum quas cibi subeunt in ventriculo aut  
*knowledge of the changes which the aliments undergo in the stomach or*  
 intestinis. Enim natura et vires fermentationis, fortasse etiam  
*intestines. For the nature and powers of fermentation, perhaps even*  
 varia genera ejus, adhuc parum intelliguntur, neque potest  
*the various kinds of it, as yet are little understood, nor can*  
 ratio concoctionis ciborum reddi ex eâ. Neque  
*an explanation of the concoction of the food be rendered from it. Nor*  
 mera solutio solvet nodum: enim cibi non modo  
*will mere solution loose the knot (solve difficulty): for the aliments not only*  
 soluti, sed multum mutati, que nacti sibi novas  
*dissolved, but much changed, and having acquired to themselves new*  
 dotes, deferuntur in sanguinem sub formâ chyli. Lac ipsum,  
*properties, are conveyed into the blood under the form of chyle. Milk itself,*  
 simplicissimus cibus et simillimus chylo, primo cogitur in ventriculo,  
*the most simple food and most like to chyle, first is coagulated in the stomach,*  
 deinde concoquitur, et solvitur, et ut alii cibi vertitur in  
*then it is digested, and is dissolved, and like other food is converted into*  
 chylum priusquam fuerit (pro attulerit) idoneo nutrimento corpori.  
*chyle before that it could bring proper nutriment to the body.*

635. Motus intestinorum est simplicissimus in sanitate, et vocatur  
*The motion of the intestines is very simple in health, and is called*  
 peristalticus. Alia portio cietur post aliam ad contractionem,  
*peristaltic. One portion is excited after another to contraction,*  
 partim acrimoniâ, partim mole alimentariæ massæ, quæ,  
*partly by the acrimony, partly by the bulk of the alimentary mass, which,*

thoracicum deferitur, et in sanguinem recipitur, postquam per pulmones iter absolverit in naturam animale penitus mutatus. Plurimo vero affluente ex intestinis, jecore, pancreate, humore, massa quæ superest vix spissescit, donec ad crassa intestina pervenitur: tum vero parcius diluta, et multo decedente humore, stercoris tandem formam induit, sæpe firmi, et vestigia cellularum coli retinens.

genera, parum adhuc intelliguntur, neque ex ea concoctionis ciborum ratio reddi potest. Neque mera solutio nodum solvet: cibi enim non modo soluti, sed multum mutati, novasque sibi nacti dotes, sub forma chyli in sanguinem deferuntur. Lac ipsum, simplicissimus et chylo simillimus cibus, cogitur primo in ventriculo, deinde concoquitur, et solvitur, et in chylum ut alii cibi vertitur, priusquam idoneo corpori nutrimento fuerit.

635. Motus intestinorum in sanitate simplicissimus est, et peristalticus vocatur. Portio alia post aliam ad contractionem cietur, partim

tandem propulsa in Intestinum rectum, stimulat hanc partem, at length driven forward into the Intestinum rectum, stimulates this part, Inducit cupiditatem desidendi, et ciet Intestinum brings on a desire of sitting down (going to stool), and excites the intestine ipsum, et musculos abdominis et transversum septum, itself, and the muscles of the abdomen and transverse septum (diaphragm), quæ consentiunt cum eo, ad contractionem, quâ renixu which consent with it, to contraction, by which the resistance musculi qui claudit anum superato, excernitur e corpore. of the muscle which closes the anus being overcome, it is excreted from the body.

636. Philosophi et medici conati sunt, revera, reddere bene Philosophers and physicians have endeavoured, indeed, to render a great multas alias rationes concoctionis: alii tribuentes maximam partem many other explanations of digestion: some attributing the greatest part calori, alii agitationi et triturae, alii fermentationi; quamvis to heat, others to agitation and triture, others to fermentation; although

haud tuiti sint varias sententias quas amplecterentur they have not defended the various opinions which they embraced (adopted) argumentis satis validis. Neque, tamen, perdiderunt omnem by arguments sufficiently valid. Nor, notwithstanding, have they lost all operam quam impendebant huic rei. Saltem, reddiderunt the labour which they expended upon this subject. At least, they have rendered rationem multarum affectionum quibus hæcce utilissima functio an account of many affections with which this very useful function sæpe corrumpitur, et itaque indicarunt remedia idonea often is corrupted, and therefore have pointed out the remedies proper adversus eas. against them.

637. Alii cibi concoquantur facile, alii ægerrime: autem (est) Some aliments are digested easily, others very difficultly: but there is mira diversitas hominum de hac re, et vis a wonderful difference of men upon this subject, and the force consuetudinis (est) adhuc magis mira, ita ut quod of habit is still more wonderful, so that what fuerit (attulerit) huic cibo, (fuerit) illi fere would be to this (one) food, (would be) to that (another) almost veneno. Quin et, dura ilia messorum aliquando concoxerint a poison. Moreover, the hard bowels of mowers sometimes will digest fere lapideum cibum cui assueverint the almost stony food to which they have accustomed themselves (been accustom'd) facilius quam delicatissimum. more easily than the most delicate.

638. Fere omnes cibi quibus utimur mitescunt, et Almost all the foods which we use grow mild, and

acrimonia, partim mole alimentariæ massæ, quæ tandem in Intestinum rectum propulsa hanc partem stimulat, desidendi cupiditatem inducit, et Intestinum ipsum, et, quæ cum eo consentiunt, musculos abdominis et septum transversum, ad contractionem ciet, qua, superato renixu musculi qui anum claudit, e corpore demum excernitur.

636. Alias revera bene multas concoctionis rationes reddere conati sunt philosophi et medici: alii maximam partem calori, alii agitationi et triturae, alii fermentationi tribuentes; quamvis haud satis validis argumentis tuiti

sint varias quas amplecterentur sententias. Neque tamen omnem quam impendebant huic rei operam perdiderunt. Rationem saltem reddiderunt multarum affectionum, quibus sæpe corrumpitur utilissima hæcce functio, et idonea itaque adversus eas remedia indicarunt.

637. Cibi alii facile alii ægerrime concoquantur. Mira autem de hac re hominum diversitas, et magis adhuc mira vis consuetudinis; ita ut quod huic cibo, illi fere veneno fuerit. Quin et dura messorum ilia, lapideum fere cui assueverint cibum, facilius quam delicatissimum aliquando concoxerint.

molliantur flammâ: mistura quoque, et fermentatio, et plurima  
*are softened by fire: mixture also, and fermentation, and many*  
 condimenta, aliâ atque aliâ ratione reddunt cibos faciliores  
*condiments, in a different manner render the aliments easier*

solutu et concoctu. Hoc modo coquinnaria ars (est) non  
*to be dissolved and to be concocted. In this manner the cookery art (is) not*  
 modo grata sed fere necessaria assuetis: vero eadem  
*only agreeable, but almost necessary to those accustomed to it: but the same*

nimis culta, et miscens atque confundens contraria et  
*too much cultivated, also mixing and confounding contrary and*  
 dissociabilia, imprimis nocet; et sane potissimum hac ratione,  
*discordant things, especially hurts; and indeed chiefly for this reason,*

quod invitat homines ad ingluviem: neque, profecto, aut  
*because it invites men to gluttony: nor, indeed, does either*

qualitas aut mistura ciborum, (quamvis hæc sane aliquando noceat  
*the quality or mixture of foods, (although this truly sometimes may hurt*  
 haud parum, sicuti faciat totam massam fermentescere nimis  
*not a little, since it may cause the whole mass to ferment too*

cito et vehementer) nocet helluoni tantum quantum ingens  
*quickly and violently) hurt the glutton so much as the immense*

copia quam ingurgitat. Enim, sanus homo neque famelicus,  
*quantity which he gorges. Moreover, a healthy man and not starved,*

raro sumet plus justo uniûs et simplicis generis cibi:  
*seldom will take more than proper of a single and simple kind of food:*

autem illectus varietate et condimentis, et exquisitâ arte coqui,  
*but allured by variety and condiments, and the exquisite art of the cook,*

onerabit sese plus triplo quam debet.  
*will load himself more by triple than he ought.*

639. Plerique duri cibi, aut conditi et indurati sale, fumo,  
*Most hard foods, or those seasoned and hardened by salt, smoke,*

pipere, aromaticis, aut glutinosi et oleosi, cum fruges tum  
*pepper, spices, or glutinous and oily, as well vegetables as*

quoque carnes, solent esse difficiliores concoctu: carnes  
*also flesh, are accustomed to be more difficult to be digested: the flesh*

quoque juniorum animalium et carnes avium concoquantur  
*also of younger animals and the flesh of birds are digested*

difficilius, ut videtur, quam quadrupedum.  
*more difficultly, as it seems, than of quadrupeds.*

640. Autem tanta est vis edacis humoris jejuni  
*But so great is the power of the solving juice of the empty*

ventriculi, in aliis atque aliis generibus animalium, ut solvat  
*stomach, in the different kinds of animals, that it can solve*

638. Omnes fere quibus utimur cibi mitescunt  
 flamma et molliuntur: mistura quoque, et fer-  
 mentatio, et condimenta plurima, aliâ atque  
 aliâ ratione, cibos solutu et concoctu faciliores  
 reddunt. Hoc modo ars coquinnaria non grata  
 modo, sed fere necessaria assuetis: eadem vero  
 nimis culta, et contraria et dissociabilia mis-  
 cens atque confundens, imprimis nocet; et sane  
 hæc potissimum ratione, quod homines ad in-  
 gluviem invitat: neque profecto aut qualitas,  
 aut mistura ciborum (quamvis hæc sane haud  
 parum aliquando noceat, sicuti totam massam  
 nimis cito et vehementer fermentescere faciat)  
 helluoni tantum nocet, quantum ingens copia

quam ingurgitat. Homo enim sanus, neque  
 famelicus, unius et simplicis cibi generis raro  
 plus justo sumet: varietate autem, et condi-  
 mentis, et exquisita coqui arte illectus, triplo  
 plus quam debet sese onerabit.

639. Cibi plerique duri, aut sale, fumo, pipere,  
 aromaticis, conditi et indurati, aut glutinosi,  
 et oleosi cum fruges, tum quoque carnes, diffi-  
 ciliores solent esse concoctu: carnes quoque  
 juniorum animalium, et carnes avium, quam  
 quadrupedum, difficilius, ut videtur, conco-  
 quantur.

640. Tanta autem vis est edacis humoris je-  
 juni ventriculi, in aliis atque aliis animalium

et concoquat non modo olea, gluten, cartilaginem, sed demum ossa, and digest not only oils, gluten, cartilage, but even bones, et durissimum ebur. Dicitur, quoque aliquando rodere ventriculum and the hardest ivory. It is said, also sometimes to erode the stomach ipsum brevissimo tempore post mortem. itself in a very short time after death.

641. Ex his denique ratio potest reddi, cur concoctio  
From these at length the reason may be given, why concoction (is)  
tam sæpe vitata, cur corruptio alimentorum in ventriculo,  
so often disordered, why a corruption of the aliments in the stomach,  
primo acida, dein putrida familiaris concoquentibus male;  
at first acid, afterwards putrid (is) common to those digesting badly;  
cur concoctio ciborum subito turbetur et corrumpatur,  
why the concoction of the foods suddenly may be disturbed and corrupted,  
non modo variis morbis corporis, sed sæpe etiam gravi affectu  
not only by various diseases of the body, but often even by a severe affection  
animi: cur exercitatio corporis sæpe promoveat, vero aliquando  
of the mind: why exercise of the body often may promote, but sometimes  
impediat actionem ventriculi in cibis; cur cyathus meri  
may impede the action of the stomach upon the food; why a glass of wine  
prosit multis hominibus et juvet concoctionem, vero noceat  
may benefit many persons and assist digestion, but may injure  
multis, que corrumpat eandem (concoctionem).  
many, and may corrupt the same.

## CAP. XIX.

## CHAP. XIX.

De vitiis concoctionis que variis morborum affectionibus organorum  
Of the disorders of digestion and the various morbid affections of the organs  
quæ inserviunt concoctioni.  
which subserve to concoction.

642. Appetitus cibi sæpe deficit, cum a statu ventriculi,  
The appetite for food often fails, as well from the state of the stomach,  
tum quoque a (statu) reliqui corporis. Anorexia, itaque,  
as also from (the state) of the rest of the body. Anorexia, therefore,  
est comes et effectus multorum morborum; neque tamen  
is an attendant and effect of many diseases; nor notwithstanding

generibus, ut non modo olea, gluten, cartilaginem, sed ossa demum, et durissimum ebur, solvat et concoquat. Dicitur, quoque ventriculum ipsum aliquando rodere, brevissimo post mortem tempore.

641. Ex his denique ratio reddi potest, cur concoctio tam sæpe vitata, cur alimentorum in ventriculo corruptio, acida primo, dein putrida, male concoquentibus familiaris; cur subito turbetur et corrumpatur ciborum concoctio, non modo variis corporis morbis, sed sæpe etiam gravi affectu; cur corporis exercitatio sæpe promoveat, aliquando vero

impediat, actionem ventriculi in cibis; cur cyathus meri multis hominibus prosit, et concoctionem juvet, multis vero noceat, eandemque corrumpat.

CAP. XIX.—De vitiis concoctionis, variisque organorum quæ concoctioni inserviunt affectionibus morborum.

642. APPETITUS cibi sæpe deficit, cum a ventriculi, tum quoque a reliqui corporis, statu. Multorum itaque morborum Anorexia comes est et effectus; neque tamen semper morbosa habenda. Male enim de appetitus defectu con-

semper habenda morbosâ. Enim helluones male conqueruntur  
*always to be considered diseased. For gluttons badly (wrongly) complain*

de defectu appetitûs, quum corpus, sanius mente, fastidit  
*of loss of appetite, when the body, sounder than the mind, loathes*

et respuit cibum quo non eget.  
*and rejects the food which it does not want.*

643. Appetitus est nullus vel debilis sicubi ventriculus nondum  
*The appetite is none or weak whenever the stomach has not yet*

liberaverit se a cibo quem sumpserat proxime: hinc sæpe  
*freed itself from the food which it had taken last: hence often*

(est) nullus, post crapulam, donec hæc (crapula) fuerit bene  
*there is none, after a surfeit, until this have been thoroughly*

exhalata. Deficit quoque si quando concoctio alimentorum  
*exhaled (digested.) It fails also whenever the concoction of the aliments*

est prava; nam ventriculus tradiderit ægre crudum cibum  
*is bad; for the stomach will deliver with difficulty crude food*

intestinis. Sæpe deficit propter exercitationem neglectam,  
*to the intestines. Often it fails on account of exercise being neglected,*

quâ totum corpus debuisse depleri, quamvis ventriculus  
*by which the whole body ought to have been depleted, although the stomach*

ipse habeat se satis bene et concoctio fuerit bona. Fere  
*itself may have itself very well and digestion should be good. Generally*

deficit a exhalatione per cutem suppressâ; ab omni  
*it fails from the exhalation by the skin being suppressed; from every*

debilitate ventriculi qualis sæpe inducitur subito; et demum,  
*weakness of the stomach such as often is induced suddenly; and lastly,*

appetitus cibi est pravus in omni febre: neque, profecto,  
*the appetite for food is bad in every (kind of) fever: nor, truly,*

certius signum datur febris decedentis quam appetentia  
*is a more certain sign given (afforded) of fever going off than the desire*

cibi redux. Quin et, multum abest ut defectus appetitûs, et  
*for food returning. Moreover, it is far from that the loss of appetite, and*

inedia quæ sequitur inde, noceat ægris, præsertim  
*the fasting which follows from thence, can hurt the sick, especially*

decumbentibus acutis morbis, tantum quantum similis inedia  
*those lying down with acute diseases, so much as similar fasting*

noceret sano homini. Neque profecto prætereundum est (nobis) silentio,  
*would hurt a healthy person. Nor indeed ought we to pass over in silence,*

fastidium cibi, quod æger habet primis diebus febris,  
*that the loathing of food, which the sick has in the first days of fever,*

sæpe cedere potius in salutem. Nimirum Natura sapiens  
*often tends rather towards health. Doubtless Nature wisely*

queruntur helluones, quum corpus, mente

sanius, cibum, quo non eget, fastidit et respuit.

643. Nullus vel debilis est appetitus, sicubi ventriculus quem proxime sumpserat cibo se nondum liberaverit: hinc post crapulam, sæpe nullus, donec hæc bene exhalata fuerit. Deficit quoque, si quando concoctio alimentorum prava est; nam ventriculus crudum cibum ægre intestinis tradiderit. Deficit sæpe propter exercitationem neglectam, qua totum corpus debuisse depleri (619), quamvis ventriculus ipse satia bene se habeat, et concoctio bona

fuerit. Deficit fere a suppressa per cutem exhalatione; ab omni etiam ventriculi debilitate, qualis sæpe subito inducitur; et in omni demum febre appetitus cibi parvus est: neque profecto certius datur signum febris decedentis, quam cibi appetentia redux. Quin et multum abest, ut defectus appetitus, et quæ inde sequitur inedia, ægris, præsertim acutis morbis decumbentibus, tantum noceat, quantum similis inedia sano homini noceret. Neque profecto silentio prætereundum est, fastidium cibi, quod primis diebus febris æger habet, sæpe potius

recusat (adj. adv. red.) onus quale neque potuisset concoquere,  
*refuses a burthen such as she neither could have digested,*  
 neque ferre (infinitive temp. ab iis præcend. pendent)  
*nor borne (the times of the infinitives regulated by the previous verbs)*

impune.

*with impunity.*

644. Appetitus cibi (est) varius etiam admodum sanis,  
*The appetite for food (is) various also even in the very healthy,*  
 nonnunquam intenditur in mirum modum, ita ut  
*sometimes it is increased in a wonderful degree, so that*  
 habeatur non immerito morbosus. Rarum genus mali,  
*it may be considered not undeservedly diseased. A rare kind of disorder,*  
 tamen nonnunquam observatum, et creditum oriri vel a  
*nevertheless sometimes observed, and believed to arise either from*  
 longâ inediâ, vel ab ingentibus exinanitionibus, (rubi revera  
*long fasting, or from large evacuations, (when truly*  
 esset opus subsidio majore solito) vel ab quodam acri  
*there was need of a supply greater than usual) or from some acrid thing*  
 genito in ventriculo, aut recepto in eum, que stimulant eundem  
*generated in the stomach, or admitted into it, and stimulating the same*  
 nimis, vel a læsâ imaginatione, vel denique a pravâ  
*too much, or from diseased imagination, or finally from a bad*  
 consuetudine. Enim est non dubium homines evadere avidiores et  
*habit. For it is not doubtful that men become more covetous and*  
 capaciores cibi usu solo.  
*more capable of food by use alone.*

645. Depravatio ejûsdem appetitûs et desiderium insolitæ  
*A depravation of the same appetite and a desire of an unusual*  
 parum idoneæ aut non esculentæ rei, plerumque oritur a læsâ  
*not very suitable or not esculent thing, generally arises from diseased*  
 imaginatione, præsertim ubi attenditur (sc. ab æg. imperson. pon.) plus  
*imagination, especially when it is attended (when we attend) more*  
 justo ad ventriculum habentem se male. Hæc videtur esse  
*than proper to the stomach having itself badly. This seems to be*  
 ratio quod malum aliquando accidens naturâ  
*the reason that the disorder sometimes happening by nature (naturally)*  
 mulieribus dum gerunt uterum (gravidum) scilicet quæ  
*to women whilst they carry the uterus (when pregnant) as being those who*  
 fere soleant laborare a ventriculo, ingravescat eo magis,  
*generally are accustomed to suffer from the stomach, increases the more,*  
 et facessat plus molestiæ ipsis et aliis, quo indulgeant  
*and causes more (of) trouble to themselves and others, as they indulge*

in salutem cedere. Sapiens nimirum Natura onus recusat, quale neque concoquere potuisset, neque impune ferre.

644. Cibi appetitus etiam sanis admodum varius, nonnunquam mirum in modum intenditur, ita ut non immerito morbosus habeatur. Rarum mali genus, nonnunquam tamen observatum, et creditum oriri, vel a longa inedia, vel ab ingentibus exinanitionibus (ubi subsidio solito majore revera opus esset), vel ab acri quodam in ventriculo genito, aut in eum recepto, eundemque nimis stimulantem, vel a læsâ imaginatione, vel denique a prava con-

suetudine. Non dubium enim est, homines solo usu avidiores cibi et capaciores evadere.

645. Depravatio ejusdem appetitus, et rei insolitæ, parum idoneæ, aut non esculentæ, desiderium, plerumque a læsâ imaginatione oritur, sæpe a nimia indulgentia, præsertim ubi ad ventriculum diu male se habentem plus justo attenditur. Hæc videtur esse ratio quod malum, mulieribus dum uterum gerunt natura aliquando accidens, scilicet quæ a ventriculo fere soleant laborare, eo magis ingravescat, et ipsis et aliis plus molestiæ facessat, quo sibi plus indulgeant: rarissimum ubi mos

sibi plus; rarissimum (sc. malum) ubi mos vetat indulgere  
*themselves more: a very rare one where the custom forbids to indulge*  
 ei (sc. malo), jubet celare talem abnormem appetitum; frequens et  
*it, orders to conceal such an irregular appetite; frequent and*  
 vehemens, neque semper directum ad res ullo modo esculentas,  
*vehement, nor always directed to things in any way esculent,*  
 ubi fœminæ potius ducunt decorum sibi, et mos  
*where women rather consider it becoming to them, and the custom*  
 jubet omnem maritum indulgere gravidæ uxori, et sane metus  
*orders every husband to indulge his pregnant wife, and indeed fear*  
 cogat, ne uxor pariat monstrum pro filio;  
*compels (him), lest his wife should bring forth a monster for (instead of) a son;*  
 vel denique, si quid mali forte acciderit mulieri,  
*or lastly, if any (of) evil by chance should happen to the woman,*  
 aut abortu aut puerperio, ipse habeatur  
*either by abortion or in parturition, he himself should be considered*  
 parricida suæ uxoris.  
*the murderer of his wife.*

646. Vehemens appetentia insolitæ que vix esculentæ rei  
*A vehement longing for an unusual and scarcely esculent thing*  
 nonnunquam observatur a certo statu ventriculi, quæ,  
*is sometimes observed from a certain state of stomach, which,*  
 tamen, potest esse salubris: veluti cupiditas absorbentium, ut  
*notwithstanding, may be healthy: as a desire for absorbents, as*  
 vocantur, a multo acore in ventriculo, vel (cupiditas) acidorum  
*they are called, from much acid in the stomach, or for acids*  
 et omnis herbæ in scorbuto, vel vini et similium  
*and every (kind) of vegetable in scurvy, or of wine and like things*  
 in febre. Desideria hujusmodi, si indulgetur modice iis  
*in fever. Desires of this sort, if it be indulged moderately to them*  
 (impersonal. ponitur) - sæpe prosunt, raro nocent.  
*(they be moderately indulged) often benefit, seldom injure.*

647. Sitis, non secus ac fames, aliquando deficit, aliquando  
*Thirst, in like manner as hunger, sometimes fails, sometimes*  
 observatur nimia. Defectus ejus vix est habendus morbosus,  
*is observed excessive. Defect of it scarcely is to be considered diseased,*  
 dummodo cætera valetudo fuerit secunda, et concoctio  
*provided the rest of the health should be good, and the digestion*  
 cibi bona; nimirum quia tunc est verisimile corpus  
*of the food healthy; truly because then it is probable that the body*  
 non egere potu. Sunt qui nunquam sitiunt; scilicet,  
*does not want drink. There are they who never thirst; namely,*

vetat ei indulgere, jubet celare talem appetitum abnormem; frequens et vehemens, neque semper ad res ullo modo esculentas directum, ubi fœminæ potius decorum sibi ducunt, et mos jubet omnem maritum gravidæ uxori indulgere, et sane metus cogat, ne pro filio monstrum pariat uxor: vel denique, si forte quid mali, aut abortu aut puerperio, mulieri acciderit, ipse suæ uxoris parricida habeatur.

646. Nonnunquam appetentia vehemens rei insolitæ vixque esculentæ observatur, a certo statu ventriculi, quæ tamen salubris esse po-

test: veluti cupiditas absorbentium, ut vocantur, a multo acore in ventriculo, vel acidorum et omnis herbæ in scorbuto, vel vini et similium in febre. Hujusmodi desideria, si iis modice indulgetur, sæpe prosunt, raro nocent.

647. Sitis, non secus ac fames, aliquando deficit, aliquando nimia observatur. Defectus ejus vix morbosus habendus est, dummodo valetudo cætera secunda fuerit, et concoctio cibi bona; nimirum, quia tunc verisimile est, corpus potu non egere. Sunt qui nunquam sitiunt; homines, scilicet, constitutionis corporis

homines humidæ constitutionis corporis, que utentes fluido cibo,  
 persons of a moist constitution of body, and using fluid food,  
 quibus copiosior secretio humorum oris nunquam sinit  
 in whom a more copious secretion of the fluids of the mouth never permits  
 fauces arescere.  
 the fauces to grow dry.

648. Vero nulla sitis, cum aridæ fauces, scabra lingua, que  
 But no thirst, when the dry fauces, the furred tongue, and  
 alia signa testantur esse opus multo potu, ea (sc. sitis)  
 other symptoms testify that there is need of much drink, that  
 demum est vere morbosa, et haud secundi ominis: fere  
 indeed is truly morbid, and of no favorable omen: for the most part  
 referenda ad stuporem, delirium, cerebrum læsum aliquo  
 to be referred to stupor, delirium, the brain injured in some  
 modo; quo fit ut æger nequeat percipere stimulum  
 way; by which it happens that the patient cannot perceive a stimulus  
 quamvis validum.  
 however strong.

649. Nimia sitis, multo frequentius genus vitii, oritur  
 Excessive thirst, (by) a much more frequent kind of disease, arises  
 vel ab inopiâ fluidarum partium in corpore, veluti si potus  
 either from dearth of the fluid parts in the body, as when drink  
 fuerit negatus diu; vel si corpus fuerit exhaustum  
 has been denied for a long time; or when the body has been exhausted of  
 suo humore validâ exercitatione, aut sudore, aut ingente  
 its fluid by violent exercise, or sweating, or a severe  
 profluvio alvi aut urinæ: vel ab aliquo acri admissio  
 profluvium of the belly or of the urine: or from some acrid admitted  
 in corpus, quale provida Natura docet (nos) (nobis) diluendum  
 into the body, such as provident Nature teaches (us) that we ought to dilute  
 multo potu, ut (acre) fiat innocuum, veluti si sal,  
 with much drink, that it may become harmless, as whenever salt,  
 piper, saccharum, que alia condimenta, aut demum duriores et  
 pepper, sugar, and other condiments, or even the harder and  
 acriores cibi fuerint sumpta: vel a ventriculo habente  
 sharper foods have been taken: or from the stomach having  
 se male, et gravato onere corrupti cibi que potus, quod  
 itself badly, and oppressed with a load of corrupted food and drink, which  
 helluones et ebriosi (sc. homines) solent satis experiri;  
 gluttons and drunken persons are accustomed sufficiently to experience;  
 vel a suppressâ aut minutâ secretione humorum oris,  
 or from suppressed or diminished secretion of the fluids of the mouth,

humidæ, fluidoque cibo utentes, quibus copiosior oris humorum secretio nunquam sinit fauces arescere.

648. Sitis vero nulla, cum fauces aridæ, lingua scabra, aliaque signa testantur multo potu opus esse; ea demum vere morbosa est, et haud secundi ominis; ad stuporem, delirium, læsum aliquo modo cerebrum, fere referenda; quo fit, ut æger stimulum, quamvis validum, nequeat percipere.

649. Nimia sitis, frequentius multo vitii generis, oritur, vel ab inopia partium fluidarum

in corpore, veluti si potus diu negatus fuerit; vel si corpus valida exercitatione, aut sudore, aut alvi aut urinæ ingente profluvio, suo exhaustum fuerit humore; vel ab acri aliquo in corpus admissio, quale Natura provida docet multo potu diluendam esse, ut innocuum fiat, veluti si sal, piper, saccharum, aliaque condimenta, aut cibi demum duriores, et acriores, sumpta fuerint; vel a ventriculo ipso male se habente, et onere cibi potusque corrupti gravato, quod helluones et ebriosi satis solent experiri; vel a suppressa aut minuta oris humorum



qualis sæpe observatur a vehemente affectu animi, aut febre, such as often is observed from a violent affection of the mind, or from fever, aut spasmo; vel denique ab tenuibus humoribus versis or spasm; or lastly from the thin fluids turned aliò, quamvis fuerit sat que super elsewhere, although there should be sufficient and over (enough and more than enough) eorum (sc. humorum) in corpore; cujus omnigenus hydrops potest of them in the body; of which every kind of dropsy may esse exemplum. Quin et variæ causæ quæ intendunt be an example. Moreover the various causes which increase (the intensity of) sitim, possunt conjungi in eodem ægro, que ideo inducere thirst, may be united in the same patient, and thus bring on gravius malum: veluti in plerisque febribus quibus ingens a more severe disorder: as in most fevers in which great sitis fere accidit tum ob humores corporis thirst mostly happens (occurs) as well on account of the fluids of the body dissipatos, tum ob calorem, tum ob being dissipated, as on account of heat, as also on account of minutam secretionem humorum quibus os debet the diminished secretion of the fluids with which the mouth ought madere (neut.) tum demum ob ventriculum pessime to be moistened as lastly on account of the stomach very badly affectum neque concoquentem rite, neque tradentem suum onus affected, nor concocting properly, nor delivering its load intestinis. to the intestines.

650. Ratio, itaque, erit in promptu, cur nimia sitis  
*The explanation, therefore, will be in readiness, why excessive thirst*  
 (sit) adeo frequens; (cur) interdum salutaris instinctus Naturæ,  
*is so frequent; why sometimes a salutary instinct of Nature,*  
 interdum affectio prorsus inutilis: cur nunc sitiens  
*sometimes an affection wholly useless: why at one time the thirsting*  
 (sc. homo) egeat plurimo potu, que ventriculus, fere  
*person may require a great deal of drink, and the stomach, almost*  
 statim ut fuerit haustus, sorbeat (eum), deferendum  
*immediately that it has been swallowed, absorbs it, to be conveyed*  
 quâ est opus; cur exigui haustus sæpe sufficient et prosint  
*where there is need; why small draughts often suffice and avail*  
 magis, que (cur) ventriculus ne possit aut sorbere, aut tolerare,  
*more, and the stomach cannot either absorb, or bear,*  
 largiores (sc. haustus) sine incommodo; cur acida, acescentia,  
*larger ones without inconvenience; why acid, sour things*

secretione, qualis a vehemente animi affectu, aut febre, aut spasmo, sæpe observatur; vel denique ab humoribus tenuibus aliò versis, quamvis sat superque eorum in corpore fuerit; cujus hydrops omnigenus exemplum esse potest. Quin et variæ causæ, quæ sitim intendunt, in eodem ægro conjungi possunt, graviusque ideo malum inducere: veluti in febribus plerisque, quibus fere ingens sitis accidit, cum ob dissipatos corporis humores, tum ob calorem, tum ob minutam secretionem humorum quibus os decet madere, tum demum ob ventriculum

pessime affectum, neque concoquentem rite, neque onus suum intestinis tradentem.

650. Ratio itaque in promptu erit, cur nimia sitis adeo frequens; interdum salutaris naturæ instinctus, interdum affectio prorsus inutilis; cur nunc plurimo potu sitiens egeat, eundemque ventriculus, statim fere ut haustus fuerit, sorbeat, qua opus est deferendum; cur sæpe exigui haustus sufficient, et prosint magis, neque ventriculus largiores aut sorbere, aut sine incommodo tolerare possit; cur acida, acescentia, fructus maturi, paucillum demum

maturi fructus, demum paucillum vini mixtum cum potu  
 ripe fruits, in fine a little (of) wine mixed with the drink  
 pellant sitim melius et certius purâ aquâ: et  
 drive off (quench) thirst better and more certainly than pure water: and  
 denique, cur sitis ne sedanda quidem nectare  
 lastly, why thirst not to be assuaged (quenched) even by nectar  
 pellatur medicamento vomitorio.  
 may be driven off by a medicine that causes vomiting (by an emetic).

651. Actio manducandi nonnunquam impeditur aut  
 The action of chewing (mastication) sometimes is impeded or  
 corrumpitur variis vitis plurimorum organorum  
 is destroyed (interrupted) by the various disorders of the several organs  
 quæ inserviunt eidem (actioni mand.) dolore, tumore, inflammatione,  
 which subserve to the same pain, swelling, inflammation,  
 ulcere, debilitate, rigiditate, spasma, defectu dentium, maxillarum,  
 ulcer, debility, rigidity, spasm, defect of the teeth, of the jaws,  
 buccarum, labiorum, linguæ.  
 of the cheeks, of the lips, of the tongue.

652. Actio devorandi quæ debet succedere  
 The action of swallowing (deglutition) which ought to succeed  
 huic impeditur quoque similibus causis afficientibus  
 to the latter (mastication) is impeded also by similar causes affecting  
 vel os, vel guttur, vel gulam, veluti in anginâ,  
 either the mouth, or throat, or gullet (œsophagus), as in angina,  
 hydrophobiâ, paralyti; denique, summa debilitate, qualis accidit  
 hydrophobia, paralysis; lastly, in extreme debility, such as occurs  
 sub finem multorum morborum, præsertim febrium: tum  
 towards the termination of many diseases, especially fevers: then  
 pessimum vix non lethale.  
 the worst sign scarcely not (all but) deadly.

653. Vero jam concoctio ciborum receptorum in ventriculum  
 But even the digestion of the aliments received into the stomach  
 sæpissime vitatur, plerumque cum majore incommodo quam  
 very often is vitiated, for the most part with (to the) greater annoyance than  
 periculo ægrotantis.  
 danger of the person sick.

654. Concoquitur male (impersonaliter) imprimis propter cibos  
 It is digested badly (digestion is bad) first of all on account of the food  
 ipsos sumptos quantitate, qualitate, mixturâ, minus idoneis, neque  
 themselves taken (being) in quantity, quality, mixture, noway suitable, nor  
 confectos, ut decet, in ore; unde ventriculus vel distentus  
 chewed, as they ought, in the mouth; whence the stomach either distended

vini cum potu mixtum, sitim pura aqua melius et certius pellant; et denique cur sitis, ne nectare quidem sedanda, vomitorio medicamento aliquando pellatur.

651. Impeditur nonnunquam aut corrumpitur actio manducandi, variis vitis plurimorum quæ eidem inserviunt organorum; dolore, tumore, inflammatione, ulcere, debilitate, rigiditate, spasma, defectu dentium, maxillarum, buccarum, labiorum, linguæ.

652. Impeditur quoque similibus causis, vel os vel guttur, vel gulam afficientibus, quæ huic succedere debet, actio devorandi, veluti

in angina, hydrophobia, paralyti, summa denique debilitate, qualis sub finem multorum morborum, præsertim febrium, accidit: signum tum pessimum, vix non lethale.

653. Ciborum vero jam in ventriculum receptorum concoctio sæpissime vitatur, cum majore plerumque ægrotantis incommodo quam periculo.

654. Concoquitur male, imprimis, propter ipsos cibos, quantitate, qualitate, mixtura minus idoneis sumptos, neque ut decet in ore confectos; unde ventriculus, vel nimio onere distentus et gravatus, neque solvere neque pro-

et gravatus nimio onere, potest neque solvere neque propellere  
*and oppressed by too great a load, can neither dissolve nor propel*  
 cibos quos continet; vel alimentaria massa aut indissolubilis  
*the foods which it contains; or the alimentary mass either indissoluble*  
 aut nimis prona in corruptionem brevi fermentescit  
*or too prone (too much disposed) to corruption quickly begins to ferment*  
 atque corrumpitur, viribus ventriculi, quæ debent temperare  
*and is corrupted, the powers of the stomach, which ought to moderate*  
 istam proclivitatem alimentorum ad fermentandum, parum  
*that tendency of the aliments to ferment, not at all*  
 valentibus.

*availing (being wholly inadequate.)*

655. Vero optimi cibi et facillimi concoctu, sæpe  
*But the best aliments and the most easy to be digested, often*  
 concoquantur ægrè, propter bene multa vitia  
*are digested with difficulty, on account of the very many disorders*  
 ventriculi ipsius, et partium quæ præcipue consentiunt cum  
*of the stomach itself, and of the parts which especially consent with*  
 eo, vel denique (prop. vitia) universi corporis.  
*it, or lastly of the whole body.*

656. Defectus humorum ventriculi, varia vitia eorundem,  
*Deficiency of the juices of the stomach, various disorders of the same,*  
 debilitas fibrarum quibus ventriculus instruitur, quævis  
*debility of the fibres with which the stomach is furnished, any*  
 obstructio circa pylorum, quæ non sinit ventriculum  
*obstruction about the pylorus, such as does not permit the stomach*  
 tradere massam quam continet intestinis: tardior motus  
*to transmit the mass which it contains to the intestines: a slower motion*  
 intestinorum, varii morbi ipsorum, generalis infirmitas corporis,  
*of the intestines, various diseases of them, general infirmity of the body,*  
 sive a morbis, sive a gravibus affectibus animi, sive  
*whether from diseases, or from severe affections of the mind, or*  
 a neglectâ exercitatione; demum, exhalatio per cutem  
*from neglected exercise; in fine, the exhalation by the skin*  
 suppressâ vel minuta ab ignaviâ, vel a frigore, præsertim  
*being suppressed or diminished by idleness, or by cold, especially*  
 admoto pedibus, vel a frigidâ et humidâ constitutione aëris,  
*applied to the feet, or from a cold and humid constitution of the air,*  
 sæpe corrumpunt concoctionem ciborum.  
*often corrupt (deprave) the digestion of the aliments.*

657. Innumera mala oriuntur a pravâ concoctione ciborum,  
*Innumerable diseases arise from a bad digestion of the aliments,*

pellere potest cibos quos continet; vel massa alimentaria, aut indissolubilis aut in corruptionem nimis prona, brevi fermentescit atque corrumpitur, viribus ventriculi, quæ istam alimentorum ad fermentandum proclivitatem temperare debent (630), parum valentibus.

655. Cibi vero optimi, et concoctu facillimi, propter vitia bene multa ipsius ventriculi, et partium quæ præcipue cum eo consentiunt, vel denique universi corporis, ægrè sæpe concoquantur.

656. Defectus humorum ventriculi, varia eorundem vitia, debilitas fibrarum quibus ven-

tricus instruitur, obstructio quævis circa pylorum, qualis non sinit ventriculum massam quam continet intestinis tradere; tardior intestinorum motus, varii ipsorum morbi, infirmitas corporis generalis, sive a morbis, sive a gravibus animi affectibus, sive a neglectâ exercitatione; suppressa demum, vel minuta per cutem exhalatio, ab ignavia, vel a frigore, pedibus præsertim admoto, vel a constitutione aëris frigida et humida, concoctionem ciborum sæpe corrumpunt.

657. A prava concoctione ciborum innumera oriuntur mala, neque levia, neque sanatu

neque levia, neque facilia sanatu, quamvis raro observentur  
*nor slight, nor easy to be cured, although they are seldom observed*  
 periculosa; oppressio, anxietus, dolor ventriculi, ructus ab  
*dangerous; oppression, anxiety, pain of the stomach, belching from*  
 aëre extricato inter fermentandum et irritante  
*air disengaged while fermenting (during fermentation) and irritating*  
 ventriculum, et erumpente per gulam; nausea et vomitus  
*the stomach, and breaking forth through the gullet; nausea and vomiting*  
 a ventriculo irritato et distento; alvus aliquando tarda  
*from the stomach being irritated and distended; the belly sometimes slow*  
 aliquando nimis liquida; defectus nutrimenti, generalis in-  
*sometimes too liquid (relaxed); want of nourishment, general in-*  
 firmitas, solidæ partes laxæ, fluidæ nimis tenues, omnes  
*firmity, the solid parts relaxed, the fluid ones too thin, all*  
 functiones impeditæ, dolor capitis, vertigo, syncope, asthma,  
*the functions impeded, pain of the head, vertigo, syncope, asthma,*  
 palpitatio, spiritus valde demissi, præsertim si  
*palpitation, the spirits very downcast (hypochondriasis), especially if*  
 æger fuerit peculiaris constitutionis, nonnunquam demum hydrops,  
*the patient should be of a peculiar constitution, sometimes even dropsy,*  
 vel lenta febris, qualis potest esse tandem lethalis.  
*or slow fever, such as may be at length fatal.*

658. Motus intestinorum aliquando deficit, aliquando est nimius.  
*The motion of the intestines sometimes fails, sometimes is excessive.*

Hinc astricta, vel nimis soluta alvus.  
*Hence a bound, or too relaxed belly.*

659. Durities alvi sæpe familiaris robustis, et  
*Hardness of the belly (costiveness) often common to the robust, and*  
 quidem sanis, gravior et diuturna demum est  
*indeed to the healthy, more severe and continued then at length is*  
 habenda morbus, ipse haud vacuus periculo, quoque  
*to be considered a disease, itself not free from danger, also*  
 comes et effectus et causa multorum morborum. Oritur a  
*the companion and effect and cause of many diseases. It arises from*  
 læsa fabrica intestinorum, veluti si fuerint constricta,  
*the injured structure of the intestines, as when they have been constricted,*  
 aut conclusa, aut obstructa, spasmo, schirro, quavis parte  
*or shut up, or obstructed, by spasm, schirrus, by some part*  
 delapsâ in aliam calculis, concretionibus formatis  
*having slipped into another (intussusception), calculi, concretions formed*  
 in iis, aut demum inflammatione; vel a stercore ipso, duro,  
*in them, or even inflammation; or from the feces itself, hard,*

facilia, quamvis raro periculosa observentur; oppressio, anxietas, dolor ventriculi, ructus ab aëre inter fermentandum extricato, et ventriculo irritante, et per gulam erumpente; nausea et vomitus a ventriculo irritato et distento; alvus aliquando tarda, aliquando nimis liquida; defectus nutrimenti, generalis infirmitas, partes solidæ laxæ, fluidæ nimis tennes, omnes functiones impeditæ, dolor capitis, vertigo, syncope, asthma, palpitatio, spiritus valde demissi, præsertim si æger peculiaris constitutionis fuerit, interdum podagra, nonnunquam demum hydrops, vel febris lenta, qualis tandem lethalis esse potest.

658. Motus intestinorum aliquando deficit, aliquando nimius est. Hinc alvus astricta, vel nimis soluta.

659. Durities alvi, robustis et quidem sanis sæpe familiaris, gravior et diuturna morbus demum habenda est, ipse haud vacuus periculo, multorum quoque morborum comes, et effectus, et causa. Oritur vel a læsa fabrica intestinorum, veluti, si constricta, aut conclusa, aut obstructa fuerint, spasmo, schirrho, parte quavis in aliam delapsa, calculis vel concretionibus in iis formatis, aut demum, inflammatione; vel a stercore ipso, duro, sicco, ægre propellendo, a cibi genere nimis solido et potu parco;

siccò, ægre propellendo, a nimis solido genere cibi, et  
*dry, with difficulty to be propelled, from a too solid kind of food, and*  
 parco potu; vel a defectu humorum qui debent diluere  
*scanty drink; or from deficiency of the fluids which ought to dilute*  
 alimentariam massam, que humectare et reddere intestina  
*the alimentary mass, and to moisten and to render the intestines*  
 lubrica: vero hi secernuntur parcius justo vel  
*slippery: but these are secreted more sparingly than proper either*  
 ob vitia secernuntur organorum sæpe parum intellecta  
*on account of disorders of the secreting organs often little understood*  
 veluti in fere omnibus febribus, saltem primis temporibus, vel  
*as in almost all fevers, at least in the first stages, or*  
 propter sanguinem versum alio, veluti ad cutem; quod  
*on account of the blood directed elsewhere, as to the skin; which*  
 revera accidit a crebra et valida exercitatione, calore, multo  
*truly occurs from frequent and violent exercise, heat, much*  
 sudore. Dura alvus interdum quoque observatur a debilitate,  
*sweating. A costive belly sometimes also is observed from debility,*  
 nonnunquam forsitan a paralyti moventium fibrarum intestinorum,  
*occasionally perhaps from paralysis of the moving fibres of the intestines,*  
 vel denique a defectu soliti stimuli, veluti fellis, quod  
*or finally from deficiency of the usual stimulus, as of the bile, which*  
 supprimitur in regio morbo (? alio potius versum); vel a nimis  
*is suppressed in the royal disease (jaundice); or from too*  
 parco cibo, neque adeo acri ut stimulet intestina solito  
*spare diet, nor so sharp that it can stimulate the intestines in the usual*  
 more, et excitet ad justam actionem.  
*manner, and excite them to a proper action.*

660. Vero excretio per alvum, utcunque putrida et acris videatur,  
*But the excretion by the belly, however putrid and acrid it may seem,*  
 præ omnibus aliis regitur consuetudine, et potest supprimi  
*before all others is governed by habit, and may be suppressed*  
 pro tempore minore periculo. Cibi plerumque transeunt per  
*for a time with less danger. The foods generally pass through*  
 corpus spatio circiter unius diei: vero sæpe multo velocius  
*the body in the space of about one day: but often much more quickly*  
 aut tardius; enim sunt alioquin sani qui vix  
*or slowly; moreover there are some otherwise healthy who scarcely*  
 evacuarint alvum ter in mense; multum hic pendet ab  
*will evacuate the belly three times in a month; much here depends upon*

vel a defectu humorum qui massam alimentariam diluere (634) intestinaque humectare et lubrica reddere debent: hi vero parcius justo secernuntur, vel ob vitia organorum secernentium sæpe parum intellecta, veluti in febribus fere omnibus, primis saltem temporibus, vel propter sanguinem alio versum, veluti ad cutem; quod revera accidit a crebra et valida exercitatione, calore, sudore multo. Alvus quoque dura interdum observatur a debilitate, nonnunquam forsitan a paralyti fibrarum moventium intestinorum, vel denique, a defectu

soliti stimuli, veluti fellis, quod in morbo regio supprimitur; vel a cibo nimis parco, neque adeo acri ut intestina more solito stimulet, et ad justam actionem excitet.

660. Excretio vero per alvum, utcunque putrida et acris videatur, præ omnibus aliis regitur consuetudine, et minore periculo pro tempore supprimi potest. Cibi plerumque spatio circiter unius diei per corpus transeunt: sæpe vero multo velocius aut tardius; sunt enim qui alvum vix ter in mense evacuarint, alioquin sani. Multum hic pendet ab ætate et

ætate et constitutione singulorum hominum, et a genere  
*the age and constitution of the individual persons, and upon the kind*  
 cibi quo utuntur.  
*of food which they use.*

661. Tubus intestinorum primo, deinde totum corpus  
*The tube of the intestines first, afterwards the whole body*  
 afficitur ab alvo astricta diu. Ventriculus habet se  
*is affected from the belly being bound a long time. The stomach has itself*  
 male, concoquitur male, totum corpus præter solitum excitatur, et  
*badly, it is digested badly, the whole body is unusually excited, and*  
 calet, quod est imprimis notabile in febris; fortasse sanguis  
*grows hot, which is especially remarkable in fevers; perhaps the blood*  
 ipsa etiam corrumpitur, putridâ materiâ delatâ ab intestinis.  
*itself also is corrupted, by a putrid matter conveyed from the intestines.*  
 Sanguis fluit minus libere per viscera abdominis, unde  
*The blood flows less freely through the viscera of the abdomen, whence*  
 sæpe (sunt) abnormes congestiones, varices venarum, effusiones sanguinis  
*often irregular congestions, varices of the veins, effusions of blood*  
 in intestina, que profluvium ejus ex ano: quod malum  
*into the intestines, and a profluvium of it from the anus: which disorder*  
 vocatur hæmorrhoidis. Quin et intestina ipsa, distenta  
*is called hæmorrhoids (piles). Moreover the intestines themselves, distended*  
 et irritata plurimâ acri et putridâ materiâ, incitantur  
*and irritated with a great deal of acrid and putrid matter, are excited*  
 ad novos et validiores motus; qui si nequeunt superare  
*to new and stronger motions; which if they cannot overcome*  
 obstructionem, sæpe inducunt insignem dolorem, et tormina, et  
*the obstruction, often bring on very great pain, and gripes, and*  
 colicam, et ileum, et inflammationem, et gangrænam brevi  
*colic, and iliac passion, and inflammation, and gangrene quickly*  
 lethalem.  
*fatal.*

662. Vocatur fluxus alvi, seu diarrhœa, siquando alvus,  
*It is called a flux of the belly, or diarrhœa, whenever the belly,*  
 liquidior justo, evacuatur nimis sæpe: profecto multiplex  
*more liquid than proper, is evacuated too often: truly a complicated*  
 et frequentissimum malum; aliquando primarius morbus, sæpius  
*and very frequent disorder; sometimes a primary disease, more often*  
 effectus aliorum; interdum salutaris conatus naturæ, qualem sæpe  
*an effect of others; sometimes a salutary effort of nature, such as it often*  
 decet medicum imitari, et inducere arte. Fluxus alvi  
*becomes the physician to imitate, and to induce by art. A flux of the belly*

constitutione singulorum hominum, et a genere cibi quo utuntur.

661. Ab alvo diu astricta tubus intestinorum primo afficitur, deinde totum corpus. Ventriculus male se habet, male concoquitur, totum corpus præter solitum excitatur, et calet, quod in febris imprimis notabile est; fortasse etiam, putrida materia ab intestinis delata, sanguis ipsa corrumpitur. Sanguis minus libere per viscera abdominis fluit; unde sæpe congestiones abnormes, varices venarum, sanguinis effusiones in intestina, ejusque profluvium ex ano: quod malum hæmorrhoidis vocatur.

Quin et intestina ipsa, plurima materia acri et putrida distenta et irritata, ad novos et validiores motus incitantur; qui, si obstructionem superare nequeunt, insignem dolorem sæpe inducunt, et tormina, et colicam, et ileum, et inflammationem, et gangrænam brevi lethalem.

662. Alvi fluxus seu diarrhœa vocatur, siquando alvus liquidior justo nimis sæpe evacuatur: multiplex profecto, et frequentissimum malum; aliquando primarius morbus, sæpius aliorum effectus; interdum salutaris naturæ conatus, qualem medicum sæpe decet imitari, et arte inducere. Quibusdam hominibus, præ-

est familiaris quibusdam hominibus, præsertim infantibus; et hi  
*is common to some men, especially to infants; and the latter*  
 sane solent pati multum ab astrictâ alvo.  
*indeed are accustomed to suffer much from a bound belly.*

663. Oritur a variis causis: imprimis, quovis acri recepto  
*It arises from various causes: first of all, any acrid thing received*  
 in corpus, aut genito in intestinis, corruptione, cum acidâ  
*into the body, or generated in the intestines, corruption, as well acid*  
 tum putridâ, alimentariæ massæ, aut felle abundante prætersolitum  
*as putrid, of the alimentary mass, or the bile abounding unusually*  
 aut acri, aut sanguine vel pure effusis in intestinis,  
*(abundant) or acrid, or (from) blood or pus effused in the intestines,*  
 que intestinis ipsis erosis, vel orbatis proprio muco,  
*and the intestines themselves corroded, or deprived of their proper mucus,*  
 vel ab humoribus pulsis a superficie corporis que directis  
*or from the fluids being driven from the surface of the body and directed*  
 versus internas partes, veluti a frigore, præsertim admoto  
*towards the internal parts, as by cold, especially (when) applied*  
 pedibus; vel a generali corruptione corporis, ut in phthisi,  
*to the feet; or from a general destruction of the frame, as in phthisis,*  
 hecticâ febre, vel putridâ febre, vel scorbuto, imprimis sub finem  
*hectic fever, or putrid fever; or in scurvy, especially towards the close*  
 istorum morborum. Fluxus alvi, aliquando salutaris in febribus,  
*of those diseases. A flux of the belly, sometimes salutary in fevers,*  
 vel penitus solvit morbum, vel reddit eum mitiorem, vero  
*either entirely removes the disease, or renders it milder; but*  
 sæpius juvat nihil, que potius exhaurit vires ægri,  
*more often it assists in no way, and rather exhausts the strength of the patient,*  
 ducens originem a putredine, si neque remedia idonea ad  
*drawing its origin from putridity, if neither remedies proper for*  
 corrigendam hanc fuerint tempestive data, neque evacuantia remedia  
*correcting this have been seasonably given, nor evacuating remedies*  
 adhibita, qualia convenirent ad liberanda ventriculum et intestina  
*administered, such as would suit for freeing the stomach and intestines*  
 plurimâ corruptâ materiâ quâ solent  
*from the great deal of corrupted matter with which they are accustomed*  
 gravari in morbis istiusmodi. Denique, sunt qui habent  
*to be oppressed in diseases of that kind. In fine, there are they who have*  
 intestina adeo debilia et mobilia, ut plectantur vehemente  
*the intestines so weak and irritable, that they are seized with a severe*  
 fluxu alvi, a levissimâ causâ, veluti frigore suscepto,  
*flux of the belly, from the slightest cause, as from cold being caught,*

sertim infantibus, alvi fluxus familiaris est; et hi sane ab astricta alvo multum pati solent.

663. Oritur a variis causis: acri imprimis quovis in corpus recepto, aut in intestinis genito, massæ alimentariæ corruptione, cum acidâ tum putridâ, aut felle præter solitum abundante aut acri, aut sanguine vel pure in intestinis effusis, ipsisque intestinis erosis, vel proprio muco orbatis, vel ab humoribus a superficie corporis pulsis partesque internas versus directis, veluti a frigore, præsertim pedibus admoto; vel a generali corporis corruptione, ut in phthisi, febre hecticâ, vel febre putridâ, vel scorbuto, imprimis sub finem isto-

rum morborum. In febribus aliquando salutaris alvi fluxus vel penitus solvit morbum, vel eum mitiorem reddit; sæpius vero nihil juvat, viresque ægri potius exhaurit, a putredine originem ducens, si neque idonea ad hanc corrigendam tempestive data fuerint remedia, neque evacuantia remedia adhibita, qualia convenirent ad ventriculum et intestina liberanda plurima materia corrupta, qua in istiusmodi morbis gravari solent. Denique, sunt qui habent intestina adeo debilia et mobilia (363), ut a levissima causa, veluti frigore suscepto, aut animo præter solitum commoto, vehemente alvi fluxu plectantur. Postremo,

aut animo præter solitum commoto. Postremo, qualiscunque fuerit  
*or the mind unusually disturbed. Lastly, whatever may have been*  
 prima origo mali, si perstiterit diu reddit viscera  
*the first origin of the disorder, if it should continue long it renders the bowels*  
 adeo debilia et irritabilia, ut morbus, quamvis sæpe depulsus,  
*so weak and irritable, that the disease, although often driven off,*  
 non secus ac multi alii morbi solent, recurrat levis-  
*in like manner as many other diseases are accustomed, returns from the*  
 simis causis, neque semper detegendis.  
*slightest causes, nor always to be detected.*

664. Hinc patet ratio vel sistendi vel levandi  
*Hence is laid open the means either of stopping or of relieving*  
 morbi, evacuantibus, diluentibus, glutinosis, gummosis medicamentibus,  
*the disease, by evacuating, by diluting, by glutinous, by gummy medicines,*  
 quæ corrigunt, interdum acorem, interdum putredinem, opio,  
*which correct, sometimes acidity, sometimes putrescency, by opium,*  
 astringentibus, aut calidiorè aère aut vestitu, vel demum  
*by astringing (remedies), or warmer air or clothing, or finally*  
 sudore excitato arte.  
*by sweat excited by art.*

665. Fluxus alvi nocet multum, imprimis nutrimento corporis  
*The flux of the belly hurts much, first of all by the nutriment of the body*  
 impedito ob pravam concoctionem cibi, (nam ventriculus  
*being impeded because of the bad digestion of the food, (for the stomach*  
 fere laborat,) que massam alimentorum transeuntem tam subito  
*generally suffers,) and the mass of the aliments passing so suddenly*  
 per viscera, ut neque possit concoqui, neque (possit) nutri-  
*through the viscera, that neither can it be digested, nor can the nutri-*  
 mentum ex eâ sorberi rite per lactea vasa, ut  
*ment from it be absorbed properly by the lacteal vessels, that*  
 recipiatur in sanguinem.  
*it may be received (so as to be received) into the blood.*

666. Præterea, vehemens exinanitio istiusmodi nocet, scilicet corpore  
*Besides, violent evacuation of that sort hurts, namely by the body*  
 exhausto profluvio, quod detrahat multum nutrientis  
*being exhausted by the profluvium, which takes away much of the nutrient*  
 materiæ e sanguine; neque profecto massa sola alimentorum  
*matter from the blood; nor indeed (is) the mass alone of the aliments*  
 excernitur citius justo, sed simul magna copia  
*excreted more quickly than proper, but at the same time a great abundance*  
 humorum qui secernuntur in intestinis. Quin et totum corpus  
*of the fluids which are secreted in the intestines. Moreover the whole body*

qualiscunque prima origo mali fuerit, si diu perstiterit, viscera adeo debilia et irritabilia reddit, ut morbus, quamvis sæpe depulsus, levis-  
 simis, neque semper detegendis causis recurrat, non secus ac multi alii morbi solent (386).

664. Hinc ratio patet morbi vel sistendi vel sublevandi, medicamentis evacuantibus, diluentibus, glutinosis, gummosis, interdum quæ acorem, interdum quæ putredinem corrigunt, opio, astringentibus, aut aère aut vestitu calidiorè, vel sudore demum arte excitato.

665. Nocet multum alvi fluxus, impedito imprimis nutrimento corporis ob pravam cibi

concoctionem (nam ventriculus fere laborat), massamque alimentorum tam subito per viscera transeuntem, ut neque concoqui possit, neque nutrimentum ex ea per vasa lactea rite sorberi, ut in sanguinem recipiatur.

666. Nocet præterea vehemens istiusmodi exinanitio, exhausto scilicet corpore profluvio, quod multum materiæ nutrientis e sanguine detrahat; neque profecto sola alimentorum massa citius justo excernitur, sed magna simul copia humorum qui in intestinis secernuntur. Quin et totum corpus intestinorum debilitatem brevi participat.



brevi participat debilitatem intestinorum.  
*shortly participates the debility of the intestines.*

667. Aliquando vehemens et diuturnus fluxus alvi ingravescit  
*Sometimes a violent and continued flux of the belly increases*  
 eousque ut cibi transeant per corpus parum vel nihil  
*to that pitch that the aliments pass through the body little or not at all*  
 mutati: quod genus mali vocatur Lienteria. Chylus ipse,  
*changed: which kind of disease is called Lientery. The chyle itself,*  
 instar lactis, nonnunquam, quamvis raro, a simili causa, excernitur  
*like milk, sometimes, though rarely, from a similar cause, is excreted*  
 cum stercore, vel ab mesentericis glandulis que aliis viis, quibus  
*with the feces, or from the mesenteric glands and other ways, by which*  
 itur, (impersonaliter) in sanguinem obstructis. Hoc malum  
*it is gone, (there is a passage) into the blood being obstructed. This disease*  
 vocatur cæliacus fluxus.  
*is called the cæliac flux.*

668. Est morbus cui nomen Dysenteria imponitur, ubi  
*There is a disease to which the name Dysentery is given, where (in which)*  
 immania tormina ventris urgent, et frequens cupiditas desi-  
*dreadful gripings of the belly urge, and a frequent desire of going*  
 dendi adest, et inanes conatus fiunt, qui fere excernunt  
*to stool is present, and vain efforts are made, which mostly excrete*  
 nihil præter mucum intestinorum vel paucillum sanguinis; magnâ  
*nothing except the mucus of the intestines or a little (of) blood; great*  
 debilitate et putredine et febre sæpe comitantibus. Videtur oriri  
*debility and putridity and fever often accompanying. It seems to arise*  
 a inferiore parte intestinorum constrictâ, et quodammodo  
*from the lower part of the intestines being constricted, and in some degree*  
 inflammata; quo fit (quod) hæc, (intestina) quamvis multum  
*inflamed; whence it happens that they, although greatly*  
 irritata, possint demittere fere nihil. Neque morbus  
*irritated, can send down (void) almost nothing. Nor (is) the disease*  
 faciliè solvitur priusquam alvus fuerit probe purgata idoneis  
*easily resolved before that the belly have been well purged by suitable*  
 medicamentis.  
*medicines.*

669. Frequens, inexplebilis, inanis cupiditas desidendi, cum magno  
*A frequent, insatiable, fruitless desire of going to stool, with great*  
 nixu, qui, tamen, exprimat omnino parum vocatur  
*straining, which, however, forces out very little (nothing at all) is called*  
 tenesmus. Omnis irritatio, vel intestini recti ipsiûs,  
*tenesmus. Every (kind of) irritation, either of the intestine rectum itself,*

667. Aliquando alvi fluxus vehemens et diu-  
 turnus eo usque ingravescit, ut cibi parum vel  
 nihil mutati per corpus transeant: quod mali  
 genus Lienteria vocatur. Nonnunquam, quamvis  
 raro, a simili causa, vel ab obstructis glandulis  
 mesentericis aliisque viis quibus in sanguinem  
 itur, chylus ipse, instar lactis, cum stercore ex-  
 cernitur. Malum hoc fluxus cæliacus vocatur.

668. Morbus est cui nomen Dysenteria impo-  
 nitur, ubi immania tormina ventris urgent, et  
 frequens desidendi cupiditas adest, et conatus  
 inanes fiunt, qui nihil fere præter intestinorum

mucum vel paucillum sanguinis excernunt;  
 magna debilitate, et sæpe putredine et febre  
 comitantibus. Videtur oriri a constricta parte  
 intestinorum, et quodammodo inflammata, in-  
 feriore; quo fit hæc, quamvis multum irritata,  
 nihil fere demittere possit. Neque facile  
 prius solvitur morbus, quam idoneis medica-  
 mentis alvus probe purgata fuerit.

669. Tenesmus vocatur frequens, inexplebilis,  
 inanis desidendi cupiditas, cum magno nixu,  
 qui tamen parum omnino exprimat. Irritatio  
 omnis, vel ipsius intestini recti, vel partium

vel vicinarum partium, quædam acria recepta in corpus, or of the neighbouring parts, certain acrids received into the body, fortiora medicamenta, imprimis aloë, quæ solet solvi stronger medicines, especially aloes, which is accustomed to be dissolved omnino lentè, et pervenire usque ad intestinum rectum parum very slowly, and to arrive even at the intestinum rectum little mutata, gravior et pertinacior fluxus alvi, dysenteria, changed, more severe and more obstinate flux of the belly (diarrhœa), dysentery, hæmorrhoids, vermes, fistula ani, calculus, vel ulcus in vesicâ, hæmorrhoids, worms, fistula of the anus, calculus, or ulcer in the bladder, vel in urethrâ, &c. sæpe inducunt tenesmus. Sæpe nocet haud or in the urethra, &c. often bring on tenesmus. It often hurts not parum, cum insigni molestiâ quam facessit ægro, tum a little, as well by the great trouble which it causes to the patient, as viribus ejûs exhaustis, frequente et inani nixu, by the strength of him being exhausted, by the frequent and fruitless straining, tum quoque prolapsu ani inducto ipso nixu, et as also by prolapsus ani being brought on by that straining, and gravi irritatione communicatâ cum vicinis partibus, by the severe irritation communicated to the neighbouring parts, vesicâ, &c.

the bladder, &c.

670. Motus intestinorum sæpe observatur inversus, ita ut (intestina)  
The motion of the intestines often is observed inverted, so that

propellant res quas continent, ab inferioribus ad superiores they propel the matters which they contain, from the inferior to the superior partes. Inversio hujûsmodi, quamvis levior, subest, siquando aër, parts. An inversion of this sort, although slighter, exists, whenever air, extricatus per minus sanam concoctionem, volvitur in abdomine, disengaged during (a not) an unhealthy digestion, is rolled in the abdomen, surgit ad ventriculum, vel incipiens in ventriculo, aperit superius rises to the stomach, or beginning in the stomach, opens the upper ostium ejûs, et expellitur per gulam et os, inverso aperture of it, and is expelled by the œsophagus and mouth, by the inverted motu ventriculi, quod vocatur ructus. motion of the stomach, which is called belching (eructation).

671. Vero gravior affectio istiusmodi paulatim rejicit, non But a more severe affection of the same sort by degrees rejects, not modo aëra, sed crudos et corruptos cibos, vel quicquid demum only air, but crude and corrupted food, or whatever indeed fuerit in stomacho. Sunt quibus talis affectio est familiaris. shall be in the stomach. There are to whom such an affection is common.

vicinarum, acria quædam in corpus recepta, medicamenta fortiora, aloë imprimis, quæ lente omnino solvi solet, et ad rectum intestinum usque parum mutata pervenire, alvi fluxus gravior et pertinacior, dysenteria, hæmorrhoids, vermes, fistula ani, calculus, vel ulcus in vesica, vel in urethra, &c. tenesmus sæpe inducunt. Haud parum sæpe nocet, cum insigni quam ægro facessit molestia tum viribus ejus exhaustis, frequente et inani nixu, tum quoque isto nixu, prolapsu ani inducto, et gravi irritatione cum partibus vicinis, vesicâ, &c. communicata.

670. Inversus intestinorum motus sæpe observatur, ita ut res quas continent ab inferioribus ad superiores partes propellant. Hujûsmodi inversio, quamvis levior, subest, siquando aër, per concoctionem minus sanam extricatus, in abdomine volvitur, ad ventriculum surgit, vel in ventriculo incipiens, ostium ejus superius aperit, et inverso ventriculi motu per gulam et os expellitur, quod ructus vocatur.

671. Gravior vero istiusmodi affectio, non aëra modo, sed cibos crudos et corruptos, vel quicquid demum in stomacho fuerit, paulatim rejicit. Sunt quibus talis affectio familiaris est.

Sunt qui norunt imitari, et inducere eundem motum ad  
*There are who know how to imitate, and to bring on the same motion at*  
 arbitrium, levi conatu, et sic ruminari instar bovis.  
*pleasure, by a slight effort, and so to ruminate like an ox.*

672. Infantes facile et subito, ut videtur, evomunt lac quod  
*Infants easily and suddenly, as it seems, vomit up the milk which*  
 suxerint nimium, simili modo, sine molestiâ aut  
*they have sucked to excess, in a similar manner, without trouble or*  
 gravi nixu.  
*great effort.*

673. Vero ventriculus male affectus, sæpissime dat ingratisimum  
*But the stomach badly affected, very often produces a very unpleasant*  
 sensum, quem vocamus nauseam. Vertigo sæpe comitatur hanc.  
*sensation, which we call nausea. Vertigo often accompanies this.*

Nauseâ ingravescente, non modo motus ventriculi est inversus,  
*The nausea increasing, not only the motion of the stomach is inverted,*  
 sed sæpe (motus) magnæ partis Intestini quod est proximum;  
*but often of a great portion of the intestine which is next (it);*  
 et tandem, transverso septo et musculis abdominis, rap-  
*and at length, the transverse septum and muscles of the abdomen, being*  
 tis in motum, per consensum qui intercedit inter ea  
*hurried (excited) into motion, by the consent which intervenes between them*  
 et ventriculum, totum abdomen, et imprimis ventriculus,  
*and the stomach, the whole abdomen, and especially the stomach,*  
 comprimuntur veluti in prælo; quo auxilio, quicquid fuit in  
*are compressed as if in a press; by which assistance, whatever was in*  
 eo tandem rejicitur per gulam et os insigni vi.  
*it at length is rejected through the œsophagus and mouth with great force.*  
 Magnus fluxus humorum oris solet præcedere vomitum;  
*A great flow of the fluids of the mouth is accustomed to precede vomiting;*  
 interdum, et, tremor inferioris labii; que plena et valida  
*sometimes, also, a trembling of the lower lip; and a deep and strong*  
 expiratio comitatur eum, quâ (expiratione) cavetur (ut) ne quid  
*expiration accompanies it, by which it is provided that nothing*  
 intret laryngem et asperam arteriam.  
*enters the larynx and aspera arteria.*

674. Nausea et vomitus, frequentissima mala, agnoscunt fere  
*Nausea and vomiting, very frequent disorders, acknowledge almost*  
 innumeras causas, tum quæ afficiunt ventriculum ipsum,  
*innumerable causes, as well (those) which affect the stomach itself,*  
 tum quæ (afficiunt) remotissimas partes corporis; irritationes  
*as (those) which (affect) the remotest parts of the body; the irritations*

Sunt qui eundem motum, levi conatu, ad arbitrium imitari et inducere norunt, et sic instar bovis ruminari.

672. Simili, ut videtur, modo, sine molestia aut gravi dixerit, infantes lac, quod nimium suxerunt, facile et subito evomunt.

673. Sæpissime vero ventriculus male affectus ingratisimum sensum dat, quem nauseam vocamus. Hanc sæpe vertigo comitatur (267, 271). Ingravescente nausea, non modo motus ventriculi inversus est, sed sæpe magnæ partis intestini quod proximum est; et tandem, septo transverso, et musculis abdominis, per consen-

sum qui ea inter et ventriculum intercedit, in motum raptis, abdomen totum, et ventriculus imprimis, veluti in prælo comprimuntur; quo tandem auxilio, quicquid in eo fuit insigni vi per gulam et os rejicitur. Vomitum præcedere solet magnus humorum oris fluxus, et interdum labii inferioris tremor; eumque comitatur plena et valida expiratio, qua cavetur, ne quid laryngem et asperam arteriam intret.

674. Nausea et vomitus, frequentissima mala, innumeras fere causas agnoscunt, tum quæ ventriculum ipsum afficiunt, tum quæ remotissimas partes corporis; quarum irritationes,

vel affectiones quarum (sc. partium), qualescunque fuerint, multum  
 or affections of which, whatever kind they may be, greatly  
 afficiunt ventriculum, secundum leges consensûs.  
 affect the stomach, according to the laws of sympathy.

675. Igitur omnis irritatio ventriculi, distentio, veluti  
 Therefore every (kind of) irritation of the stomach, distension, as  
 ab onere crudi cibi, prava concoctio, obstructio circa inferius  
 by a load of crude food, depraved digestion, obstruction about the lower  
 ostium, omnia acrida recepta in eum, morbi jecoris, intestinorum,  
 orifice, all acrids received into it, diseases of the liver, of the intestines,  
 renum, uteri, capitis, pedum, universæ cutis, et sane universi  
 kidneys, uterus, head, feet, of the whole skin, and indeed of the whole  
 corporis; inflammatio, calculus, regius morbus, scirrhus, apoplezia, com-  
 body; inflammation, calculus, jaundice, scirrhus, apoplexy, com-  
 pressio, fractura calvariæ, vertigo, syncope, immanis dolor, podagra,  
 pression, fracture of the skull, vertigo, syncope, intense pain, gout,  
 imprimis repulsa, febres, affectus animi, demum,  
 especially the repelled (retrocedent), fevers, affections of the mind, lastly,  
 imagines vel descriptiones fastidiendæ, sæpe inducunt nauseam et vomitum.  
 notions or descriptions to be loathed, often bring on nausea and vomiting.

676. Ergo ratio erit in promptu, cur malum adeo  
 Therefore the reason will be at hand, why (it is) a disorder so  
 frequens, sæpe primarius morbus, sæpius effectus aliorum morborum;  
 frequent, often a primary disease, more often an effect of other diseases;  
 cur sæpe salutaris conatus naturæ, promovendus summa ope  
 why often a salutary effort of nature, to be promoted by the utmost effort  
 medici; vero interdum prorsus inutilis et ineptus, que  
 of the physician; but sometimes altogether useless and unsuited, and  
 ideo compescendus quamprimum, veluti in febris, ubi  
 therefore to be restrained as soon as possible, as in fevers, where (in  
 aliquando solvit morbum, vero sæpius est effectus  
 which) sometimes it resolves the disease, but more often it is an effect  
 et pars ejus, que intendit eundem, vel saltem multum frangit  
 and part of it, and increases the same, or at least greatly breaks down  
 vires ægri.  
 the strength of the patient.

677. Vomitus etiam, vel nausea, sæpe prodest non modo ventriculo  
 Vomiting also, or nausea, often benefits not only the stomach  
 ipsi, quem liberet insigni onere, sed quoque aliis partibus vel  
 itself, which it relieves from a great load, but also other parts or  
 denique universo corpori. Promovet multum sputum, sicubi pulmo  
 even the whole body. It promotes much spitting, as when the lung

vel affectiones qualescunque fuerint, secundum consensum leges, ventriculum multum afficiunt. 675. Ventriculi igitur irritatio omnis, distentio, veluti ab onere cibi crudi, prava concoctio, obstructio circa ostium inferius, acrida omnia in eum recepta, morbi jecoris, intestinorum, renum, uteri, capitis, pedum, universæ cutis, et sane universi corporis; inflammatio, calculus, morbus regius, scirrhus, apoplezia, compressio, fractura calvariæ, vertigo, syncope, dolor immanis, podagra, repulsa imprimis, febres, animi affectus, imagines demum vel descriptiones fastidiendæ, nauseam et vomitum sæpe inducunt.

676. Ratio ergo in promptu erit, cur malum adeo frequens, sæpe primarius morbus, sæpius aliorum morborum effectus; cur sæpe salutaris naturæ conatus, summa medici ope promovendus; interdum vero inutilis prorsus et ineptus, ideoque compescendus quamprimum, veluti in febris, ubi aliquando morbum solvit, sæpius vero ejus effectus et pars est, eundemque intendit, vel saltem ægri vires multum frangit. 677. Prodest etiam vomitus, vel nausea, sæpe non modo ventriculo ipsi, quem onere insigni liberet, sed aliis quoque partibus, vel denique universo corpori. Sputum multum promovet, sicubi pulmo vel suo gravatus fuerit muco vel

fuerit gravatus, vel suo muco vel sanguine, sero, pure, shall be oppressed, either by its own mucus or blood, serum, pus, aquâ; promovet sudorem, et quoque liberam distributionem sanguinis water; it promotes sweating, and also the free distribution of the blood ad superficiem corporis, partim fortasse, magno nixu qui to the surface of the body, partly perhaps, by the great effort which comitatur vomitum, magis tamen, ut videtur, mirabili consensu accompanies vomiting, more however, as it seems, by the wonderful sympathy qui intercedit inter cutem et ventriculum. Hinc vomitus which exists between the skin and the stomach. Hence vomiting (is) præstantissimum remedium in multis morbis. the most immediate remedy in many diseases.

678. Aliquando nocet, si fuerit vel nimis vehemens, vel nimis frequens; partim ventriculo debilitato et facto mobiliore, Sometimes it hurts, if it should be either too violent, or too frequent; partly by the stomach being debilitated and rendered more irritable, qui nequit tolerare impune vehementem et abnormem motum; which cannot bear with impunity a violent and irregular motion; partim violento nixu, qui fatigat ægrum, et inducit partly by the violent effort, which wearies the patient, and brings on prolapsum, aut herniam, aut abortum, aut profluvia sanguinis, vel ab ventriculo ipso, vel denique a pulmone, aut capite, from the stomach itself, or indeed from the lungs, or head, propter longam et validam expirationem, quod, tamen, rarissime accidit. Porro, diuturnus et vehemens et frequens vomitus, seldom happens. Moreover, continued and violent and frequent vomiting, non secus ac fluxus alvi, debilitat, exhaurit totum corpus, in like manner as the flow of the belly, debilitates, exhausts the whole body, et corrumpit debitam secretionem humorum ventriculi, unde a depraved concoction of the food, and whatever evils flow forth from eâ (prav. concoctione). it.

679. Inversus motus omnium intestinorum, ab ano usque ad os, aliquando observatur; malum pessimi ominis, cui the mouth, sometimes is observed; a disease of the worst omen, to which nomen ileus (volvulus) plerumque datur. Orltur frequentius the name ileus (Ittac passion) generally is given. It arises very frequently

sanguine, sero, pure, aqua; et sudorem quoque, liberam sanguinis ad corporis superficiem distributionem promovet, partim fortasse magno nixu qui vomitum comitatur, magis tamen, ut videtur, mirabili consensu qui inter cutem et ventriculum intercedit. Hinc in multis morbis vomitus præstantissimum remedium.

678. Nocet aliquando, si vel nimis vehemens vel nimis frequens fuerit; partim debilitato et mobiliore facto ventriculo, qui vehementem et abnormem motum impune tolerare nequit; partim violento nixu, qui ægrum fatigat, et

prolapsum, aut herniam, aut abortum, aut sanguinis profluvia inducit, vel ab ipso ventriculo, vel denique a pulmone, aut capite, propter longam et validam expirationem; quod tamen rarissime accidit. Porro, vomitus diuturnus, et vehemens, et frequens, non secus ac alvi fluxus, totum corpus debilitat, exhaurit, et debitam humorum ventriculi secretionem corrumpit: unde prava cibi concoctio, et quotquot ex ea profluunt mala.

679. Inversus aliquando omnium intestinum motus, ab ano ad os usque, observatur malum pessimi ominis, cui nomen ileus ple

ab aliquâ obstructione impediēte descensum massæ alimentorum  
*from some obstruction preventing the descent of the mass of the aliments*  
 vel stercoris, spasmō, schirro, inflammatione intestinorum, duritie  
*or of the fæces, spasm, schirrus, inflammation of the intestines, hardness*  
 alvi, inducente colicam, cujus ileus est pars et  
*of the belly (costiveness), bringing on colic, of which ileus is a part and*  
 effectus. Vero perfectissimus ileus aliquando observatus est cum  
*effect. But the most complete ileus sometimes has been observed when*  
 nulla obstructio fuisset in intestinis; et sic lotiones  
*no obstruction had been (existed) in the intestines; and thus lotions*  
 infusæ per anum redditæ sunt interdum per os, et  
*injected by the anus have been returned sometimes by the mouth, and*  
 ægri nihilominus, post plures dies talis morbi, tandem  
*the patients notwithstanding, after several days of such a disease, at length*  
 convaluerunt.  
*have recovered.*

680. Ileus plerumque incipit torminibus ventris, nausæ, vomitu,  
*Ileus for the most part begins with gripes of the belly, nausea, vomiting,*  
 frequente ructu, nimirum aëre ascendente primum; postea  
*frequent eructation, that is the air ascending first; afterward*  
 æger eructat plurimam fuscam, atram, biliosam, corruptam  
*the patient belches a great deal (of) brown, black, bilious, corrupted*  
 materiam: tandem evomit pleno ore, cum  
*matter: at length he vomits with a full mouth (completely), with*  
 frequente et valido nixu, et immani dolore viscerum: alvus  
*a frequent and strong effort, and severe pain of the bowels: the belly*  
 simul pertinaciter astricta, transmittit nihil; neque ven-  
*at the same time obstinately bound, transmits nothing; nor does the*  
 triculus, agitatus importunissimâ nausæ et vomitu, fere  
*stomach, disturbed with the most urgent nausea and vomiting, commonly*  
 retinet quidquam. Vires ægri collabuntur multum et  
*retain anything. The strength of the patient collapses much and*  
 subito, et ipse (æger) versatur in summo periculo; nam  
*suddenly, and himself is involved in very great danger; for*  
 morbus solet brevi inducere inflammationem, et hæc  
*the disease is accustomed quickly to bring on inflammation, and this*  
 (inflam.) gangrænam.  
*(latter) gangrene.*

681. Profecto levior affectio istiusmodi, scilicet, inversus motus  
*Indeed a slighter affection of this sort, that is, an inverted motion*  
 superioris partis intestini, accidit ab omni vehemente et  
*of the upper portion of the intestine, happens from all violent and*

rumque datur. Oritur frequentius ab obstructio-  
 ne aliqua massæ alimentorum vel stercoris  
 descensum impediēte; spasmō, schirro, inflam-  
 matione intestinorum, alvi duritie colicam in-  
 ducente, cujus ileus pars est et effectus. Ali-  
 quando vero observatus est perfectissimus ileus,  
 cum nulla in intestinis obstructio fuisset; et  
 sic lotiones interdum per anum infusæ per os  
 redditæ sunt, et ægri nihilominus, post plures  
 dies talis morbi, tandem convaluerunt.

680. Incipit plerumque ileus torminibus ven-  
 tris, nausæ, vomitu, frequente ructu, aëre  
 nimirum primum ascendente; postea plurimam

materiam fuscam, atram, biliosam, corruptam,  
 æger eructat: tandem pleno ore emovit, cum  
 frequente et valido nixu, et immani viscerum  
 dolore: alvus simul pertinaciter astricta nihil  
 transmittit, neque ventriculus, importunissima  
 nausea et vomitu agitatus, quidquam fere reti-  
 net. Vires ægri multum et subito collabuntur,  
 et ipse in summo periculo versatur; nam mor-  
 bus brevi solet inflammationem, et hæc gan-  
 grænam inducere.

681. Levior profecto istiusmodi affectio, su-  
 perioris scilicet intestinalis partis motus inversus,  
 ab omni vomitu vehemente et diuturno accidit,

diuturno vomitu, veluti a maritimâ jactatione, vel ab nimis  
*continued vomiting, as from sea tossing, or from a too*  
 valido vomitorio medicamento hausto; enim, plurimum  
*powerful emetic medicine being swallowed; moreover, a great deal of*  
 fel sæpe ascendit hoc modo in ventriculum ab intestino,  
*bile often ascends by this means into the stomach from the intestine,*  
 et tandem vomitur ex ore.  
*and at length is vomited from the mouth.*

682. Ingens vomitus et fluxus alvi simul vocatur  
*A great vomiting and flux of the belly at the same time, is called*  
 cholera. Oritur a validâ irritatione tubi intestinorum, ubi  
*cholera. It arises from severe irritation of the tube of the intestines, when*  
 est nulla obstructio in eo; plerumque a nimio, aut nimis  
*there is no obstruction in it; generally from too much, or too*  
 acri felle; unde habet nomen: quamvis similis affectio oriatur  
*acid bile; whence it has its name: although a similar affection may arise*  
 ab aliis acribus quoque, veluti nimis forti medicamento, aut  
*from other acrids also, as a too powerful medicine, or*  
 maturis fructibus assumptis nimia copiâ. Sæpe violentissimum  
*ripe fruits (being) taken in excessive quantity. Often a very violent*  
 malum, valde debilitat, nonnunquam, nisi idonea remedia fuerint  
*disorder, greatly debilitates, sometimes, unless proper remedies have been*  
 adhibita, brevi extinguit, ægrum.  
*applied, quickly destroys, the patient.*

## CAP. XX.

## CHAP. XX.

*De secretione et excretionē; quæ varietatibus et vitiis earum.*  
 Of secretion and excretion; and the varieties and disorders of them.

683. Plurimi humores, diversi a sanguine, diversi inter  
*Many fluids, differing from the blood, differing among*  
 se, secerantur a massâ sanguinis qualis  
*themselves (from each other), are secreted from the mass of blood such as*  
 diffunditur per aortam ad omnes partes corporis; alii quorum  
*is distributed by the aorta to all parts of the body; some of which*  
 inserviunt variis usibus in corpore ipso, alii, superflui vel  
*serve to various uses in the body itself, others, superfluous or*

veluti a jactatione maritima, vel ab hausto  
 nimis valido vomitorio medicamento; sæpe  
 enim plurimum fel hoc modo ab intestino in  
 ventriculum ascendit, et tandem ex ore vo-  
 mitur.

682. Ingens simul vomitus et alvi fluxus  
 Cholera vocatur. Oritur a valida tubi intesti-  
 norum irritatione, ubi nulla obstructio in eo  
 est; plerumque a felle nimio, aut nimis acri;  
 unde nomen habet: Quamvis ab aliis quoque  
 acribus similis affectio oriatur, veluti medica-  
 mento nimis forti, aut fructibus maturis nimia

copia assumptis. Malum sæpe violentissimum,  
 ægrum valde debilitat; nonnunquam, nisi  
 idonea adhibita fuerint remedia, brevi extin-  
 guit.

CAP. XX.—*De secretione et excretionē; earumque  
 varietatibus et vitiis.*

683. A MASSA sanguinis qualis per aortam ad  
 omnes corporis partes diffunditur, plurimi hu-  
 mores, diversi a sanguine, diversi inter se,  
 secerantur (8); quorum alii variis in ipso  
 corpore usibus inserviunt, alii, superflui vel

noxii, expelluntur assidue ex eodem, alii demum, sunt  
*noxious, are expelled constantly from the same, others finally, are*  
 necessarii ad propagandum genus que alendum novum animal,  
*necessary to propagate the race (species) and support the new animal,*  
 quum primo editur in lucem.  
*when first it is put forth into the light.*

684. Saliva, que alii humores oris, succus ventriculi  
*The saliva, and other fluids of the mouth, the juice of the stomach*  
 et intestinorum, et pancreatis, fel, ille halitus qui  
*and of the intestines, and pancreas, the gall, that exhalation which*  
 irrorat atque humectat cava corporis, sive magna sive parva,  
*bedews and moistens the cavities of the body, whether great or small,*  
 adeps, sebum seu unguen cutis, mucus viarum, quas  
*the fat, the tallow or oily liquor of the skin, the mucus of the passages, which*  
 aër, vel cibus, vel urina debent subire, lachrymæ, aqueus humor  
*the air, or food, or urine ought to pass, the tears, aqueous humour*  
 oculorum, et cerumen, ut vocatur, aurium, pertinent ad  
*of the eyes, and the cerumen (wax), as it is called, of the ears, belong to*  
 primum genus.  
*the first kind (class).*

685. Ad secundum genus pertinet halitus pulmonis, quamvis  
*To the second class belongs the exhalation of the lung, although*  
 hic sane derivetur ab pulmonali arteriâ potius quam ab  
*this indeed is derived from the pulmonary artery rather than from*  
 aortâ, et halitus cutis, et sudor, et urina.  
*the aorta, also the exhalation of the skin, and the sweat, and the urine.*

686. Demum, ad tertium genus pertinent masculinum semen, lacteus  
*Lastly, to the third class belong the male semen, the milky*  
 liquor prostatæ glandulæ, liquor bullarum, seu ovarum, quæ  
*liquor of the prostate gland, the liquor of the bullæ, or ova, which*  
 reperiuntur in ovariis fœminarum, fortasse liquor amnii, que  
*are found in the ovaries of women, perhaps the liquor amnii, and*  
 alii humores fœminæ quotquot conferunt ad generationem; et  
*the other fluids of the woman whatever contribute to generation; and*  
 demum lac mammarum, quod copiosissimum (adverb. red.)  
*indeed the milk of the breasts, which is very abundantly*  
 secernitur certo tempore post partum.  
*secreted at a certain time after parturition.*

687. Secreti humores sæpe dividuntur ab auctoribus, et rediguntur  
*The secreted fluids often are divided by authors, and are reduced*  
 in classes, secundum qualitates ipsorum.  
*into classes, according to the qualities of them.*

noxii, ex eodem assidue expelluntur, alii demum, ad genus propagandum, novumque animal, quum primo in lucem editur, alendum, necessarii sunt.

684. Ad primum genus pertinent saliva, aliique oris humores, succus ventriculi, et intestinorum, et pancreatis, fel, halitus ille qui cava corporis, sive magna, sive parva, irrorat atque humectat, adeps, sebum seu unguen cutis, mucus viarum, quas aër, vel cibus, vel urina, subire debent, lachrymæ, humor aqueus oculorum, et cerumen, ut vocatur, aurium.

685. Ad secundum genus pertinet halitus pulmonis, quamvis hic sane ab arteria pulmo-

nali potius quam ab aorta derivetur, et halitus cutis, et sudor, et urina.

686. Ad tertium demum genus pertinent semen masculinum, liquor lacteus glandulæ prostatæ, liquor bullarum seu ovarum quæ in ovariis fœminarum reperiuntur, liquor amnii fortasse, aliique humores quotquot fœminæ ad generationem conferunt; et demum lac mammarum, quod certo post partum tempore secernitur copiosissimum.

687. Dividuntur ab auctoribus sæpe humores secreti, et in classes rediguntur secundum ipsorum qualitates.



688. Halitus pulmonis que cutis, urina, saliva, succus  
*The vapour of the lungs and skin, the urine, saliva, juice*  
*pancreatis, lachrymæ, aquosus humor oculi, dicuntur aquosi*  
*of the pancreas, tears, aqueous humour of the eye, are called the watery*  
*humores. Mucosi humores sunt tenaces, et quasi gummosi,*  
*fluids. The mucous humours are tenacious, and as it were gummy,*  
*qui oblinunt et defendunt vias quas aër, vel cibus, vel*  
*which anoint and defend the passages which the air, or food, or*  
*urina subeunt, ab omni acri. Semen, et lacteus humor*  
*urine pass through, from every acrid thing. The semen, and milky humour*  
*prostatæ glandulæ annumerantur quoque his. Humores vo-*  
*of the prostate gland are enumerated also with these. The fluids are*  
*cantur glutinosi, qui irrorant varia cava corporis, et*  
*called glutinous, which bedew the various cavities of the body, and*  
*liquor amnii, et fortasse (liquor) ovarum, quæ reperiuntur*  
*the liquor amnii, and perhaps of the ova, which are found*  
*in ovariiis mulierum. Oleosi humores, præter adipem, et medullam*  
*in the ovaria of women. The oily fluids, besides the fat, and the marrow*  
*ossium, dicuntur sebum seu unguen cutis, et fel et*  
*of the bones, are called the tallow or fat of the skin, and the gall and*  
*cerumen aurium: scilicet quæ continent multum olei, et*  
*the wax of the ears: as being things which contain much (of) oil, and*  
*probe siccata inflammantur facile et vehementer.*  
*well dried are inflamed easily and violently (inflammable).*

689. Quin et hi humores sæpe miscentur, nec obtinentur facile  
*Moreover these fluids often are mixed, nor are they obtained easily*  
*sinceri. Os madet salivâ et muco simul;*  
*pure. The mouth is moist with saliva and mucus at the same time;*  
*nares muco et lachrymis; sudor constat ex aquoso*  
*the nostrils with mucus and tears; sweat consists of the watery*  
*halitu cutis, et adipe et unguine ejûsdem, et succus*  
*vapour of the skin, and the fat and ointment of the same, and the juice*  
*ventriculi et intestinorum, et artuum et omnium cavorum,*  
*of the stomach and of the intestines, and joints and of all the cavities,*  
*constat ex oleo, et muco, et glutine, et aquâ. Lac, denique,*  
*consists of oil, and mucus, and gluten, and water. Milk, indeed,*  
*quum primo secernitur, habet multum aquæ, olei, mucii,*  
*when first it is secreted, has (contains) much (of) water, oil, mucus,*  
*et glutinis, ut notissima experimenta docent. Demum, oleosi humores*  
*and gluten, as well known experiments prove. Lastly, the oily fluids*

688. Aquosi humores dicuntur halitus pulmo- nis cutisque, urina, saliva, succus pancreatis, lachrymæ, humor aquosus oculi. Mucosi sunt humores tenaces, et quasi gummosi, qui vias quas aër, vel cibus, vel urina, subeunt, oblinunt, et ab omni acri defendunt. His quoque annumerantur semen et humor lacteus glandulæ prostatæ. Glutinosi vocantur humores qui varia corporis cava irrorant, et liquor amnii, et fortasse ovarum quæ in ovariiis mulierum reperiuntur. Oleosi humores dicuntur, præter adipem et medullam ossium, sebum seu unguen cutis, et fel, et cerumen aurium: scilicet quæ multum

olei continent, et probe siccata facile et vehementer inflammantur.

689. Quin et hi humores sæpe miscentur, nec facile sinceri obtinentur. Os madet saliva simul et muco; nares muco et lachrymis; sudor ex halitu aquoso cutis, et adipe, et unguine ejûsdem constat, et succus ventriculi, et intestinorum, et artuum, et omnium cavorum, ex oleo, et muco, et glutine, et aqua constat. Deuique, lac, quum primo secernitur, habet multum aquæ, olei, mucii, et glutinis, ut notissima experimenta docent. Ipsi demum oleosi, quum

ipsi, quum primum formantur, sunt haud parum  
*themselves, when first they are formed, are not a little (in no small degree)*  
 aquosi.  
*watery.*

690. Porro, alia animalia habent plures humores, plerique quorum  
*Moreover, other animals have many fluids, most of which*  
 sunt similes nostris humoribus, veluti albumen ovi in  
*are similar to our own fluids, as the albumen (white) of the egg in*  
 omnibus oviparis; alii (sunt) haud parum diversi, veluti  
*all oviparous animals; others are not a little different, as*  
 acidus humor insectorum, venena apum aut serpentum, atramentum  
*the acid fluid of insects, the poisons of bees or serpents, the ink*  
 seplæ.  
*(inky blood) of the cuttle fish.*

691. Quidam ex secretis humoribus reperiuntur fere perfecti in  
*Some of the secreted fluids are found almost perfect in*  
 sanguine ipso, ita ut simplicissima secretio seu separatio fuerit  
*the blood itself, so that the most simple secretion or separation would have*  
 fere sat ad producendos ipsos puros et sinceros; cujusmodi  
*been almost sufficient to produce them pure and unmixed; of which sort*  
 sunt, halitus pulmonis et cutis, saliva, succus pan-  
*are, the exhalation of the lungs and skin, the saliva, the juice of the pan-*  
 creatis, lachrymæ, aqueus humor oculi, urina, halitus  
*creas, the tears, the aqueous humour of the eye, the urine, the exhalation*  
 qui humectat omnia cava, scilicet qui constant vel ex  
*which moistens all the cavities, as being things which consist either of*  
 purâ aquâ, vel ex aquâ cum pauxillo glutinis ve salis, qualia  
*pure water, or of water with a little (of) gluten or salt, such as*  
 insunt sanguini.  
*are in the blood.*

692. Vero alii humores sunt naturæ prorsus diversæ, neque  
*But other fluids are of a nature altogether different, neither*  
 similes sanguini ipsi, nec ullis partibus quæ reperiuntur in eo;  
*similar to the blood itself, nor to any parts which are found in it;*  
 quales sunt adeps, medulla, sebum, fel, cerumen aurium,  
*such are fat, marrow, sebaceous matter, gall, wax of the ears,*  
 mucus, et denique, semen ipsum, mirabilis humor, scatens  
*mucus, and lastly, the semen itself, a wonderful fluid, abounding*  
 minutissimis animalibus.  
*with very minute animals.*

693. Alii denique, constant partim ex elementis, qualia reperiuntur  
*Others in fine, consist partly of elements, such as are found*

primum formantur humores, haud parum aquosi sunt.

690. Porro, alia animalia plures humores habent, quorum plerique nostris humoribus similes sunt, veluti albumen ovi in omnibus oviparis; alii haud parum diversi, veluti humor acidus insectorum, venena apum aut serpentum, atramentum seplæ.

691. Quidam ex humoribus secretis in ipso sanguine fere perfecti reperiuntur, ita ut simplicissima secretio seu separatio fere sat fuerit ad ipsos puros et sinceros producendos; cujusmodi sunt, halitus pulmonis et cutis, saliva,

succus pancreaticus, lachrymæ, humor oculi aqueus, urina, halitus, qui omnia cava humectat, scilicet qui vel ex pura aqua constant, vel ex aqua cum pauxillo glutinis salisve, qualia sanguini insunt.

692. Alii vero humores diversæ prorsus naturæ sunt, neque ipsi sanguini, nec ullis quæ in eo reperiuntur partibus (492, 499) similes; quales sunt, adeps, medulla, sebum, fel, cerumen aurium, mucus, et denique semen ipsum, mirabilis humor, minutissimis animalibus scatens.

693. Alii denique constant partim ex elementis

in sanguine, vero partim ex aliis, quæ ostenduntur ægre  
*in the blood, but partly of others, which are shewn with difficulty*  
 in sanguine, veluti lac, glutinosa pars cuius, coagulo admixto,  
*in the blood, as milk, the glutinous part of which, rennet being mixed,*  
 cogitur, et præbet caseum, habet multa communia cum  
*is coagulated, and affords cheese, has many things (in) common with*  
 sero sanguinis, si hoc (sc. serum) fuerit dilutum multâ  
*the serum of the blood, if this should be diluted with much*  
 aquâ; vero nihil ostenditur in sanguine simile oleosæ parti,  
*water; but nothing is shewn in the blood similar to the oily part,*  
 et saccharo lactis, quæ præbent butyrum et serum.  
*and sugar of milk, which afford butter and serum.*

694. Vero omnis humor jam secretus, potest resorberi plus  
*But every fluid already secreted, may be reabsorbed more*  
 minus, vel naturâ vel morbo, et  
*(or) less (in a greater or less degree), either by nature or from disease, and*  
 redire in sanguinem, que nonnihil corrumpere eundem, et tum  
*return into the blood, and somewhat corrupt the same, and then*  
 forsitan secerni rursus, vel saltem transire organa non sua.  
*perhaps be secreted again, or at least pass through organs not their own.*

695. Hoc modo masculinum semen multorum animalium inficit  
*In this manner the male semen of many animals infects*  
 totum corpus suo fœtore, et fel repressum in regio morbo,  
*their whole body with its fœtor, and the bile obstructed in jaundice,*  
 redit in sanguinem, que facit flavam cutem, et exit e  
*returns into the blood, and causes the yellow skin, and goes out of*  
 corpore cum urinâ; et demum, urina repressa, et resumpta  
*the body with the urine; and lastly, the urine obstructed, and taken back*  
 in sanguinem, inundat totum corpus, et aliquando effunditur  
*into the blood, inundates the whole body, and sometimes is effused*  
 in cerebrum ipsum.  
*into the brain itself.*

696. Vero exempla nondum prolata sunt cuiusvis secreti humoris  
*But examples have not yet been set forth of any secreted fluid*  
 formati in organo non suo; nam ratio humoris jam  
*(being) formed in an organ not its own; for the case of a fluid already*  
 formati, que resumpti denuo in massam sanguinis, et tandem  
*formed, and taken up again into the mass of the blood, and at length*  
 delati cum sanguine ad aliena organa, est prorsus alia (ratio).  
*conveyed with the blood to different organs, is wholly different.*

697. Nulla ratio aut explicatio secretionis hactenus data est;  
*No reason or explanation of secretion hitherto has been given;*

qualia in sanguine reperiuntur, partim vero ex aliis, quæ ægre in sanguine ostenduntur; veluti lac, cuius pars glutinosa, quæ admixto coagulo cogitur et caseum præbet, multa habet communia cum sero (498) sanguinis si hoc multa aqua dilutum fuerit; nihil vero in sanguine ostenditur simile parti oleosæ, et saccharo lactis, quæ butyrum et serum præbet.

694. Omnis vero humor jam secretus, vel natura, vel morbo, plus minus resorberi potest, et in sanguinem redire, eundemque nonnihil corrumpere, et tum forsitan per organa non sua rursus secerni, vel saltem transire.

695. Hoc modo semen masculinum multorum

animalium totum corpus suo fœtore inficit: et fel, in morbo regio repressum, in sanguinem redit, cutemque flavam facit, et cum urina e corpore exit; et demum, urina repressa, et in sanguinem resumpta, totum corpus inundat, et in ipsum aliquando cerebrum effunditur.

696. Nondum vero prolata sunt exempla humoris cuiusvis secreti, in organo non suo formati; nam alia prorsus ratio est humoris jam formati, inque massam sanguinis denuo resumpti, et tandem ad aliena organa cum sanguine delati.

697. Nulla secretionis ratio aut explicatio hactenus data est; neque profecto fabricion

neque profecto est fabrica secernentium organorum hactenus  
*nor truly is the structure of the secreting organs hitherto (as yet)*  
 satis nota; neque habent bene multæ conjecturæ quas  
*sufficiently known; nor have the very many conjectures which*  
 medici, tum mathematici (adjective reddend.), tum chemici, propo-  
*physicians, as well mathematicians (the mathematical), as the chemical, have ad-*  
 vuerunt de officio atque actione eorum, multum verisimilis.  
*vanced about the office and action of them, much of probable (probability).*

698. Secernens organum videtur formari ex vasis vehentibus  
*A discerning organ seems to be formed of vessels carrying*  
 sanguinem, tum arteriis tum venis, hiantibus in cavum, vel  
*blood, as well arteries as veins, opening into a cavity, or*  
 habentibus ductus continuos sibi, qui deferant secretum  
*having ducts continuous with themselves, which convey the secreted*  
 humorem quo debet (deferri.) Tale organum, formatum in  
*fluid where it ought (to be conveyed.) Such an organ, formed into*  
 certam figuram cum reticulatâ telâ, et obductum firmiore  
*a certain figure with cellular tissue, and covered with a firmer*  
 membranâ ejûsdem telæ, vocatur glandula: qualia jecur, renes,  
*membrane of the same tissue, is called a gland: such as the liver, kidneys,*  
 testes, prostata, mammæ, tonsillæ, parotidæ, et cætera organa  
*testicles, the prostate, the mammæ, tonsils, parotids, and the other organs*  
 quæ secernunt humores oris, cryptæ, seu folliculi qui  
*which secrete the fluids of the mouth, the folds, or follicles which*  
 continent mucum aut unguen, &c. sunt. Splen quoque, et  
*contain the mucus or oily liquor, &c. are. The spleen also, and*  
 cerebrum ipsum, propter similitudinem fabricæ, solent  
*the brain itself, on account of the similarity of structure, are accustomed*  
 annumerari inter glandulas, seu secernentia organa; recte  
*to be ranked among the glands, or secreting organs; (whether) rightly*  
 an secus nondum constat; neque profecto melius constat  
*or otherwise is not yet determined; nor truly is it better established*  
 de conglobatis glandulis resorbentium vasorum, num hæ  
*concerning the conglobate glands of the absorbing vessels, whether these*  
 quoque debeant recenseri inter secernentia organa, necne.  
*also ought to be reckoned amongst the discerning organs, or not.*

699. Magna copia sanguinis mittitur ad plerasque glandulas, si  
*A great quantity of blood is sent to most (of the) glands, if*  
 fuerit comparata cum mole organi ipsius. Arteriæ  
*it should be compared with the bulk of the organ itself. The arteries*  
 quoque secernentium organorum, et vena portarum quæ est habenda  
*also of secreting organs, the vena portæ which is to be considered*

organorum secernentium hactenus satis nota est; neque conjecturæ bene multæ, quas medici, tum mathematici, tum chemici, de eorum officio atque actione proposuerunt, multum verisimilis habent.

698. Organum secernens formari videtur ex vasis sanguinem vehentibus, tum arteriis tum venis, in cavum hiantibus, vel ductus sibi continuos habentibus, qui humorem secretum quo debet deferant. Tale organum in certam figuram cum tela reticulata formatum, et firmiore ejusdem telæ membrana obductum, glandula vocatur: qualia sunt jecur, renes, testes,

prostata, mammæ, tonsillæ, parotides, et cætera quæ oris humores secernunt organa, cryptæ, seu folliculi qui mucum aut unguen continent, &c. Splen quoque, et cerebrum ipsum, propter fabricæ similitudinem, inter glandulas seu organa secernentia, annumerari solent: recte an secus nondum constat; neque profecto melius constat de glandulis conglobatis vasorum resorbentium (440, 441), num hæ quoque inter organa secernentia recenseri debeant, necne.

699. Magna copia sanguinis ad plerasque glandulas mittitur, si cum mole ipsius organi comparata fuerit. Arteriæ quoque organorum

fere pro arteriâ, sunt multo validiores quam aliæ arteriæ  
*almost as an artery, are (by) much stronger than the other arteries*  
 corporis. Autem venæ quæ respondent his, et reducunt  
*of the body. But the veins which correspond to them, and bring back*  
 sanguinem ad cor, post secretionem factam observantur  
*the blood to the heart, after secretion (being) made (completed) are observed*  
 præter solitum amplæ, tenues, laxæ, et debiles.  
*unusually large, thin, lax, and weak.*

700. Nonnulli medici putarunt fabricam hujusmodi dari  
*Some physicians have supposed that a structure of this sort was given*  
 plerisque glandulis, potissimum hoc consilio, ut sanguis plurimus  
*to most of the glands, principally with this design, that the blood the most*  
 quam subjiçatur actioni earum, quo copiosior  
*possible may be subjected to the action of them, in order that a more copious*  
 secretio humoris fiat; ut arteriæ, præditæ insolita  
*secretion of fluid may be made; that the arteries, endowed with unusual*  
 vi, valeant eo melius ad exprimendas tenues partes massæ  
*power, may be able the better to press out the thin parts of the mass*  
 sanguinis, sive secretus humor ipse fuerit crassus sive tenuis;  
*of blood, whether the secreted humour itself should be thick or thin;*  
 et demum, ut vis arteriæ sit maxima quam, et  
*and finally, that the power of the artery may be the greatest possible, and*  
 renixus venæ quam minimus, quo secretio humoris  
*the resistance of the vein the least possible, that the secretion of humour*  
 fiat facillior, et reditus reliqui sanguinis in venas  
*may become easier, and the return of the remaining blood into the veins*  
 expeditior. Autem fidendum est (nobis) parum omnino his,  
*more easy and quick. But we must trust little at all in these,*  
 et commentis hujusmodi.  
*and conjectures of this kind.*

701. Enim motus sanguinis est valde tardus in quibusdam secretantibus  
*Moreover the motion of the blood is very slow in certain secreting*  
 organis, veluti in jecore et testibus: in illo, nimirum, secretio  
*organs, as in the liver and testes: in the former, truly, the secretion*  
 fit a sanguine venarum; autem in his tenues arteriæ,  
*is made from the blood of the veins; but in the latter slender arteries,*  
 currentes longe, dantes multos ramos, et ipsæ nonnihil dilatatae,  
*running far, giving (off) many branches, and they somewhat dilated,*  
 et sæpe multum convolutæ, deferunt languidum flumen humoris ad  
*and often much convoluted, convey a languid stream of fluid to*  
 testes. Neque est credibile hoc fieri sine consilio,  
*the testes. Nor is it credible that this takes place without design,*

secretantium, et vena portarum, quæ fere pro arteria habenda est, multo validiores sunt quam aliæ corporis arteriæ. Venæ autem quæ his respondent, et sanguinem post factam secretionem ad cor reducunt, præter solitum amplæ, tenues, laxæ, et debiles observantur.

700. Nonnulli medici putarunt hujusmodi fabricam dari hoc potissimum consilio, ut sanguis quam plurimus earum actioni subjiçatur, quo copiosior humoris secretio fiat: ut arteriæ, insolita vi præditæ, eo melius valeant ad partes tenues massæ sanguinis exprimendas, sive crassus sive tenuis

fuerit ipse humor secretus; et demum, ut vis quam maxima arteriæ sit, et renixus quam minimus venæ, quo facillior humoris secretio fiat, et expeditior reliqui sanguinis in venas reditus. His autem et hujusmodi commentis parum omnino fideum est.

701. In quibusdam enim organis secretantibus, veluti in jecore et testibus, motus sanguinis valde tardus est: in illo, nimirum, a sanguine venarum secretio fit; in his autem, tenues arteriæ, longe currentes, multos ramos dantes, ipsæque nonnihil dilatatae et sæpe multum convolutæ, languidum humoris flumen ad testes deferunt. Neque credibile est hoc sine

præsertim quum similis fabrica observetur in fere omnibus animalibus. *especially since a similar structure is observed in almost all animals.*

702. Quin et, nonnullæ secretiones, et profecto copiosæ, perficiuntur *Moreover, some secretions, and indeed copious ones, are accomplished* sine glandulis; saltem nullæ glandulæ, quæ inserviunt illis, *without glands; at least no glands, which serve for them,* detectæ sunt hactenus; nimirum halitus pulmonis et cutis, *have been detected hitherto; indeed the exhalation of the lungs and skin,* sudor, adeps, et glutinosus humor, qui humectat varia cava corporis, *sweat, fat, and the glutinous fluid, which bedews the various cavities of the body,* secernuntur sine glandulis. Igitur, hi humores *of the body, are secreted without glands. Therefore, these humours* videntur decedere a sanguine, et fortasse mutari per minutas *seem to escape from the blood, and perhaps to be changed by minute* arterias hiantes vel in cava corporis, vel in pulmonem, *arteries opening either into the cavities of the body, or into the lungs,* vel in cutem, vel omnino formari vi nondum satis *or upon the skin, or wholly to be formed by a power not yet sufficiently* exploratâ. Enim sincerus adeps vix, ac ne quidem vix, *explored. For pure fat scarcely, and not even scarcely,* cernitur in sanguine: neque sal, qui inest plurimus, *is seen in the blood: nor is the salt, which exists very abundant,* tenuissimus, et probe solutus in sanguine, unquam miscetur in *very subtile, and well dissolved in the blood, ever mixed in* sano corpore cum eo, aut glutinoso halitu cavorum *the healthy body with it, or the glutinous exhalation of the cavities* corporis, aut aquoso halitu cutis, aut demum, sudore. *of the body, or watery exudation of the skin, or finally, the sweat.*

703. Nec melius intelligitur, quomodo sanguis subigatur, mutetur, *Nor is it better understood, how the blood is reduced, is changed,* et vertatur in alios humores in veris glandulis; vel quomodo *and is converted into different humours in true glands; or how* hi secernantur ex eo, et demum prodeant puri. *these are secreted from it, and at length go forth unmixed.*

704. Iatro-mathematici finxerunt varias dotes sanguinis *The Iatro-mathematicians have supposed the various properties of the blood* delati ad certa organa, quæ varias magnitudines, et figuras *conveyed to certain organs, and the various magnitudes, and figures* et densitates particularum; quæ varias densitates, attractiones, *and densities of the particles; and the various densities, attractions,* aperturas, figuras organorum et arteriarum quæ responderent his, *apertures, figures of the organs and arteries which answered to them,*

consilio fieri, præsertim quum similis in omnibus fere animalibus fabrica observetur.

702. Quia et secretiones nonnullæ, et copiosæ profecto, sine glandulis perficiuntur; nullæ saltem quæ iis inserviunt glandulæ hactenus sunt detectæ; halitus nimirum pulmonis et cutis, sudor, adeps, et humor glutinosus, qui varia corporis cava humectat, sine glandulis secernuntur. Hi igitur humores videntur per minutas arterias, vel in cava corporis, vel in pulmonem, vel in cutem hiantes, a sanguine decedere, et fortasse mutari, vel omnino formari, vi nondum satis explorata. Adeps enim sincerus vix, ac ne vix quidem, in sanguine

cernitur: neque cum eo, aut halitu glutinoso cavorum corporis, aut aquoso cutis halitu, aut demum sudore, sal, qui plurimus sanguini inest, tenuissimus, et probe solutus, in sano corpore unquam miscetur.

703. Nec melius intelligitur quomodo in veris glandulis sanguis subigatur, mutetur, et in alios humores vertatur; vel quomodo hi ex eo secernantur, et puri demum prodeant.

704. Varias sanguinis ad certa organa delati dotes, variasque particularum magnitudines, et figuras, et densitates, finxerunt Iatro-mathematici; variasque quæ his responderent organorum et arteriarum densitates, attrac-

que organa ipsa, instar colorum, quibus utimur ad purganda  
*and that the organs themselves, like strainers, which we use to cleanse*  
 vel separanda multa fluida a se invicem, (esse) imbuta certo  
*or separate many fluids from each other, are imbued with a certain*  
 humore, ita ut trahant quasdam partes jam existentes  
*humour, so that they draw (attract) certain parts already existing*  
 in sanguine ad se, et vel transmittant vel detineant  
*in the blood to themselves, and either transmit (them to) or detain (them in)*  
 aliis atque aliis organis. Vero conjecturæ hujusmodi nituntur lubrico  
*the different organs. But conjectures of this sort depend upon a slippery*  
 si ullo fundamento; enim neque constat sanguinem ullo  
*if upon any foundation; for neither is it established that blood in any*  
 modo diversum deferri ad diversa organa, nisi ad jecur,  
*manner different is conveyed to the different organs, except to the liver,*  
 cui sanguis a venis datur; neque sane particulas  
*to which blood from the veins is given; nor truly that the particles*  
 variorum humorum existere in sanguine, priusquam subiverint  
*of the various humours exist in the blood, before that they have undergone*  
 actionem secretantium organorum, neque figuras particularum  
*the action of the secreting organs, nor that the shapes of the particles*  
 que aperturas vasorum esse varias; neque, si hæ res habuissent  
*and apertures of the vessels are various; nor, if these things had had*  
 se ita, potuisset ullus humor unquam secerni purus; quoniam  
*themselves so, could any fluid ever be secreted pure; because*  
 tenuiores (scilicet, quorum particule essent minores secundum  
*the thinner (that is, of which the particles were less according to*  
 opinionem eorum auctorum qui tuebantur hanc doctrinam) elabentes  
*the opinion of those authors who defended this doctrine) escaping*  
 cum crassioribus, semper inquinassent hos: et sic urina,  
*with the thicker, always would have adulterated them: and thus urine,*  
 verbi gratia, secreta cum bile, semine, mucos, lacte, adipe, cor-  
*for example, secreted with bile, semen, mucus, milk, fat, would have cor-*  
 ruptisset omnes istos humores. Quin et, humores qui videntur crassissimi,  
*rupted all those fluids. Moreover, the fluids which seem thickest,*  
 bilis, cerumen, mucus, secreti multo tenuiores, tandem adipiscuntur  
*bile, ear wax, mucus, secreted (by) much thinner, at length acquire*  
 debitam crassitudinem, tenuioribus et aquosis partibus ipsorum  
*the due thickness, by the thinner and watery parts of them*  
 haustis per absorbentia vasa. Porro, fel ipsum, jam  
*being drank up by the absorbing vessels. Moreover, the gall itself, already*  
 secretum et factum crassum, resumptum iterum in sanguinem,  
*secreted and become thick, taken up again into the blood,*

tiones, aperturas, figuras, ipsaque organa, colorum instar, quibus ad purganda, vel a se invicem separanda, multa fluida utimur, certo humore imbuta, ita ut partes quasdam in sanguine jam existentes trahant ad se, et aliis atque aliis organis vel transmittant vel detineant. Lubrico vero nituntur, si ullo fundamento, hujusmodi conjecturæ; neque enim constat diversum ullo modo sanguinem ad diversa organa deferri, nisi ad jecur, cui sanguis a venis datur, neque sane variorum humorum particulas prius in sanguine existere quam organorum secretantium actionem subiverint, neque varias esse particularum figuras vaso-

rumque aperturas; neque, si ita hæ res se habuissent, ullus potuisset unquam purus secerni humor; quoniam tenuiores semper (scilicet quorum particule minores essent, secundum opinionem eorum auctorum qui hanc doctrinam tuebantur) cum crassioribus elabentes, hos inquinassent: et sic, verbi gratia, urina cum bile, semine, mucos, lacte, adipe, secreta, omnes istos humores corruptisset. Quin et crassissimi qui videntur humores, bilis, cerumen, mucus, multo tenuiores secreti, haustis per vasa absorbentia tenuioribus et aquosis ipsorum partibus, debitam tandem adipiscuntur crassitudinem. Porro fel ipsum, jam secretum et crassum factum, in

facillime elabitur e corpore cum tenuissimo humore, scilicet,  
*very easily escapes from the body with the thinnest fluid, namely,*  
 urinâ.  
*the urine.*

705. Nec chemici profecerunt multum qui ingressi sunt  
 Nor have the chemists advanced much who have entered upon  
 omnino aliam viam, ut redderent rationem hujus  
 an altogether different path, that they might render an explanation of this  
 rei. Nonnulli crediderunt sanguinem delatum ad secernentia  
 subject. Some believed that the blood conveyed to the secreting  
 organa, subire ibi quandam chemicam mutationem, quæ verteret  
 organs, underwent there some chemical change, which changed  
 ipsum in aliam naturam, non secus ac mustum vertuntur in  
 it into another nature, in like manner as must is changed into  
 vinum, et hoc in acetum; et quo hoc fieret  
 wine, and this into vinegar; and in order that this might take place  
 melius, et certius, finxerunt quoddam fermentum insitum  
 better, and more certainly, they supposed some ferment inherent  
 singulis glandulis, quale induceret certam et definitam mutationem  
 in every gland, such as would induce a certain and definite change  
 humoris cum qui misceretur. Vero nihil istiusmodi videtur  
 of the fluid with which it might be mixed. But nothing of that kind seems  
 inesse glandulis, neque, si fuerit, explicabit rem.  
 to exist in the glands, nor, if there should be, will it explain the matter.

706. Est certissimum plurimos humores subire magnam et  
 It is very certain that most (of) the humours undergo a great and  
 miram mutationem compositionis in secernentibus organis. Vero  
 wonderful change of composition in the secreting organs. But  
 num hæc referatur recte ad effectum fermenti, ii judicent  
 whether this is referred rightly to the effect of a ferment, let them judge  
 qui noverint naturam, et vires, que varias species fermentorum,  
 who know the nature, and powers, and various kinds of ferments,  
 et intellexerint mutationem ipsam quam isti humores subeunt. Enim  
 and understand the change itself which those humours undergo. For  
 disputatur (impersonal.) frustra de vocabulo. Autem oportet tenere  
 it is disputed (we dispute) in vain about a term. But it behoves to keep  
 probe memoriâ istam mutationem pendere multum ab actione  
 thoroughly in the memory that that change depends much upon the action  
 vasorum secernentis organi, et, copiam secreti  
 of the vessels of the secreting organ, and, that the quantity of the secreted  
 humoris variare multum, prout hæc fuerint affecta, et  
 humour varies much, according as they shall be affected, and

sanguinem iterum resumptum, cum tenuissimo humore, urina scilicet, e corpore facillime elabitur.

705. Nec multum profecerunt chemici, qui aliam omnino ingressi sunt viam, ut hujus rei rationem redderent. Crediderunt nonnulli sanguinem, ad organa secernentia delatum, mutationem quandam chemicam ibi subire, quæ ipsum in aliam naturam verteret, non secus ac mustum in vinum, et hoc in acetum vertuntur; et quo melius et certius hoc fieret, fermentum quoddam singulis glandulis insitum finxerunt, quale certam et definitam humoris quicum misceretur mutationem induceret. Nihil vero

istiusmodi glandulis inesse videtur, neque, si fuerit, rem explicabit.

706. Magnam et miram compositionis mutationem in organis secernentibus humores plurimos subire, certissimum est. Hæc vero, num recte ad effectum fermenti referatur, judicent ii qui naturam, et vires, variasque species fermentorum noverint, et ipsam mutationem intellexerint quam isti humores subeunt. Frustra enim de vocabulo disputatur. Probe autem memoria tenere oportet, mutationem istam pendere multum ab actione vasorum organi secernentis, et, prout hæc affecta fuerint, copiam humoris secreti multum variare, et quali-



qualitates ejus nonnunquam corrumpi ita ut ipse videatur  
*that the qualities of it sometimes are corrupted so that it seems*  
 converti in fere aliam naturam. Quin et, semen producitur  
*to be converted into almost another substance. Moreover, the semen is produced*  
 per secretionem, mirabilis humor, plenus vividis animalibus, cujus  
*by secretion, a wonderful humour, full of vivid animals, of which*  
 rei neque mathematici neque chemici facile reddiderint  
*thing neither mathematicians nor chemists will easily render*  
 rationem. Neque, profecto, est locus dubitandi, secretionem  
*the explanation. Nor, truly, is there room for doubting, that secretion,*  
 pariter ac alias functiones corporis, pendere quodammodo a  
*equally as the other functions of the body, depend in some measure upon*  
 vitali principio, que illis viribus propriis vivo corpori,  
*the vital principle, and those powers peculiar to the living body,*  
 quamvis parum intellectis: neque ideo esse explicandam mechanicis  
*although little understood: nor therefore to be explained upon mechanical*  
 aut chemicis principiis solis.  
*or chemical principles alone.*

707. Vero quamvis non detur explicare primariam mutationem  
*But although it may not be given to explain the primary change*  
 quæ fit in secretionem, tamen plurima, neque inutilia  
*which occurs in secretion, nevertheless very many things, nor useless*  
 medicis, detecta sunt jam, de hac functione.  
*to physicians, have been detected already, concerning this function.*

708. Multi humores, statim ut secernuntur, vel ejiciuntur e  
*Many humours, as soon as they are secreted, either are ejected from*  
 corpore, vel impenduntur propriis usibus intra corpus. Vero  
*the body, or are applied to their proper uses within the body. But*  
 alii transeunt per excrentes, seu efferentes ductus, a  
*others pass by excreting (excretory), or carrying ducts, from*  
 suis glandulis in idonea receptacula; in quibus sæpe commorantur  
*their glands into proper receptacles; in which they often remain*  
 diu, et amplius mutantur. Enim, plurimus humor  
*a long time, and are farther changed. Moreover, a great deal of fluid*  
 hauritur per resorbentia vasa: vero quod superest spissescit, et  
*is drank up by the absorbing vessels: but what remains thickens, and*  
 fit acrius, quo valeat melius ad sua munera. Porro, hoc  
*becomes more acrid, that it may suit better for its functions. Moreover, in this*  
 modo copia secreti humoris quæ decet, colligitur vel ejicienda  
*manner the quantity of secreted fluid which ought, is collected either to be ejected*  
 e corpore suo tempore, vel impendenda justo usui  
*from the body at its time, or to be expended (applied) to a proper purpose*

tates ejus ita corrumpi nonnunquam, ut ipse in  
 aliam fere videatur converti naturam. Quin et  
 per secretionem semen producitur, mirabilis  
 humor, vividis animalibus plenus, cujus rei ne-  
 que mathematici neque chemici rationem facile  
 reddiderint. Neque profecto dubitandi locus  
 est, secretionem, pariter ac alias corporis func-  
 tionem, quodammodo pendere a principio vitali,  
 viribusque illis corpori vivo propriis, quamvis  
 parum intellectis; neque ideo solis principiis  
 mechanicis aut chemicis explicandam esse.

707. Quamvis vero primariam, quæ in secre-  
 tione fit, mutationem non detur explicare, plu-

rima tamen, neque medicis inutilia, de hac  
 functione jam detecta sunt.

708. Multi humores, statim ut secernuntur,  
 vel ejiciuntur e corpore, vel propriis usibus  
 intra corpus impenduntur. Alii vero, per due-  
 tus excrentes seu efferentes, a glandulis suis  
 transeunt in idonea receptacula: in quibus  
 sæpe diu commorantur, et mutantur amplius.  
 Plurimus enim humor per vasa resorbentia  
 hauritur: quod superest vero spissescit, et  
 acrius fit, quo melius ad sua munera valet.  
 Porro, hoc modo copia quæ decet humoris secreti  
 colligitur, suo tempore vel ejicienda e corpore,

intra corpus. Exempla machinationis hujusmodi sunt, vesicæ urinæ, *within the body. Examples of a mechanism of this sort are, the bladders of urine,* fellis, seminis, saltem ut plerique medici putarunt, et *of the bile, of the semen, at least as most physicians have supposed, and* mucosi folliculi ubique corporis. *the mucous follicles everywhere of (throughout) the body.*

709. Auctus impetus univrsi sanguinis auget parum singulares *The increased impetus of the whole blood increases little the individual* secretiones, præter exhalationem per cutem et sudorem; vero hæc *secretions, except the exhalation by the skin and sweat; but these* augentur in mirum modum, dummodo fuerint neque contractio *are increased in a wonderful degree, provided there be neither contraction* neque alia obstructio minimorum vasorum cutis, neque frigus *nor other obstruction of the very minute vessels of the skin, nor cold* admotum corpori. Bene noti effectus exercitationis corporis, *applied to the body. The well-known effects of exercise of the body,* caloris februm, et multorum stimulantium medicamentorum docent. *of the heat of fevers, and of many stimulating medicines teach.*

710. Vero omnis secretio augetur aucta actione vasorum *But every secretion is increased by the increased action of the vessels* sui organi, dummodo hæc non fuerit nimia, neque aliter valde *of its own organ, provided this should not be excessive, nor otherwise very* morbosa. Hoc modo plurimæ secretiones incitantur omni *diseased. In this manner very many secretions are excited by every kind of* stimulo admoto organis earum, vel recepto in massam sanguinis, *stimulus applied to the organs of them, or received into the mass of the blood,* et afficiente quasdam (partes) præ aliis partibus. Quodvis *and affecting some (parts) before (more than) other parts. Any* acre receptum in oculum, aut sal in os, et vivum *acid (thing) admitted into the eye, or salt into the mouth, and quick-* argentum, que multa stimulantia, imprimis diuretica, quomodocunque *silver, and many stimulating things, especially diuretics, however* ingressa sint sanguinem, docent. *they may have entered the blood, teach.*

711. Porro, stimulus qui videretur generalis, et qui afficit *Moreover, the stimulus which might seem general, and which affects* universum corpus, vel forsitan animum ipsum, secundum leges *the whole body, or perhaps the mind itself, according to the laws* consensûs, sæpe intendit alias secretiones, minuit alias. Lachrymæ *of sympathy, often increases some secretions, diminishes others. The tears* secernuntur copiosius solito mærore, fel irâ: fauces *are secreted more copiously than usual from grief, the bile from anger: the fauces*

vel justo usui intra corpus impendenda. Hujusmodi machinationis exempla sunt, vesicæ urinæ, fellis, seminis, saltem ut plerique medici putarunt, et folliculi mucosi ubique corporis.

709. Auctus univrsi sanguinis impetus singulares secretiones parum auget, præter exhalationem per cutem et sudorem; hæc vero mirum in modum augentur, dummodo neque contractio neque alia obstructio vasorum minimorum cutis fuerint, neque frigus corpori admotum. Docent effectus bene noti corporis exercitationis, caloris, februm, et multorum medicamentorum stimulantium.

710. Augetur vero omnis secretio, aucta sui

organi vasorum actione, dummodo hæc non nimia neque aliter valde morbosa fuerit. Hoc modo plurimæ secretiones incitantur omni stimulo earum organi admoto, vel in massam sanguinis recepto, et quasdam præ aliis partibus afficiente. Docent acre quodvis in oculum, aut sal in os receptum, et argentum vivum, multaque stimulantia, diuretica imprimis, quomodocunque sanguinem ingressa sint.

711. Porro, stimulus qui videretur generalis, et qui universum corpus, vel forsitan animum ipsum afficit, secundum consensus leges (361), secretiones alias intendit sæpe, alias minuit. Lachrymæ mærore, fel ira, copiosius solito

sæpe arescunt utroque affectu. Saliva fluit esurienti (homini)  
*often grow dry. in both affections. The saliva flows to a hungry man*  
 ad conspectum vel cogitationem grati cibi; et, pari ratione,  
*at the sight or thought of agreeable food; and, for a like reason,*  
 plus seminis solito secernitur maribus multorum animalium  
*more (of) semen than usual is secreted by the males of many animals*  
 ad conspectum vel odorem fœminæ pronæ in venerem: et sæpe  
*at the sight or smell of the female disposed to venery: and often*  
 viris a solâ imagine optatæ fœminæ, vel etiam a  
*by men from the sole image of the desired woman, or even from*  
 recordatione veneriarum rerum.  
*the recollection of venereal matters.*

712. Spasmus vel contractio, vel abnormis actio, qualiscunque  
*Spasm or contraction, or an irregular action, whatever kind*  
 fuerit, vasorum secernentis organi, aliquando impedit, aliquando  
*it may be, of the vessels of a secreting organ, sometimes impedes, sometimes*  
 auget, nonnunquam plane corrumpit secretionem. Spasmus quoque  
*increases, sometimes entirely depraves secretion. Spasm also*  
 remotarum partium, (scilicet, sanguine pulso a solitis (viis)  
*of remote parts, (that is, the blood being driven from the usual*  
 et directo in novas vias, ) sæpe auget secretiones. Varii  
*and directed into new channels, ) often increases the secretions. The various*  
 et miri affectus urinæ et lactis ab hysteriâ, terrore,  
*and wonderful affections of the urine and milk from hysteria, terror,*  
 irâ, frigore, docent.  
*anger, cold, teach.*

713. Quædam secretiones sæpe augentur, aliquando fortasse  
*Some secretions often are increased, sometimes perhaps*  
 inducuntur, stimulo, quamvis omnino levi, admoto excernentibus  
*are induced, by a stimulus, although altogether slight, applied to the excreting (ory)*  
 ductibus, sive is fuerit chemici sive mechanici generis. Actio  
*ducts, whether it be of a chemical or mechanical kind. The action*  
 ipsa manducandi ciet salivam, et sapor cibi, præsertim  
*itself of chewing promotes the saliva, and the taste of food, especially*  
 acrioris; fortius medicamentum movet fel; et infans  
*the sharper; a very strong medicine excites bile; and the infant*  
 sugendo non modo ducit lac e mammis, sed promovet  
*by sucking not only draws the milk from the breasts, but promotes*  
 secretionem ejûs; aliquando etiam, ut videtur, facit lac venire,  
*the secretion of it; sometimes even, as it seems, causes milk to come,*  
 ubi antea fuit nullum.  
*when before there was none.*

secernuntur: utroque affectu fauces sæpe arescunt. Saliva fluit esurienti ad conspectum vel cogitationem grati cibi; et pari ratione, seminis plus solito secernitur maribus multorum animalium, ad conspectum vel odorem fœminæ pronæ in venerem: et viris sæpe a sola imagine optatæ fœminæ, vel etiam a recordatione rerum veneriarum.  
 712. Spasmus, vel contractio, vel actio abnormis, qualiscunque fuerit, vasorum organi secernentis, secretionem aliquando impedit, aliquando auget, nonnunquam plane corrumpit. Spasmus quoque remotarum partium (pulsa scilicet sanguine a solitis, et in novas directo

vias) (384, 386), secretiones sæpe auget. Docent varii et miri urinæ et lactis affectus, ab hysteria, terrore, irâ, frigore.  
 713. Augentur sæpe, aliquando fortasse inducuntur, secretiones quædam, stimulo, quamvis levi omnino, ductibus excernentibus admoto; sive is chemici sive mechanici generis fuerit. Ipsa manducandi actio salivam ciet, et sapor cibi, præsertim acrioris; medicamentum fortius fel movet; et infans non modo lac e mammis ducit sugendo, sed ejus secretionem promovet; aliquando etiam, ut videtur, ubi nullum fuit antea, lac venire facit.

714. Pleræque secretiones (sunt) perpetuæ, et necessariae ad vitam et sanitatem. Tamen sunt quædam, scilicet, quæ inserviunt generationi, aut nutrimento novi animalis, quæ incipiunt et desinunt certo tempore, et inducuntur certo stimulo. Masculinum semen, et genitalis humor fœminarum, si fuerit quis, vix secernuntur ante puberem ætatem: neque est (pro habent) vetulis genitalis vis, neque forsitan viris fere confectis senio. Lac, quoque, vix secernitur, nisi post partum; quod est tribuendum insigni consensui inter uterum et mammas.

*Most of the secretions are constant, and necessary to life and health. However there are some, namely, which serve for generation, or the nutriment of the new animal, which begin and end at a certain time, and are induced by a certain stimulus. The male semen, and the genital fluid of females, if there (should) be any, scarcely are secreted before ripe age (the age of puberty): nor have old women a genital power, nor perhaps men nearly worn out with old age. Milk, also, scarcely is secreted, except after parturition; which is to be attributed to the great sympathy between the uterus and mammæ.*

715. Mirum æquilibrium observatur inter varias secretiones, ita ut aliæ augeantur, fere pari ratione ac aliæ minuantur, quo est cautum corpus ne exhauriatur adeo facile et subito ut aliter fieret. Hoc est imprimis notabile inter halitum cutis et sudorem, et urinam et excretionem alvi; quamvis idem sæpe observetur in aliis secretionibus.

*A wonderful equilibrium is observed between the various secretions, so that some are increased, almost in an equal ratio as others are diminished, by which it is provided that the body should not be exhausted so easily and suddenly as otherwise would happen. This is especially remarkable between the exhalation of the skin and sweat, and the urine and the excretion of the belly; although the same often is observed in other secretions.*

716. Aliis hominibus sunt (pro habent) aliæ secretiones copiosiores vel parciore, blandiores vel aciores; et fere quo parciore eo aciores evadunt. Infantibus sunt omnes humores blandi et copiosi, si fuerint comparati cum iisdem humoribus in adulto homine.

*Some men have some secretions more copious or more scanty, more bland or more acrid; and commonly the more scanty the more acrid they become. Infants have all the fluids bland and copious, if they be compared with the same fluids in an adult person.*

714. Secretiones pleræque perpetuæ, et ad vitam et sanitatem necessariae. Sunt tamen quædam, scilicet quæ generationi inserviunt, aut nutrimento novi animalis, quæ certo tempore incipiunt et desinunt, et certo stimulo inducuntur. Semen masculinum, et genitalis humor, si quis fuerit, fœminarum, vix ante ætatem puberem secernuntur: neque vetulis vis genitalis est, neque forsitan viris senio fere confectis. Lac quoque vix secernitur nisi post partum; quod insigni inter uterum et mammas consensui tribuendum est.

715. Mirum inter varias secretiones observa-

tur æquilibrium, ita ut pari fere ratione ac aliæ augeantur, aliæ minuantur, quo cautum est, ne corpus adeo facile et subito (523) ut aliter fieret, exhauriatur. Hoc imprimis notabile est inter halitum cutis et sudorem, et urinam, et excretionem alvi; quamvis in aliis secretionibus idem sæpe observetur.

716. Secretiones aliæ aliis hominibus copiosiores vel parciore, blandiores vel aciores, sunt; et fere quo parciore eo aciores evadunt. Infantibus omnes humores blandi et copiosi sunt, si cum iisdem humoribus in adulto homine comparati fuerint. Fœminis quoque nonnihil

Solent esse quoque nonnihil blandiores fœminis quam viris.  
*They are accustomed to be also somewhat more bland in women than men.*

Varietates hujusmodi sæpe observantur in salivâ, sudore, urinâ,  
*Varieties of this kind often are observed in the saliva, sweat, urine,*

felle, semine. Sunt quibus os semper madet, neque  
*bile, semen. There are those in whom the mouth always is moist, nor*

est ulla sitis. Sunt qui sudant multum, et fere  
*is there any thirst. There are those who sweat much, and almost*

semper. Sunt quibus cutis est arida. Sunt qui patiuntur  
*always. There are to whom the skin is dry. There are who suffer*

multum a nimis copioso aut acri felle. Urina est limpidior  
*greatly from a too abundant or acrid bile. The urine is more limpid*

et blandior aliis hominibus, rubra et acris aliis. Semen  
*and bland in some persons, red and acrid in others. The semen*

ipsum olet, præter solitum quibusdam.  
*itself smells strong, beyond what is usual in some.*

717. Quamvis multum hic pendeat a primâ fabricatione  
*Although much here may depend upon the original conformation*

corporis, et varietatibus quas ætas facit, multum quoque pendet  
*of the body, and the changes which age causes, much also depends*

a genere vitæ, et victu, quo homines utuntur.  
*upon the kind of life, and the food, which persons use.*

718. Denique, generalis status massæ sanguinis afficit, haud  
*Indeed, the general condition of the mass of the blood affects, not*

parum, humores qui derivantur ex eo. Post cibum et potum  
*a little, the fluids which are derived from it. After food and drink*

quidam humores secernuntur copiosiores, præsertim lac, et urina,  
*certain fluids are secreted more copious(ly), especially milk, and urine,*

et halitus cutis, et sudor. Lac, copiosissimus  
*and the exhalation of the skin (insensible perspiration), and sweat. Milk,*

humor in nutrice, post inediam aliquot horarum,  
*a most abundant fluid in the nurse, after a fasting of some hours,*

secernitur vel nullum, vel parcum et acre, quale  
*is secreted either none (not at all), or sparing(ly) and acrid, such as*

infans respuerit, neque profecto suxerit impune. Vero  
*the infant would reject, nor indeed would have sucked with impunity. But*

idem fluit copiosum, et blandum, et nutriens, brevissimo  
*the same flows abundantly, and bland, and nutrient, in a very short*

spatio post cibum. Urina, quoque, fere statim ut multus  
*time after food. The urine, also, almost as soon as much*

potus fuerit haustus, imprimis frigidior, secernitur copiosa,  
*drink has been swallowed, especially the colder, is secreted abundant(ly),*

quam viris blandiores esse solent. Hujusmodi varietates in saliva, sudore, urina, felle, semine, sæpe observantur. Sunt quibus os semper madet, neque sitis ulla est. Sunt qui multum et fere semper sudant. Sunt quibus cutis arida est. Sunt qui multum patiuntur a felle nimis copioso aut acri. Urina aliis hominibus limpidior et blandior, aliis rubra et acris est. Semen ipsum quibusdam præter solitum olet.

717. Quamvis multum hic pendeat a primâ corporis fabricatione, et varietatibus quas ætas facit, multum quoque pendet a vitæ genere, et victu quo homines utuntur.

718. Denique, status generalis massæ sanguinis, humores, qui ex eo derivantur, haud parum afficit. Post cibum et potum, copiosiores secernuntur humores quidam, lac præsertim, et urina, et halitus cutis, et sudor. Lac, copiosissimus in nutrice humor, post aliquot horarum inediam, vel nullum secernitur, vel parcum et acre, quale infans respuerit, neque profecto impune suxerit. Idem vero brevissimo post cibum spatio, copiosum, et blandum, et nutriens fluit. Urina quoque, statim fere ut multus potus haustus fuerit, imprimis frigidior, copiosa secernitur; quod adeo subito nonnunquam obser-

quod nonnunquam observatur adeo subito, ut sit vix  
*which sometimes is observed so suddenly, that it can be scarcely*  
 credibile potum ipsum pervenisse ad renes. Est probabile  
*credible that the drink itself arrived at the kidneys. It is probable*  
 quendam stimulum dari renibus ipsis, per consensum  
*that some stimulus is given to the kidneys themselves, through the sympathy*  
 quem habent cum ventriculo, et aliquem spasmum, forsan,  
*which they have with the stomach, and that some spasm, perhaps,*  
 induci remotioribus vasis, qualis dirigat plus sanguinis ad  
*is induced in the remoter vessels, such as may direct more (of) blood to*  
 renes, que intendat actionem eorum. Nec quisquam facile  
*the kidneys, and increase the action of them. Nor could any one easily*  
 sudaverit diu aut multum, nisi vel fuerit admodum  
*sweat a long time or much, except either he were of a very*  
 humidæ constitutionis, que habuerit multum tenuem humorem in venis,  
*moist constitution, and had much thin fluid in his veins,*  
 vel denique probe diluerit suos humores inter sudandum, que  
*or indeed should properly dilute his fluids while sweating, and*  
 impleverit corpus bibendo. Quin et hac ratione, nimirum,  
*should fill the body by drinking. Moreover by this means, namely,*  
 diluendo, possumus movere vel urinam vel sudorem, prout  
*by diluting, we can excite either the urine or sweat, according as*  
 corpus ipsum fuerit servatum frigidum vel calidum.  
*the body itself shall be kept cold or warm.*

719. Postremo, pleræque, fortasse omnes, secretiones minuuntur  
*Lastly, most of, perhaps all, the secretions are diminished*  
 inter somnum, scilicet, quia tum motus sanguinis est temperatior,  
*during sleep, that is, because then the motion of the blood is more moderate,*  
 et secernentia organa, non secus ac universum corpus, minus sentiunt,  
*and the secreting organs, in like manner as the whole body, are less sentient,*  
 et igitur excitantur ægrius, et tardius ad solita  
*and therefore are excited more difficultly, and more slowly to their usual*  
 munera. Quod si sudor videtur augeri inter somnum, hoc,  
*functions. But if sweat seems to be increased during sleep, this,*  
 sine dubio, est tribuendum calidiori vestitui quo tum  
*without doubt, is to be attributed to the warmer clothing with which then*  
 solemus fovere nosmet: enim multum abest ut vel  
*we are accustomed to warm ourselves: for it is far from that we either*  
 sudemus, vel calescamus, si dormimus tecti tantum vestibus  
*sweat, or become warm, if we sleep covered only with the clothes*  
 quibus vigilantes utimur.  
*which waking we use.*

vatur, ut vix credibile sit ipsum potum ad renes pervenisse. Probabile est stimulum quendam ipsis renibus dari, per consensum quem cum ventriculo habent, et spasmum aliquem forsan induci vasis remotioribus, qualis plus sanguinis ad renes dirigat (476), eorumque actionem intendat. Nec facile quisquam diu aut multum sudaverit, nisi vel humidæ admodum constitutionis fuerit, multumque humorem tenuem in venis habuerit, vel denique inter sudandum suos humores probe diluerit, corpusque impleverit, bibendo. Quin et hac ratione, diluendo nimirum, vel urinam vel sudorem movere possumus,

prout corpus ipsum frigidum vel calidum servatum fuerit.

719. Postremo, inter somnum pleræque, fortasse omnes, secretiones minuuntur, scilicet quia tum motus sanguinis temperatior est, et organa secernentia, non secus ac universum corpus, minus sentiunt, et ægrius igitur et tardius ad solita munera excitantur. Quod si sudor inter somnum videtur augeri, hoc sine dubio tribuendum est vestitui calidiori, quo tum nosmet fovere solemus: multum enim abest ut vel sudemus vel calescamus, si vestibus tantum quibus vigilantes utimur tecti dormimus.

720. Allæ secretiones sunt copiosæ, aliæ omnino parcæ: vero  
*Some secretions are abundant, others altogether scanty: but*  
 quantitas singularum potest nullo modo reduci ad certas mensuras;  
*the quantity of each can by no means be reduced to certain measures;*  
 quippe quæ variet maxime, tum sano, sed multo magis  
*as being what varies very much, even in the healthy, but much more*  
 morbosæ corpore, propter rationes memoratas. Enim, in  
*in the diseased body, on account of the reasons mentioned. Moreover, in*  
 plurimis exemplis, insignis et fere incredibilis copia salivæ,  
*very many examples, a remarkable and almost incredible quantity of saliva,*  
 succi ventriculi, aut demum fellis, secreta est brevi  
*of gastric juice, or indeed of bile, has been secreted in a short*  
 tempore.  
*time.*

721. Neque facile judicatur (impersonal) de copiâ excre-  
*Nor can we easily judge of the quantity of the ex-*  
 tionum, nimirum, urinæ et sudoris, et halitus cutis et  
*cretions, for example, of the urine and sweat, and exhalation of the skin and*  
 pulmonis, quamvis plurima experimenta fuerint instituta ad  
*lungs, although very many experiments have been instituted to*  
 indagandam hanc rem, scilicet quam medici crediderint haud  
*investigate this subject, as being what physicians believed not*  
 difficile exploratu, et insignis utilitatis, cum ad tuendam  
*difficult to be examined, and of great utility, as well to preserve*  
 sanitatem, tum quoque ad sanandos morbos.  
*health, as also to cure diseases.*

722. Profecto urina ponderatur facile: autem variat insigniter,  
*Indeed the urine is weighed easily: but it varies remarkably,*  
 secundum constitutionem, ætatem, genus vitæ, cibum que potum  
*according to the constitution, age, kind of life, the food and drink*  
 quibus utimur; sed imprimis prout exhalatio per cutem  
*which we use; but especially according as the exhalation by the skin*  
 fuerit copiosior ve parcior, sive ab exercitatione aut  
*shall be more abundant or scanty, whether from exercise or*  
 ignaviâ, sive a calore aut frigore admoto corpori. Enim  
*idleness, or from heat or cold applied to the body. For*  
 mirabile æquilibrium observatur inter has binas excretiones.  
*a wonderful equilibrium is observed between these two secretions.*  
 Aliquando vix una libra urinæ, aliquando quatuor vel quinque  
*Sometimes scarcely a single pound of urine, sometimes four or five*  
 redditæ sunt quotidie, etiam a sano homine; vero in morbis,  
*have been voided daily, even by a healthy person; but in diseases,*

720. Secretiones aliæ copiosæ, aliæ parcæ om-  
 nino sunt: singularum vero quantitas nullo  
 modo ad certas mensuras reduci potest; quippe  
 quæ variet maxime tum sano, sed multo magis  
 morbosæ corpore, propter rationes (716, 719.)  
 memoratas. Plurimis enim in exemplis insignis  
 et fere incredibilis copia salivæ, succi ventriculi,  
 aut demum fellis brevi tempore secreta est.

721. Neque facile judicatur de copia excre-  
 tionum, urinæ nimirum, et sudoris, et halitus  
 cutis et pulmonis, quamvis plurima experimenta  
 instituta fuerint ad hanc rem indagandam,  
 scilicet quam medici haud difficile exploratu

crediderint, et insignis utilitatis, cum ad tuendam  
 sanitatem, tum quoque ad sanandos morbos.

722. Urina profecto ponderatur facile: variat  
 autem insigniter secundum constitutionem,  
 ætatem, vitæ genus, cibum potumque, quibus  
 utimur; sed imprimis prout exhalatio per cutem  
 copiosior fuerit parciore, sive ab exercitatione  
 aut ignavia, sive a calore aut frigore corpori  
 admoto. Mirabile enim inter has binas excre-  
 tionum observatur æquilibrium. Aliquando vix  
 una libra urinæ, aliquando quatuor vel quinque,  
 etiam a sano homine, quotidie redditæ sunt:  
 in morbis vero sæpe duodecim libræ et amplius:

sæpe duodecim libræ et amplius autem media quantitas, quam  
*often twelve pounds and more: but the medium quantity, which*  
 sanus homo reddiderit in die, erit a tribus libris ad  
*a healthy person should void in the day, will be from three pounds to*  
 tres cum semisse.  
*three with (and) a half.*

723. Exhalatio per cutem et sudor variant pari ratione  
*The exhalation by the skin and the sweat vary in a similar way*  
 ac urina; sed vera quantitas eorum haud detegitur ita facile;  
*as the urine; but the true quantity of them is not detected so easily;*  
 scilicet, quia statera tantum ostendit excessum exhalati  
*that is, because the balance only shews the excess of the exhaled*  
 humoris, supra eum qui hauritur eodem tempore. Nec  
*fluid, above that which is swallowed in the same time. Nor*  
 desunt certissima experimenta, quæ probant corpus sæpe,  
*are there wanting very certain experiments, which prove that the body often,*  
 fortasse semper, haurire aliquid ab aëre, quod sane derogat  
*perhaps always, absorbs something from the air, which indeed derogates*  
 multum *Sanctorianis* observationibus. Enim corpus, hoc  
*much from the Sanctorian observations. For the body, in this*  
 modo, nonnunquam attrahit tantum ab aëre quantum æqua-  
*manner, sometimes attracts as much from the air as would have*  
 verit, vel etiam superaverit, copiam exhalationis: quod  
*equalled, or even would have exceeded, the quantity of the exhalation: which*  
 est imprimis notabile, si quis fuerit exhaustus valido labore  
*is especially remarkable, if a person has been exhausted by hard labour*  
 et inediâ, vel ingente profluvio urinæ, vel hydrope recrudescente,  
*and fasting, or a great flow of urine, or a dropsy increasing anew,*  
 postquam aqua fuisset educta arte.  
*after that the water had been drawn off by art.*

724. Omnis secretio, copiosior vel parcius justo, nocet,  
*Every secretion, more abundant or scanty than proper, hurts,*  
 nimirum quia functio cui inservit aut impeditur tum, aut  
*doubtless because the function to which it serves either is impeded then, or*  
 saltem corrumpitur nonnihil. Sic olfactus, et gustus, et concoctio  
*at least is depraved somewhat. Thus smell, and taste, and the digestion*  
 ciborum sæpe vitiantur, a nimis aut nimis parvis humoribus  
*of food often are vitiated, from the excessive or too scanty fluids*  
 narium, vel oris, vel ventriculi, vel intestinorum, vel  
*of the nostrils, or of the mouth, or of the stomach, or intestines, or*  
 jecoris. Excretio humoris naturâ non excernendi, quoque nocet  
*liver. The excretion of a fluid by nature not to be excerned, also hurts*

media autem quantitas quam homo sanus reddiderit in die, erit a tribus libris ad tres cum semisse.

723. Exhalatio per cutem et sudor pari ratione variant ac urina; sed haud ita facile vera eorum quantitas detegitur: scilicet, quia statera excessum tantum humoris exhalati, supra eum qui eodem tempore hauritur, ostendit. Nec desunt certissima experimenta quæ probant corpus sæpe, fortasse semper, haurire aliquid ab aëre: quod sane multum derogat observationibus *Sanctorianis*. Tantum enim hoc modo corpus ab aëre nonnunquam attrahit, quantum

copiam exhalationis æquaverit, vel multum etiam superaverit: quod imprimis notabile est, si quis valido labore et inedia exhaustus fuerit, vel ingente urinæ profluvio, vel hydrope recrudescente, postquam aqua arte educta fuisset.

724. Nocet omnis secretio copiosior vel parcius justo (62); nimirum, quia tum functio, cui inservit, aut impeditur, aut saltem nonnihil corrumpitur. Sic olfactus, et gustus, et concoctio ciborum, vitiantur sæpe a nimis aut nimis parvis narium, vel oris, vel ventriculi, vel intestinorum, vel jecoris, humoribus. Nocet quoque haud parum excretio humoris natura



haud parum: veluti salivæ quam multi sæpe movent præter naturam, not a little: as of the saliva which many often excite unnaturally, variis acribus medicamentis quibus utuntur, et assidue expuunt, by various acrid medicines which they use, and incessantly spit out, non sine suo magno malo: sic corpus exhauritur exinanitione omnino præter naturam, et concoctio ciborum perficitur curatione wholly against nature, and the concoction of the food is performed ægrius, salivâ, quæ debet juvare, deficient. difficultly, from the saliva, which ought to assist, being deficient.

725. Quod si humores, excernendi naturâ, fuerint suppressi But if fluids, to be excreted by nature, should be suppressed vel retenti, vel excreti nimiam copiâ, præsertim urina, or retained, or excreted in excessive quantity, especially the urine, et halitus cutis, valetudo afficitur adhuc magis et citius. and exhalation of the skin, the health is affected still more and more rapidly.

726. Exhalatio per cutem fit nimia, imprimis, The exhalation by the skin becomes excessive, in the first place, propter auctum impetum sanguinis, qui afficit alias on account of the increased impetus of blood, which affects the other secretiones parum, vero hanc multum, vel propter solutam secretions little, but this a great deal, or on account of the unbraced compagem cutis ipsius, que vasa et foramina ejus laxata texture of the skin itself, and the vessels and pores of it relaxed et patefacta, veluti a calore, calido balneo, laxa et flaccida and open, as from heat, the warm bath, a lax and flaccid constitutione corporis; vel denique, propter sanguinem dilutum constitution of body; or lastly, on account of the blood diluted multo tenui humore, quem facile dimittit atque exhalat. Hinc with much thin fluid, which it easily parts from and exhales. Hence ratio haud obscura redditur, sudoris quarundam partium, the reason not obscure is rendered, of the sweat of some parts, dum aliæ arescunt, vel frigidi sudoris, qualis sæpe observatur, whilst others grow dry, or of the cold sweat, such as often is observed, viribus quæ movent sanguinem deficientibus, et sane haud the powers which circulate the blood failing, and truly with no secundo omine. favourable omen.

727. Excessus excretionis per cutem nocet, potissimum hac ratione, Excess of excretion by the skin hurts, principally for this reason, quod exhauriat, debilitet, solvat corpus, laxet cutem, que that it exhausts, debilitates, unbraces the frame, relaxes the skin, and

non excernendi: veluti salivæ, quam multi sæpe, non sine magno suo malo, movent præter naturam, variis quibus utuntur acribus medicamentis, et assidue expuunt: sic corpus exhauritur exinanitione quæ omnino præter naturam est, et concoctio ciborum, deficiente quæ juvare debet saliva, ægrius perficitur.

725. Quod si humores natura excernendi suppressi vel retenti fuerint, vel nimia copia excreti, urina præsertim, et halitus cutis, valetudo magis adhuc et citius afficitur (62).

726. Exhalatio per cutem nimia fit, imprimis propter auctum sanguinis impetum (467, 468) qui alias excretiones parum, hauc vero multum,

afficit (709), vel propter solutam ipsius cutis compagem, ejusque vasa et foramina laxata et patefacta, veluti a calore, balneo calido, constitutione corporis laxa et flaccida; vel denique propter sanguinem multo humore tenui dilutum, quem (715, 727) facile dimittit atque exhalat. Hinc ratio haud obscura redditur sudoris quarundam partium dum aliæ arescunt, vel sudoris frigidi qualis sæpe observatur, deficientibus quæ sanguinem movent viribus, et sane haud secundo omine.

727. Excessus excretionis per cutem haec potissimum ratione nocet, quod corpus exhauriat, debilitet, solvat, cutem laxet, hominemque

reddat hominem debilem, et præter solitum sentientem, et obnoxium  
*renders a person weak, and unusually sensitive, and liable*  
 omnibus malis quæ proveniunt a frigore. Vero ingens  
*to all the mischiefs which proceed from cold. But great*  
 sudor potest inducere *syncopen*, vel mortem ipsam, corpore  
*sweat may bring on syncope, or death itself, by the body*  
 exhausto subito, et soluto. Vero exempla haud facile  
*being exhausted suddenly, and relaxed. But examples are not easily*  
 ostenduntur sanguinis spissati, corrupti hoc modo, que  
*shewn of the blood being inspissated, corrupted in this manner, and*  
 hominum ideo factorum proclivium ad febres, inflammationes, &c.  
*of persons thus rendered disposed to fevers, inflammations, &c.*

728. Ingens sudor (est) familiaris quibusdam hominibus, que vix  
*Profuse sweating is common to some men, and scarcely*  
 habendus morbosus, neque reprimendus sine gravi, et sæpe  
*to be considered diseased, nor to be repressed without great, and often*  
 instante periculo. Copiosus sudor quoque solvit multos morbos,  
*immediate danger. A copious sweat also resolves many diseases,*  
 præsertim febres: vero multorum est tantum signum et pars,  
*especially fevers: but of many it is only a symptom and part,*  
 scilicet qui neque solvat morbum, neque cedit in  
*as being that which neither solves the disease, nor goes towards*  
 salutem ullo modo, sed potius noceat ægro, viribus corporis  
*health in any manner, but rather hurts the sick, the powers of the body*  
 exhaustis. Experientia sola docet, in singulis exemplis  
*being exhausted. Experience alone teaches, in the individual examples*  
 morborum, sudor qui acciderit fuerit bonus an malus.  
*of diseases, whether the sweat which has happened has been good or bad.*

Tamen, juvat scire, eum (sudorem) plerumque esse non  
*However, it is useful to know, that that for the most part is not*  
 inutilem, qui est generalis, qui fluit libere usque ad pedes,  
*injurious, which is general, which flows freely down to the feet,*  
 tenuis, calidus, constans, qui temperat calorem corporis, quem  
*thin, warm, constant, which moderates the heat of the body, which*  
 æger fert bene, que molliores, pleniore, tardiores pulsus  
*the patient bears well, and softer, fuller, slower pulsations*  
 arteriarum comitantur, et os et lingua humidiores, et  
*of the arteries accompany, and the mouth and tongue moister, and*  
 anxietas minor, et levamen universæ molestiæ, et appetitus  
*the anxiety less, and alleviation of the general uneasiness, and the appetite*  
 cibi renovatus; contra (juvat scire), tenacem et glutinosum,  
*for food renewed; on the other hand, that a tenacious and glutinous,*

debilem et sentientem præter solitum, omnibus quæ a frigore proveniunt malis obnoxium reddit. Ingens vero sudor, exhausto subito et soluto corpore, *syncopen*, vel mortem ipsam, inducere potest. Haud facile vero ostenduntur exempla sanguinis hoc modo spissati, corrupti, hominumque ideo ad febres, inflammationes, &c. proclivium factorum.

728. Ingens quibusdam hominibus sudor familiaris, vixque morbosus habendus, neque sine gravi sæpe et instante periculo reprimendus. Copiosus quoque sudor multos morbos, præsertim febres, solvit: multorum vero signum et

pars tantum est, scilicet qui neque solvat morbum, neque ullo modo in salutem cedit, sed, exhaustis corporis viribus, ægro potius noceat. Sola experientia docet, singulis morborum in exemplis, bonus an malus fuerit sudor qui acciderit. Scire tamen juvat eum plerumque non inutilem esse, qui generalis est, qui ad pedes usque libere fluit, tenuis, calidus, constans, qui corporis calorem temperat, quem æger bene fert, pulsusque arteriarum molliores, pleniore, tardiores, et anxietas minor, et levamen universæ molestiæ, et cibi appetitus renovatus: contra,

frigidum, olidum sudorem, quarundam partium tantum  
*cold, strong smelling sweat, of some parts only (partial),*  
 veluti vultûs, aut cervicem, aut pectoris, dum reliquum corpus,  
*as of the face, or shoulders, or breast, whilst the rest of the body,*  
 et artus præsertim, arescunt, esse malum; qui multum exhaust  
*and the limbs especially, grow dry, is bad; which greatly exhausts*  
 ægrum, neque levat morbum: nam talis exinanitio, nisi  
*the patient, nor relieves the disease: for such evacuation, unless*  
 prodest, plerumque nocet. Denique, medici, edocti a Naturâ  
*it benefits, for the most part hurts. In fine, physicians, taught by Nature*  
 ipsâ, eliciunt arte copiosissimum sudorem, in multis morbis, sæpe  
*itself, elicit by art a most copious sweat, in many diseases, often*  
 cum insigni commodo ægotantium; de quo erit agendum  
*with remarkable advantage (of) to the sick; of which it will be to be treated*  
 plenius postea suo loco.  
*more fully afterwards in its own place.*

729. Sudor que halitus cutis, haud raro observantur  
*The sweat and exhalation of the skin, not unfrequently are observed*  
 minutus vel suppressus. Hæ excretiones paulatim deficient, propter  
*diminished or suppressed. These excretions gradually fail, through*  
 otiosum et sedentarium genus vitæ, graves affectus animi,  
*an idle and sedentary kind of life, depressing passions of the mind,*  
 qui valde minuunt impetum sanguinis, fere omnem  
*which greatly diminish the impetus of the blood, almost every kind of*  
 debilitatem, frigidum et humidum cælum aut tempus, immunditiam,  
*debility, a cold and humid climate or season, uncleanness,*  
 durius genus cibi, difficilius exhalatu, et demum, propter  
*a harder kind of diet, more difficult to be exhaled, and lastly, on account of*  
 plurima foramina cutis, et minora vasa coarctata  
*the very many pores of the skin, and the smaller vessels being straitened*  
 aut conclusa, veluti in senibus, quibus semper est (pro habent)  
*(constricted) or shut up, as in old men, who always have*  
 exhalatio per cutem parcior, vero urina, pro ratâ parte,  
*the exhalation by the skin more scanty, but the urine, in proportion,*  
 copiosior quam junioribus (est.)  
*more plentiful than younger persons (have.)*

730. Multa mala profiunt a tali defectu. Totum corpus  
*Many disorders proceed from such a deficiency. The whole body*  
 (nisi alia secretio aucta, compensaverit insolitam  
*(unless some other secretion being increased, should compensate the unusual*  
 retentionem,) fit plenum, et hebes, et languidum, et animus  
*retention,) becomes full, and dull, and languid, and the mind*

malum esse sudorem tenacem et glutinosum, frigidum, olidum, quarundam tantum partium, veluti vultus, aut cervicem, aut pectoris, dum reliquum corpus, et artus præsertim, arescunt; qui ægrum multum exhaust, neque morbum levat: nam talis exinanitio, nisi prodest, plerumque nocet. Denique, sudorem copiosissimum, in multis morbis, medici, a Natura ipsa edocti, arte eliciunt cum insigni sæpe ægotantium commodo: de quo postea suo loco plenius agendum erit.

729. Minutus vel suppressus sudor halitusque cutis haud raro observantur. Deficiunt hæ ex-

cretiones paulatim propter vitæ genus otiosum et sedentarium, graves animi affectus (344, 346) qui impetum sanguinis valde minuunt, debilitatem fere omnem, cælum aut tempus frigidum et humidum, immunditiam, cibi genus durius, exhalatu difficilius, et demum propter plurima foramina cutis, et vasa minora, coarctata aut conclusa, veluti in senibus, quibus semper exhalatio per cutem parcior est, urina vero copiosior, pro rata parte, quam junioribus.

730. A tali defectu multa profiunt mala. Totum corpus plenum (nisi aucta alia secretio insolitam retentionem compensaverit) et hebes,

quoque demissus et tristis; nam hilaris et lætus animus  
*also cast down and sad; for a cheerful and joyful mind*  
 promovet exhalationem, et vicissim (lætus animus), quodammodo, effici-  
*promotes exhalation, and in turn, in some measure, is pro-*  
 tur a liberâ exhalatione. Concoctio, quoque, ciborum vitatur,  
*duced by a free exhalation. The digestion, also, of the food is depraved,*  
 et appetitus minuitur, propter insignem consensum inter  
*and the appetite is diminished, on account of the remarkable sympathy between*  
 cutem et ventriculum. Denique, est haud absimile totam  
*the skin and stomach. In fine, it is not improbable that the whole*  
 massam humorum corruptum iri paulatim, materiâ, quæ debuisset  
*mass of fluids would be corrupted gradually, by the matter, which ought*  
 excerni, retentâ diu, putrescente, vel saltem noxiâ.  
*to be excreted, being retained a long time, putrefying, or at least (becoming) noxious.*

731. Autem sudor subito suppressus, nocet adhuc magis, et  
*But sweat suddenly suppressed, hurts still more, and*  
 citius; non modo propter materiam quam oporteret exhalare  
*more quickly; not only on account of the matter which it behoved (ought) to exhale*  
 retentam, sed propter humores, fluentes libere ad superficiem  
*being retained, but on account of the fluids, flowing plentifully to the surface*  
 corporis, pulsos inde, et directos in alias partes, validâ  
*of the body, being driven thence, and directed to other parts, by the strong*  
 contractionem vel spasmum inductis minutis vasis cutis. Hinc,  
*contraction or spasm induced in the minute vessels of the skin. Hence,*  
 febres, inflammationes, abnormes congestiones sanguinis, profluvia sanguinis  
*fevers, inflammations, irregular congestions of blood, fluxes of blood*  
 sæpe (nascuntur), quæ aliâ excretionem, imprimis urinæ et alvi,  
*often proceed, and the other excretions, especially of the urine and bowels,*  
 (sunt) auctæ et vitiatæ.  
*are increased and disordered.*

732. Exhalatio et sudor supprimuntur sæpe et subito; imprimis  
*Perspiration and sweat are suppressed often and suddenly; especially*  
 a frigore admoto corpori æstuanti, vel interdum a gravibus  
*by cold applied to the body burning hot, or sometimes by depressing*  
 affectibus animi, quæ morbis generis spasmorum, veluti  
*passions of the mind, and by diseases of the order spasms, for instance*  
 hysteriâ. Supprimuntur quoque aliquâ contractionem, ut videtur,  
*hysteria. They are suppressed also by some contraction, as it seems,*  
 minutis vasis cutis, inductâ quibusdam causis, veluti quæ  
*in the minute vessels of the skin, induced by certain causes, as those which*  
 faciunt febres, tum intermittentes tum continuas, ratio quarum  
*cause fevers, as well intermitting as continual, the reason of which*

et languidum fit, et animus quoque demissus et tristis; nam hilaris et lætus animus exhalationem promovet, et a liberâ exhalatione quodammodo efficitur vicissim. Concoctio quoque ciborum vitatur, et appetitus minuitur, propter insignem (357) inter cutem et ventriculum consensum. Denique, retentâ diu materia putrescente, vel noxiâ saltem, quæ debuisset excerni, haud absimile est, totam massam humorum paulatim corruptum iri.

731. Subito autem suppressus sudor magis adhuc et citius nocet; non modo propter retentam materiam quam oporteret exhalare, sed propter humores, ad superficiem corporis libere fluentes, inde pulsos, et in alias partes directos,

valida contractionem vel spasmum vasis minutis cutis inductis. Hinc sæpe febres, inflammationes, congestiones sanguinis abnormes, sanguinis profluvia, aliæque excretionem, urinæ et alvi imprimis, auctæ et vitiatæ.

732. Exhalatio et sudor sæpe et subito supprimuntur: imprimis a frigore corpori æstuanti admoto, vel interdum a gravibus animi affectibus, morbisque spasmorum generis, veluti hysteriâ. Supprimuntur quoque contractionem aliqua, ut videtur, minutis vasis cutis inducta causis quibusdam, veluti quæ febres, tum intermittentes tum continuas, faciunt, quarum ratio parum hactenus intellecta est.

hactenus parum intellecta est.  
*hitherto has been little understood.*

733. Urina quoque est sæpe nimis copiosa, sæpe diminuta vel  
*The urine also is often too copious, often diminished or*  
 suppressa, vel reddita ægre, et cum dolore, interdum etiam  
*suppressed, or voided difficultly, and with pain, sometimes even*  
 multum vitata. Redditur plurima, citra morbum, multo tenui  
*much vitiated. It is voided abundant(ly), without disease, by much thin*  
 humore diluente sanguinem, aut plurimo sale inficiente eundem,  
*fluid diluting the blood, or a great deal of salt infecting the same,*  
 et reddente acriorem solito, vel humoribus pulsis a  
*and rendering it more acrid than usual, or the fluids being drawn from*  
 superficie corporis, et versis in internas partes. Ingens profluvium  
*the surface of the body, and directed to the internal parts. A great flow*  
 urinæ sæpe oritur, ab quovis acri inficiente sanguinem, et  
*of urine often arises, from any acrid infecting the blood, and*  
 delato ad renes, que irritante ipsos, radice Scillæ  
*conveyed to the kidneys, and irritating them, by the roots of the Scilla*  
 maritimæ, aut Colchici autumnalis, &c. Sæpe, etiam, urina  
*maritima, or of the Colchicum autumnale, &c. Often, also, the urine*  
 fluit limpida et copiosissima, a spasm, ut videtur, vasorum  
*flows limpid and very copious, from spasm, as it seems, of the vessels*  
 quæ vehunt sanguinem ad renes, sive ab irritatione ipsorum,  
*which carry the blood to the kidneys, or from irritation of themselves,*  
 veluti a calculo, sive a consensu cum aliis partibus,  
*for instance from a calculus, or from sympathy with other parts,*  
 fortasse intestinis, aut cute, veluti in hysteria. Denique, a  
*perhaps the intestines, or the skin, as in hysteria. In fine, from*  
 quodam vitio sæpe parum intellecto, sive renum sive  
*some disorder often little understood, whether of the kidneys or*  
 alliarum partium, sive demum universi corporis, incredibilis fluxus  
*of other parts, or finally of the whole body, an incredible flow*  
 urinæ aliquando observatus est, que ejus (urinæ) valde diversæ a  
*of urine sometimes has been observed, and it very different from*  
 sanâ urinâ, que continentis multum (oleum et) saccharum. Hoc  
*healthy urine, and containing much (oil and) sugar. This*  
 genus morbi vocatur Diabetes, natura et causæ cujus sunt  
*kind of disease is named Diabetes, the nature and causes of which are*  
 nondum plene deprehensæ: tamen, est probabile, præter vitia  
*not yet fully discovered: however, it is probable, besides the disorders*  
 renum, spasmus, relaxationem, &c. quandam corruptionem universæ  
*of the kidneys, spasm, relaxation, &c. that some corruption of the whole*

733. Urina quoque sæpe nimis copiosa est, sæpe diminuta, vel suppressa, vel ægre et cum dolore reddita, interdum etiam multum vitata. Plurima redditur citra morbum multo tenui sanguinem diluente, aut plurimo sale eundem inficiente, et acriorem solito reddente, vel humoribus a corporis superficie pulsis, et in partes internas versis. Ingens sæpe urinæ profluvium oritur ab acri quovis sanguinem inficiente, et ad renes delato, ipsosque irritante; radice Scillæ maritimæ, aut Colchici autumnalis, &c. Sæpe etiam a spasm, ut videtur, vasorum quæ sanguinem ad renes vehunt, sive ab

ipsorum irritatione, veluti a calculo, sive a consensu cum aliis partibus, intestinis fortasse, aut cute, veluti in hysteria, urina limpida et copiosissima fluit. Denique, a vitio quodam parum sæpe intellecto, sive renum, sive alliarum partium, sive demum universi corporis, incredibilis aliquando observatus est urinæ fluxus, ejusque a sana urina valde diversæ, multumque saccharum continentis. Hoc morbi genus vocatur Diabetes, cujus natura et causæ nondum plene deprehensæ sunt: tamen probabile est, præter renum vitia, spasmus, relaxationem, &c. corruptionem quandam universæ massæ san-

massæ sanguinis subesse, forsitan a pravâ concoctione, cum in  
*mass of blood exists, perhaps from depraved concoction, as well in*  
 ventriculo, tum quoque in pulmonibus: quoniam humor, adeo diversus  
*the stomach, as also in the lungs: because a fluid, so different*  
 a solito et naturali, derivatur a sanguine, que is, ut  
*from the usual and natural, is derived from the blood, and it, as it*  
 videtur, haud dissimilis alimentis nondum plene subactis  
*appears, not unlike to aliments not yet fully reduced (assimilated)*  
 justa concoctione.  
*by a due concoction.*

734. Igitur ratio erit in aprico (figurative) cur nimius  
*Therefore the reason will be in the sum (evident) why an excessive*  
 fluxus urinæ noceat homini, nimirum viribus fractis,  
*flow of urine hurts a person, truly by the strength being broken,*  
 nutrimento impedito, que corpore exhausto. Neque, profecto, est  
*the nutriment impeded, and the body exhausted. Nor, indeed, is it*  
 mirum quosdam succubuisse tali morbo; et affectionem  
*wonderful that some should have sunk under such a disease; and that an affection*  
 vix intellectam sanari ægerrime, vel esse sæpe  
*scarcely understood should be cured with great difficulty, or should be often*  
 omnino insanabilem.  
*wholly incurable.*

735. Autem profluvium urinæ, quamvis haud exiguum, pierumque  
*But a flow of urine, although not small, frequently*  
 est omnino levis momenti, et fugax malum familiare  
*is of altogether slight importance, and a transient disorder common*  
 laborantibus hysteriâ, que aliis morbis nervosi generis.  
*to those suffering from hysteria, and other diseases of the nervous system.*

Juvabit, quoque, novisse nonnullos morbos, febres aliquando, et  
*It will benefit, also, to know that some diseases, fevers sometimes, and*  
 hydropem, varii generis, solvi tali profluvio. Quocirca factum  
*dropsy, of various description, are resolved by such a flow. Wherefore it was*  
 est, ut fuerit fere solenne medicis respicere ad statum  
*established, that it was almost customary with physicians to look to the state*  
 urinæ ægrotantium, imprimis febricitantium, que multi dederint  
*of the urine of sick persons, especially of feverish patients, and many bestowed*  
 operam ut redderent rationem varietatum ejûs,  
*their labour (laboured) that they might render an account of the varieties of it,*  
 que variorum eventuum quos crederent prædici ex iis (sc. varieta-  
*and of the various events which they believed were predicted by them.*  
 tibus). Vero multum abest ut medici, nostris temporibus, confidant  
*But it is far from that physicians, in our times, confide*

guinis subesse, forsitan a prava concoctione, cum in ventriculo, tum quoque in pulmonibus: quoniam humor, a solito et naturali adeo diversus, a sanguine derivatur, igitur, ut videtur, haud dissimilis alimentis nondum justa concoctione plene subactis.

734. Ratio igitur in aprico erit, cur nimius urinæ fluxus homini noceat, fractis nimirum viribus, impedito nutrimento, exhaustoque corpore. Neque profecto mirum est, quosdam tali morbo succubuisse; et affectionem vix intellectam ægerrime sanari, vel sæpe omnino insanabilem esse.

735. Urinæ autem profluvium, quamvis haud exiguum, plerumque levis omnino momenti est et fugax malum, hysteriâ, aliisque nervosi generis morbis laborantibus familiare. Juvabit quoque novisse nonnullos morbos, febres aliquando, et hydropem varii generis, tali profluvio solvi. Quocirca factum est, ut medicis fere solenne fuerit ad statum urinæ ægrotantium, imprimis febricitantium, respicere, multique operam dederint, ut ejus varietatum rationem redderent, variorumque eventuum quos crederent ex iis prædici. Multum vero abest ut medici, nostris temporibus, tantum hujusmodi signis confidant

tantum quantum majores confisi essent signis hujus-  
*so much as our ancestors (predecessors) confided in signs of this*  
 modi. Vero est non dubium, notitiam istarum varietatum  
*sort. But it is not doubtful, that the knowledge of those changes*  
 fore interdum haud mediocris utilitatis sagaci et solerti  
*would be sometimes of no small utility to the sagacious and skilful*  
 medico, qui non spreverit vel minima.  
*physician, who will not despise even the most trifling things.*

736. Postremo, ratio suasit, et experientia satis comprobavit,  
*Lastly, reason has advised, and experience has sufficiently proved,*  
 movere urinam præter solitum, arte, esse non inutile,  
*that to excite the urine beyond usual, by art, was not useless (was useful),*  
 in plurimis morbis; ratio cujus rei est reddenda  
*in very many diseases; the reason of which thing is to be rendered*  
 suo loco.  
*in its own place.*

737. Urina sæpe supprimitur, cum insigni incommodo, et  
*The urine often is suppressed, with (to the) great disadvantage, and*  
 sane instante periculo ægotantis, nisi secretio vel excretio  
*indeed the imminent hazard of the patient, unless the secretion or excretion*  
 ejus fuerit brevi restituta. Hoc malum, cui nomen Ischuria  
*of it shall be quickly restored. This disorder, to which the name Ischuria*  
 datur, alii solent distinguere bifariam, alii quadri-  
*is given, some are accustomed to distinguish in a twofold, some in a fourfold*  
 fariam. Refert parum quot species morbi numeraverint,  
*manner. It matters little how many species of the disease they have enumerated,*  
 dummodo habeant bene perspectum multiplex malum  
*provided they have it clearly understood that this complicated disorder*  
 interdum ducere originem a variis vitiis renum, ureterum,  
*sometimes draws its origin from various diseases of the kidneys, of the ureters,*  
 vesicæ, urethræ, que vicinarum aut conspirantium partium.  
*of the bladder, urethra, and of the neighbouring or sympathising parts.*

Sic aliqua irritatio vel obstructio vel alterius vel utriusque renis,  
*Thus any irritation or obstruction either of one or both kidneys,*  
 vel ureteris, a calculo, sabulo, mucos, sanguine, inflammatione,  
*or of the ureter, from calculus, sand, mucus, blood, inflammation,*  
 suppuratione, scirrho, spasmo, tumore, et compressione vicinarum  
*suppuration, scirrhus, spasm, swelling, and compression of the contiguous*  
 partium, veluti a visceribus, et utero, aut abdomine ipso,  
*parts, as from the viscera, and uterus, or the abdomen itself,*  
 distentis a factu, vel stercore, vel aëre, vel aqua; vel non  
*being distended by the fetus, or feces, or air, or water; either do not*

quantum majores confisi essent. Non dubium vero est, notitiam istarum varietatum sagaci et solerti medico, qui vel minima non spreverit, haud mediocris interdum utilitatis fore.

736. Postremo, ratio suasit, et experientia satis comprobavit, plurimis in morbis non inutile esse urinam præter solitum arte movere; cujus rei ratio suo loco reddenda est.

737. Urina sæpe supprimitur cum insigni ægotantis incommodo, et sane instante periculo, nisi fuerit restituta fuerit ejus secretio vel excretio. Malum hoc, cui nomen Ischuria datur, bifariam alii, alii quadrifariam, distinguere

solent. Parum refert quot morbi species numeraverint, dummodo bene perspectum habeant, multiplex malum a variis renum, ureterum, vesicæ, urethræ, partiumque vicinarum aut conspirantium vitiis, interdum originem ducere. Sic irritatio aliqua, vel obstructio, vel alterius, vel utriusque renis, vel ureteris, a calculo, sabulo, mucos, sanguine, inflammatione, suppuratione, scirrho, spasmo, partium vicinarum tumore et compressione, veluti a distentis visceribus et utero, aut ipso abdomine, a factu, vel stercore, vel aëre, vel aqua; vel non sicut urinam secer-  
 cerni, vel parcius justo, et sæpe multum muta-

sinunt urinam secerni, vel parcius justo, et sæpe permit the urine to be secreted, or more sparingly than proper, and often multum mutata; vel, denique, impediunt iter ejusdem much . changed; or, finally, prevent the passage of the same jam secretæ, ad vesicam. already secreted, to the bladder.

738. Quin et urina jam delata in vesicam, haud raro Moreover the urine already conveyed into the bladder, not unfrequently reprimetur ibi, propter varia vitia hujus organi, sæpe is retained there, by reason of the various disorders of this organ, often irritationem, vel inflammationem, vel spasmus, veluti a calculo, aut irritation, or inflammation, or spasm, as from calculus, or acribus ingestis, aut consensu cum vicinis partibus; acrid things being ingested, or sympathy with the neighbouring parts; vel propter læsam fabricam vesicæ ipsiûs, veluti ab or on account of the injured structure of the bladder itself, as from hernia aut laceratione, vel propter debilitatem, aut paralyisin hernia or laceration, or on account of debility, or paralysis fibrarum ejûs, vero nonnunquam a nimia distentione, citra of the fibres of it, but sometimes from excessive distention, without paralyisin cujûsvis aliûs partis, ut observatur in generali paralyisi; vel paralyisis of any other part, as is observed in general paralysis; or demum propter vesicam ipsam callosam, scirrhosam, ulceratam, vel even on account of the bladder itself being callous, scirrhous, ulcerated, or propter plurimum pus, aut crassiorem sanguinem, ve mucum, on account of a great deal of pus, or thicker blood, or mucus, vel calculum, obstructentia collum vesicæ, vel denique, propter or calculus, obstructing the neck of the bladder, or lastly, by reason of haud pauca vitiâ urethræ, obstructæ, coarctatæ, vel concre- the no few diseases of the urethra, obstructed, constricted, or growing centis. Mala cujûsmodi nonnunquam observata sunt, sine ullâ together. Diseases of which sort sometimes have been observed, without any notâ causâ, vero sæpe post venereos morbos imperite tractatos, known cause, but often after venereal diseases unskilfully treated, gonorrhœam virulentam, sanatam vel suppressam imprimis per varia the gonorrhœa virulenta, cured or suppressed first of all by various medicamenta, præsertim astringentia et acria, vel etiam satis medicines, especially astringent and acrid, or even sufficiently blanda, infusa in urethram. bland, injected into the urethra.

739. Postremo, urina reprimitur in vesica a generali stupore, Lastly, the urine is retained in the bladder from general stupor, cerebro habente se male, veluti in quibusdam febribus, sicubi the brain having itself badly, as in certain fevers, whenever

tam; vel denique ejusdem jam secretæ iter ad vesicam impediunt.

738. Quin et urina in vesicam jam delata ibi haud raro reprimitur, propter varia hujus organi vitia, irritationem sæpe, vel inflammationem, vel spasmus, veluti a calculo, aut acribus ingestis, aut consensu cum partibus vicinis; vel propter læsam ipsius vesicæ fabricam, veluti ab hernia aut laceratione, vel propter debilitatem aut paralyisin ejus fibrarum, ut in paralyisi generali, nonnunquam vero a nimia distentione, ra alius cujusvis partis paralyisin (324), ob-

callosam, scirrhosam, ulceratam, vel propter plurimum pus, aut sanguinem mucumve crassiorem, vel calculum, collum vesicæ obstructentia, vel denique propter vitia haud pauca urethræ, obstructæ, vel coarctatæ, vel concrecentis. Cujusmodi mala nonnunquam observata sunt sine ulla nota causa, sæpe vero post morbos venereos imperite tractatos, gonorrhœam virulentam imprimis per varia medicamenta, præsertim astringentia et acria, vel etiam satis blanda, in urethram infusa, sanatam vel suppressam.

739. Postremo, a stupore generali (143, 173), cerebro male se habente (295), veluti in febribus



æger neque potest percipere solitum stimulum, ne quidem  
*the patient neither can perceive the ordinary stimulus, nor even*  
 multo graviozem, neque fibræ vesicæ ipsiùs cientur  
*a much more powerful one, nor are the fibres of the bladder itself excited*  
 In contractionem; quo fit ut hæc (sc. vesica) tandem  
*into contraction; whence it happens that it at length*  
 adeo distendatur, ut facta paralytica, possit vix, aut ne  
*is so distended, that rendered paralytic, it can scarcely, or not*  
 quidem vix, excitari iterum ad justam contractionem. Signum  
*even scarcely, be excited again to a due contraction. A symptom*  
 in febris, et sane omnibus morbis, semper malum, nonnunquam  
*in fevers, and indeed all diseases, invariably bad, sometimes*  
 fere lethale.  
*almost deadly.*

740. Ingens, et aliquando fere incredibilis distentio vesicæ,  
*A great, and sometimes almost incredible distention of the bladder,*  
 oppressio, molestia, dolor, non modo ipsiùs, sed vicinarum  
*oppression, uneasiness, pain, not only of itself, but of the neighbouring*  
 partium, et sane universi corporis, oritur a urinâ sup-  
*parts, and indeed of the whole body, arises from the urine being sup-*  
 pressâ diu, quicquid demum fuerit causa ejus vitii;  
*pressed a long time, whatever indeed may have been the cause of that disorder;*  
 et forsân spasmus, vel insuperabilis contractio musculi qui  
*and perhaps spasm, or an insuperable contraction of the muscle which*  
 claudit ostium vesicæ, debilitas, aut vera paralysis aliarum  
*closes the mouth of the bladder, debility, or true paralysis of the other*  
 fibrarum, quæ contrahentes solent deplere eam, ita ut fistulâ  
*fibres, which contracting are accustomed to empty it, so that on the catheter*  
 immissâ ad educendam urinam quidem, hæc ne profluat;  
*being introduced to draw off the urine even, it does not flow forth;*  
 inflammatio vesicæ, et gangræna, aut laceratio; primo, gravis  
*inflammation of the bladder, and gangrene, or laceration; at first, severe*  
 irritatio universi corporis, deinde nausea, vomitus, vertigo,  
*irritation of the whole body, afterwards nausea, vomiting, vertigo,*  
 generalis stupor, inundatio totiùs massæ sanguinis, humore  
*general stupor, inundation of the whole mass of blood, with a fluid*  
 instar urinæ, qui demum effunditur in varia cava  
*like urine, which at length is poured out into the different cavities*  
 corporis, et capitis ipsiùs, inducturus soporem, tremores,  
*of the body, and of the head itself, about to induce sopor, tremors,*  
 convulsiones, et brevi mortem.  
*convulsions, and quickly death.*

quibusdam, urina reprimitur in vesicam, sicubi æger neque solitum stimulum, ne quidem multo graviozem percipere potest, neque fibræ ipsius vesicæ in contractionem cientur; quo fit ut hæc tandem adeo distendatur, ut paralytica facta, vix aut ne vix quidem ad justam contractionem iterum excitari possit. Signum in febris et sane omnibus morbis, semper malum, nonnunquam fere lethale.

740. A suppressa diu urina, quicquid demum ejus vitii causa fuerit, ingens oritur, et fere incredibilis aliquando, vesicæ distentio, oppressio, molestia, dolor, non ipsius modo, sed partium vicinarum, et sane universi corporis; et spasmus

forsân, vel contractio insuperabilis musculi qui vesicæ ostium claudit, debilitas aut vera paralysis (229, 81) aliarum fibrarum quæ contrahentes eam deplere solent, ita ut ne quidem immissa fistula ad educendam urinam, hæc profluat; inflammatio vesicæ, et gangræna aut laceratio; universi corporis gravis primo irritatio, deinde nausea, vomitus, vertigo, stupor generalis, inundatio totiùs massæ sanguinis humore instar urinæ (525, 526, 540) qui demum in varia cava corporis et capitis ipsius effunditur, soporem, tremores, convulsiones, et mortem brevi inducturus.

741. Urina redditur ægre et cum dolore, ab iisdem,  
*The urine is voided with difficulty and with pain, from the same,*  
 sed minus violentis, causis, scilicet, omni insolitâ irritatione, inflam-  
*but less violent, causes, namely, every unusual irritation, inflam-*  
 matione, ulcere, callo, calculo vesicæ, mucosâ ejus  
*mation, ulcer, callus, calculus of the bladder, the mucus (coat?) of it*  
 abraso, aut facto morbido, quibusdam acris medicamentis:  
*being abraded, or rendered morbid, by certain acrid medicines:*

morbis vicinarum partium; quod genus mali vocatur Dysuria.  
*by diseases of contiguous parts; which kind of disorder is called Dysuria.*

Urina, quoque, sæpe redditur rubra, nigra, sanguinolenta, purulenta,  
*The urine, also, often is voided red, black, bloody, purulent,*  
 mucosa, sabulosa: ratio omnium quarum rerum est haud obscura.  
*mucous, sandy: the reason of all which things is not obscure.*

742. Frequentissimum vitium mingendi, accidit ubi  
*A very frequent disorder of making water, happens when*  
 molesta, fere perpetua, et inexplebilis cupiditas reddendæ urinæ,  
*a troublesome, almost perpetual, and insatiable desire of voiding the urine,*  
 urget, quamvis tantum paucæ guttulæ excernantur, plerumque,  
*troubles, although only a few little drops are excreted, for the most part,*  
 non sine aliquo dolore. Hoc malum vocatur Stranguria.  
*not without some pain. This disorder is called Strangury.*

Quædam acria sæpe inducunt hoc vitium, etiam in sano homine;  
*Certain acrids often bring on this disorder, even in a healthy person;*  
 malum est familiare senibus, qui sæpe laborant a renibus  
*the disorder is common to old men, who often suffer from the kidneys*  
 et vesicâ, variis modis; sæpe oritur a calculo irritante  
*and bladder, in various ways; often it arises from a calculus irritating*

vesicam, aut vesicâ ipsâ inflammata, ulceratâ, orbatâ suo  
*the bladder, or the bladder itself being inflamed, ulcerated, deprived of its*  
 mucosâ, vel hoc corrupto propriis vitiis, vel denique a  
*mucus, or this being corrupted by its own disorders, or in fine by*

morbis, aut peculiari statu vicinarum aut consentientium  
*the diseases, or the peculiar state the neighbouring or sympathising*

partium, veluti uteri, vaginæ, urethræ, prostatæ glandulæ,  
*parts, as of the uterus, of the vagina, urethra, prostate gland,*

intestini recti, renum (sc. laborantium) inflammatione, tenesmo,  
*intestinum rectum, kidneys (suffering) from inflammation, tenesmus,*

calculo, prolapsu, graviditate.  
*calculus, prolapsus, pregnancy.*

743. Quodammodo affinis huic est alia, neque rara affectio  
*In some degree akin to this is another, nor rare affection*

741. Ab iisdem causis, sed minus violentis, omni scilicet irritatione insolita, inflammatione, ulcere, callo, calculo, vesicæ, mucosâ ejus abraso, aut morbido facto, acris quibusdam medicamentis, morbis vicinarum partium, urina ægre et cum dolore redditur: quod mali genus Dysuria vocatur. Urina quoque sæpe rubra, nigra, sanguinolenta, purulenta, mucosa, sabulosa, redditur; quarum rerum omnium haud obscura est ratio.

742. Frequentissimum mingendi vitium accidit, ubi molesta fere perpetua et inexplebilis urinæ reddendæ cupiditas urget, quamvis paucæ tantum guttulæ excernantur, plerumque

non sine dolore aliquo. Hoc malum Stranguria vocatur. Acria quædam, etiam in sano homine, hoc vitium sæpe inducunt; malum senibus familiare est, qui sæpe a renibus et vesicâ variis modis laborant; oritur sæpe a calculo vesicam irritante, aut ipsa vesicâ inflammata, ulcerata, suo mucosâ orbatâ, vel hoc propriis vitiis corrupto, vel denique a morbis aut statu peculiari partium vicinarum, aut consentientium, veluti uteri, vaginæ, urethræ, glandulæ prostatæ, intestini recti, renum, inflammatione, tenesmo, calculo, prolapsu, graviditate.

743. Huic quodammodo affinis est alia, neque rara meiendi affectio, scilicet ubi lotium, ut

melendi, scilicet, ubi lotium nequit retineri ut decet,  
*of making urine, that is, when the urine cannot be retained as it ought,*  
 et excerni justâ copiâ et tempore, sed ægrotante vel  
*and be excreted in the due quantity and time, but the sick person either*  
 nolente, vel prorsus inscio, redditur propriâ actione  
*being unwilling, or wholly unconscious, it is voided by the proper action*  
 suorum organorum, nullo imperio voluntatis adhibito, ut  
*of their own organs, no control of the will being applied, as*  
 solet in sanis; aliquando effluit assidue, et  
*is accustomed in healthy persons; sometimes flows out constantly, and*  
 fere guttatim, ægro inscio, quod strictius vocatur  
*almost drop by drop, the patient being unconscious, which more strictly is called*  
 Incontinentia urinæ, vero interdum urina retinetur aliquamdiu,  
*incontinence of urine, but sometimes the urine is retained for some time,*  
 tandem profluxura, majore copiâ, quamvis ægrotante adhuc  
*at length to flow forth, in greater quantity, although the patient as yet*  
 invito, vel saltem inscio.  
*unwilling, or at least unconscious.*

744. Homo sæpe fit incontinens urinæ propter debilitatem,  
*A person often becomes incontinent of urine on account of debility,*  
 paralysis, ulcus, vulnus, gravem et diurnam irritationem vesicæ,  
*paralysis, ulcer, wound, severe and continued irritation of the bladder,*  
 præsertim muscui qui præponitur ostio ejus, veluti a  
*especially of the muscle which is set before the mouth of it, as from*  
 calculo, aut generali paralysi, aut difficili partu, inferente  
*a calculus, or general paralysis, or difficult parturition, doing*  
 magnam vim vicinis partibus. Simile vitium observatur  
*great violence to the contiguous parts. A similar disorder is observed*  
 in plurimis morbis, imprimis in febris, et hydropse capitis,  
*in many diseases, especially in fevers, and dropsy of the head,*  
 ubi est tantus sopor, ut æger non percipiat propensionem,  
*where there is so much sopor, that the patient cannot perceive the propensity,*  
 quamvis vesica ipsa, et muscui respirationis qui consentiunt  
*although the bladder itself, and the muscles of respiration which sympathise*  
 cum eo, pareant solito stimulo. Ratio est fere par cur  
*with it, obey the usual stimulus. The reason is almost similar why*  
 multi pueri, alioquin sanissimi, non bene retinent urinam,  
*many children, otherwise very healthy, do not well retain their urine,*  
 præsertim inter somnum: nimirum quibus sunt secretiones  
*especially during sleep: as being persons who have the secretions*  
 magis copiosæ, et somni altiores, haud adeo faciles ruptu,  
*more abundant, and the slumbers deeper, not so easy to be broken,*

decet, retineri nequit, et justa copia et tempore excerni, sed vel nolente vel inscio prorsus ægrotante, propria suorum organorum actione redditur, nullo, ut in sanis solet, adhibito voluntatis imperio; et aliquando inscio ægro, assidue, fere guttatim effluit, quod strictius incontinentia urinæ vocatur: interdum vero urina retinetur aliquamdiu, majore copia, quamvis invito adhuc, vel inscio saltem ægrotante, tandem profluxura.

744. Homo urinæ incontinens sæpe fit, propter debilitatem, paralysin, ulcus, vulnus, gravem et diurnam irritationem vesicæ, præsertim

muscui qui ostio ejus præponitur, veluti a calculo, aut paralysi generali, aut partu difficili magnam vim partibus vicinis inferente. Simile vitium in plurimis morbis observatur, imprimis in febris et hydropse capitis, ubi tantus sopor est, ut æger propensionem non percipiat, quamvis solito stimulo vesica ipsa, et qui cum eo consentiunt muscui respirationis, pareant. Par fere ratio est, cur multi pueri urinam non bene retinent, præsertim inter somnum, alioquin sanissimi: nimirum, quibus secretiones magis copiosæ sunt, et somni altiores haud adeo faciles ruptu, et fibræ omnes musculorum

et omnes fibræ musculorum mobiliiores, et igitur vesica  
*and all the fibres of the muscles more irritable, and therefore the bladder*  
 magis impatiens amplificationis quam adultis. Urina nonnunquam  
*more impatient of enlargement than adults. The urine sometimes*  
 continetur ægre, propter tumores vicinarum partium  
*is retained with difficulty, because of tumours of the neighbouring parts*  
 comprimentes vesicam, veluti graviditatem. Aliquando ejicitur  
*compressing the bladder, as pregnancy. Sometimes it is ejected*  
 violentissime, præter naturam, vel generalibus spasms, vel vehementibus  
*very violently, beyond nature, either by general spasms, or by violent*  
 contractionibus musculorum respirationis, quales valde comprimunt  
*contractions of the muscles of respiration, such as greatly compress*  
 totum abdomen, veluti in tussi, sternutatione, risu, partu, &c.  
*the entire abdomen, as in cough, sneezing, laughing, parturition, &c.*

745. Denique oportet annumerare, inter vitia urinæ,  
*In fine it behoves to reckon, amongst the disorders of the urine,*  
 formationem calculorum, quales solent facessere tot que  
*the formation of calculi, such as are accustomed to produce so many and*  
 tanta mala. Urina, præter aquam que sales, continet haud  
*such great diseases. The urine, besides water and salts, contains no*  
 exiguam portionem terræ, et glutinosæ partis sanguinis, jam  
*small portion of earth, and of the glutinous part of the blood, already*  
 nonnihil corruptæ, et pronæ in ulteriorem corruptionem.  
*somewhat corrupted, and prone to farther corruption.*

746. Hinc fit ut urina, etiam sanissimi hominis,  
*Hence it happens that the urine even of the most healthy person,*  
 dum frigescit, deponat copiosum sedimentum, quale solet  
*whilst it is cooling, deposits a copious sediment, such as is accustomed*  
 brevi incrustare matulam. In sano homine urina demittit  
*quickly to incrust the urinal. In a healthy person the urine throws down*  
 nihil istiusmodi intra corpus, vero si vel minimum frustum  
*nothing of that sort within the body, but if even the smallest fragment*  
 cujusvis solidæ materiæ fuerit immissum in vesicam, et relictum  
*of any solid matter should be introduced into the bladder, and left*  
 ibi, tegitur brevi tali crustâ, et paulatim crescit in  
*there, it is covered quickly with such a crust, and gradually grows into*  
 magnam molem. Est probabile quædam vitia humorum, forsitan  
*a great bulk. It is probable that some diseases of the fluids, perhaps*  
 parum intellecta, aliquando subesse, et multum augere proclivitatem  
*little understood, sometimes are present, and greatly increase the proneness*  
 ad formandum calculum. Enim probe constat, non modo  
*to form the calculus. Moreover it is well established, not only*

mobiliiores, et igitur vesica amplificationis magis impatiens quam adultis. Urina nonnunquam ægre continetur propter tumores partium vicinarum vesicam comprimentes, veluti graviditatem. Aliquando præter naturam ejicitur violentissime, vel *spasms* generalibus, vel vehementibus contractionibus musculorum respirationis, quales totum abdomen valde comprimunt, veluti in tussi, sternutatione, risu, partu, &c.

745. Denique, inter urinæ vitia annumerare oportet calculorum formationem, quales tot tantaque mala facessere solent (63). Urina, præter aquam salesque, portionem haud exi-

guam continet terræ et glutinosæ partis sanguinis, jam nonnihil corruptæ, et in ulteriorem corruptionem pronæ.

746. Hinc fit, ut sanissimi etiam hominis urina, copiosum, dum frigescit, sedimentum deponat, quale matulam brevi solet incrustare. In sano homine, urina intra corpus nihil istiusmodi demittit; si vero frustum vel minimum cujusvis materiæ solidæ in vesicam immissum, et ibi relictum fuerit, brevi tegitur tali crustâ, et crescit paulatim in magnam molem. Probabile est, vitia quædam humorum, parum forsitan intellecta, aliquando subesse, et proclivitatem ad calculum formandum multum augere. Probe

morbum sæpe observari congenitum et hereditarium, verum  
*that the disease often is observed congenital and hereditary, but*  
 etiam homines qui laborant calculo esse sæpius obnoxios  
*also that men who suffer from calculus are very often liable*  
 morbis ventriculi, imprimis acori, que multos eorum  
*to diseases of the stomach, especially acidity, and that many of them*  
 accepisse haud exiguum levamen a variis remediis, qualia  
*have received no slight relief from different remedies, such as*  
 vel impediunt acorem in ventriculo et intestinis, vel corrigant  
*either prevent acidity in the stomach and intestines, or correct it*  
 jam existentem ibi. Porro, fuit olim et nuper opinio,  
*already existing there. Moreover, it was formerly and lately the opinion,*  
 aliud genus victus, et præsertim potus, acida vina, vel vina  
*that one kind of food, and especially of drink, acid wines, or wines*  
 parata è pomis, &c. facere homines calculosos,  
*prepared from apples, &c. rendered men calculous (disposed to calculi),*  
 aliud fere præstare eos incolumes a tali morbo.  
*that a different one commonly preserved them safe from such a disease.*  
 Quamvis omnia hæc sint minus firma, tamen est non  
*Although all these things may be less established, however it is not*  
 negandum, urinam esse plus minus sabulosam aliis atque aliis  
*to be denied, that the urine is more or less sandy in different*  
 hominibus, et vel continere plus concrecentis materiæ, vel  
*persons, and either that it contains more of the concreting matter, or*  
 facilius demittere eam quam continet, vel ipsam (sc. urinam),  
*that it more easily throws down that which it contains, or that itself,*  
 demum, facilius converti in talem materiam.  
*in fine, more readily is converted into such a material.*

747. Præterea, a variis causis, quibusdam hominibus præ cæteris,  
*Besides, from various causes, in some persons before others,*  
 nuclei, quales fuerint fundamenta calculorum, formabuntur in  
*the nuclei, such as have been foundations of calculi, will be formed in*  
 viis quas urina subit. Sic, mucus ipse  
*the passages which the urine passes through. Thus, the mucus itself*  
 renum, vel secretus, morbosus, propter vitia suorum  
*of the kidneys, either secreted, diseased, because of the disorders of their own*  
 organorum, puta inflammationem, vel jam  
*organization (structure), for instance inflammation, or (when) already*  
 secretus, spissatus, aut coactus in crassiorem massam, vel sanguis,  
*secreted, thickened, or congealed into a thicker mass, or blood,*  
 vel gluten, vel pus, delapsa è vasis, propter relaxationem  
*or gluten, or pus, having escaped from the vessels, by reason of relaxation*

eum constat, morbum non modo congenitum sæpe, et hæreditarium observari, verum etiam homines qui calculo laborant sæpius ventriculi morbis, acori imprimis, obnoxios esse, multosque eorum haud exiguum levamen accepisse a variis remediis, qualia acorem in ventriculo et intestinis vel impediunt, vel ibi jam existentem corrigant. Porro, olim et nuper opinio fuit, aliud victus, et potus præsertim, genus, viua acida, vel vina e pomis parata, &c. homines calculosos facere, aliud, eos fere incolumes a tali morbo præstare. Quamvis hæc omnia minus firma sint, tamen non est negandum, urinam

aliis atque aliis hominibus plus minus sabulosam esse, et vel plus materiæ concrecentis continere, vel eam quam continet facilius demittere, vel ipsam demum facilius in talem materiam converti.  
 747. Præterea, a variis causis, quibusdam præ cæteris hominibus, nuclei in viis quas urina subit formabuntur, quales fundamenta fuerint calculorum. Sic mucus ipse renum, vel morbosus secretus, propter vitia suorum organorum, puta inflammationem, vel jam secretus, spissatus, aut coactus in massam crassiorem, vel sanguis, vel gluten, vel pus, e vasis delapsus,

aut inflammationem, aut demum concretiones, vel minimæ formatæ  
 or inflammation, or finally concretions, even the smallest formed  
 in rene, dabunt nucleos.  
 in the kidney, will afford nuclei.

748. Vero concretiones hujusmodi, utcumque exiguæ primo, indies  
 But concretions of this sort, however small at first, daily  
 crescunt, propter rationes memoratas. Sæpe descendunt sponte  
 increase, by reason of the causes mentioned. Often they descend spontaneously  
 e renibus, sine magno dolore aut incommodo, neque commo-  
 from the kidneys, without great pain or inconvenience, nor do they  
 rantur in vesicâ, sed brevi excernuntur cum urinâ. Vero  
 remain in the bladder, but quickly are excreted with the urine. But  
 sæpius hærent in renibus donec adeptæ fuerint molem  
 more often they remain in the kidneys until they have acquired a size  
 tantam, quanta descenderit ægre per ureterem. Aliquando  
 so great, as will descend with difficulty by the ureter. Sometimes  
 latent diu in rene, nocentes parum, neque suspectæ  
 they lie hid a long time in the kidney, injuring little, nor suspected  
 priusquam delapsæ in ureterem, irritent et obstruant  
 before that having fallen down into the ureter, they irritate and obstruct  
 hunc, que afficiant vel alterum vel utrumque renem per consensum,  
 this, and affect either one or both kidney by sympathy,  
 et convellant totum corpus. Hinc ingens et dira cohors  
 and convulse the whole body. Hence a great and dreadful train  
 malorum: sæpe immanis dolor, ureteris, renum, que vicinarum  
 of diseases: often severe pain, of the ureter, of the kidneys, and contiguous  
 partium, nausea, vomitus, depravata concoctio ciborum, contractio  
 parts, nausea, vomiting, depraved concoction of the food, contraction  
 ureteris, qui instruitur moventibus fibris, obstructio urinæ,  
 of the ureter, which is furnished with moving fibres, obstruction of urine,  
 gravis irritatio, sæpe inflammatio, aliquando suppuratio renis,  
 severe irritation, often inflammation, sometimes suppuration of the kidney,  
 stranguria, dysuria, ischuria, urina interdum limpida, sæpe mucosa,  
 strangury, dysuria, ischuria, the urine sometimes limpid, often mucous,  
 quasi purulenta, vel sanguinolenta, vel nigra, et febris aliquando  
 as if purulent, or bloody, or black, and the fever sometimes  
 vehemens; nonnunquam renalis tabes, aliquando mira corruptio,  
 intense; sometimes renal tabes, sometimes a wonderful corruption,  
 obstructio, tumor, macies, fere destructio renis, ita ut alter  
 obstruction, tumour, wasting, almost destruction of the kidney, so that the one  
 aliquando visus fuerit, cadavere aperto defuisse.  
 sometimes has seemed, on the dead body being opened, to have been wanting.

propter relaxationem aut inflammationem; aut in rene demum concretiones vel minimæ formatæ, nucleos dabunt.

748. Hujusmodi vero concretiones utcumque primo exiguæ, indies crescunt, propter rationes (746) memoratas. Sæpe descendunt e renibus sponte, sine magno dolore aut incommodo, neque in vesica commorantur, sed brevi cum urina excernuntur. Sæpius vero in renibus hærent, donec tantam adeptæ fuerint molem, quanta ægre per ureterem descenderit. Diu aliquando in rene latent, parum nocentes, neque prius suspectæ, quam in ureterem delapsæ hunc irritent et obstruant, renemque vel alterum vel

utrumque per consensum afficiant, et totum corpus convellant. Hiuc ingens et dira malorum cohors: dolor sæpe immanis ureteris, renum, partiumque vicinarum, nausea, vomitus, concoctio ciborum depravata, contractio ureteris, qui fibris moventibus instruitur, obstructio urinæ, gravis irritatio, sæpe inflammatio, aliquando suppuratio renis, stranguria, dysuria, ischuria, urina limpida interdum, sæpe mucosa, quasi purulenta, vel sanguinolenta, vel nigra, et febris aliquando vehemens; nonnunquam tabes renalis, mira aliquando corruptio, obstructio, tumor, macies, fere destructio renis, ita ut alter aliquando aperto cadavere defuisse

Sæpe, etiam, dum calculus hæret in uretere, vel descendit  
*Often, also, whilst the calculus sticks in the ureter, or descends*  
 ægrius per eum, dolor propagatur ad testem, vel crus  
*more difficultly through it, pain is propagated to the testicle, or leg*  
 ejusdem lateris; vero ægri frequentius conqueruntur de  
*of the same side; but the patients more frequently complain of*  
 stupore cruris, et sensu quasi testis esset retractus. Hæc  
*numbness of the leg, and a feeling as if the testicle was drawn up. These*  
 signa, ipsa profecto levis momenti, ducentia originem a  
*signs, themselves indeed of slight importance, deriving their origin from*  
 spermaticâ fune, jacente proxime sub uretere, compressâ, vel  
*the spermatic cord, lying close under the ureter, being compressed, or*  
 saltem a quibusdam ramulis, forsân minutissimis, nervorum,  
*at least from some little branches, perhaps very minute, of nerves,*  
 tendentibus per psoam musculum ad testem vel crus,  
*going through the psoas muscle to the testicle or leg (thigh),*  
 irritatis vel compressis, sive ab meatu ipso urinæ dis-  
*being irritated or compressed, or from the meatus itself of urine being dis-*  
 tento plurimum, sive a isto musculo, propter viciniam atque  
*tended very much, or from that muscle, on account of the vicinity and*  
 consensum cum parte laborante, tumente, vel fortasse inflammato,  
*sympathy with the part suffering, swelling, or perhaps being inflamed,*  
 tamen jure (sc. signa) vindicant sibi attentionem  
*nevertheless properly claim to themselves the attention*  
 medici, quatenus, plerumque, manifeste declarent  
*of the physician, inasmuch as, for the most part, they manifestly announce*  
 naturam morbi, stipati signis cæteroquin nonnunquam  
*the nature of a disease, accompanied with symptoms otherwise sometimes*  
 ambiguis.  
*doubtful.*

749. Causa tot malorum est satis in aprico: neque  
*The cause of so many disorders is sufficiently evident: nor*  
 ratio obscura, quâ calculus paulatim descendat, lotio  
*is the principle obscure, upon which a calculus gradually descends, the urine*  
 urgente, et meatu ipso urinæ distento aut relaxato:  
*forcing (it), and the meatus itself of urine being distended or relaxed:*  
 neque ratio medendi obscurior, ad mitiganda singula  
*nor is the method of curing more obscure, to mitigate the individual*  
 mala quæ urgent maxime, vel expediendum descensum calculi,  
*evils which urge most, or facilitate the descent of the calculus,*  
 remediis quæ summoveant vel temperent inflammationem et febrem,  
*by remedies which can remove or moderate inflammation and fever,*

visus fuerit. Sæpe etiam, dum calculus in uretere hæret, vel ægrius per eum descendit, dolor ad testem, vel crus ejusdem lateris, propagatur: frequentius vero de stupore cruris, et sensu quasi testis retractus esset, conqueruntur ægri. Hæc signa, ipsa profecto levis momenti, a compressa fune spermatica, proxime sub uretere jacente, vel saltem a ramulis quibusdam, forsân minutissimis nervorum per psoam musculum ad testem vel crus tendentibus, irritatis, vel compressis, sive ab ipso meatu urinæ plurimum distento, sive a musculo isto propter viciniam atque consensum (362) cum parte laborante,

tumente, vel fortasse inflammato, originem ducentia, medici tamen attentionem jure sibi vindicant, quatenus naturam morbi, ambiguis cæteroquin signis nonnunquam stipati, manifeste plerumque declarent.

749. Causa tot malorum satis in aprico est: neque obscura ratio qua calculus paulatim descendat, urgente lotio, et distento aut relaxato ipso urinæ meatu: neque obscurior medendi ratio ad mitiganda singula mala quæ maxime urgent, vel expediendum calculi descensum, remediis quæ inflammationem et febrem summoveant vel temperent, quæ sensum minuant,

quæ minuunt sensum, tollant irritationem, solvant contractionem  
*which can lessen sensibility, carry off irritation, relax the contraction*  
 meatûs ipsiûs, laxent totum corpus, depleant intestina,  
*of the meatus itself, unbrace the whole body, empty the intestines,*  
 compescant vomitum, que eluant vias quas urina subit,  
*restrain vomiting, and wash out the channels which the urine passes,*  
 diluant urinam ipsam, que foveant irritata et dolentia organa  
*dilute the urine itself, and foment the irritated and painful organs*  
 ejûs, et oblinant gummoso aut glutinoso humore, qui  
*of it, and anoint them with a gummy or glutinous fluid, which*  
 fungatur officio naturalis muci, abrasa vi  
*may perform the office of the natural mucus, carried off by the violence*  
 morbi.  
*of the disease.*

750. Hoc modo præcavetur ab instanti periculo: vero proficitur  
*In this manner it is guarded from instant danger: but it is advanced*  
 parum, si calculus hæserit in vesicâ, quia tum, crescens  
*little, if the calculus should stop in the bladder, because then, increasing*  
 paulatim, nequit brevi excerni, et inducit gravem irritationem,  
*by degrees, it cannot quickly be excreted, and brings on severe irritation,*  
 tum dolorem vesicæ, sed adhuc magis ostii urethræ,  
*then pain of the bladder, but still more of the orifice of the urethra,*  
 stranguriam, dysuriam, ischuriam, incontinentiam urinæ, inflammationem,  
*strangury, dysuria, ischuria, incontinence of urine, inflammation,*  
 suppurationem, ulcus, gangrænâ, callum vesicæ, et tandem  
*suppuration, ulcer, gangrene, callus of the bladder, and at length*  
 ( nisi æger citius succumbat his malis, ) viribus  
*( unless the sick quickly yield (sink under) to these evils, ) the strength*  
 miseri exhaustis perpetuo dolore et irritatione.  
*of the wretched person being exhausted by constant pain and irritation,*  
 lentam febrem, hecticam, maciem et tabem, tarde fortasse, sed  
*slow fever, hectic, emaciation and wasting, slowly perhaps, but*  
 certe lethales.  
*certainly fatal.*

751. Postremo, non prætereundum est silentio, secretentia organa,  
*Lastly, we must not pass over in silence, that the secreting organs,*  
 quæ strictius vocantur Glandulæ, esse, præ reliquis  
*which more strictly are called Glands, are, before (more than) the remaining*  
 partibus corporis, obnoxia obstructioni, et quibusdam diris malis  
*parts of the body, liable to obstruction, and some terrible disorders*  
 quæ profluunt ex eâ (sc. obstructione).  
*which proceed from it.*

irritationem tollant, contractionem ipsius meatus solvant, totum corpus laxent, intestina depleant, vomitum compescant, viasque quas urina subit eluant, ipsam urinam diluant, ejusque organa irritata et dolentia foveant et oblinant gummoso aut glutinoso humore, qui naturalis muci, vi morbi abrasa, officio fungatur.

750. Hoc modo ab instanti periculo præcavetur: parum vero proficitur, si in vesica calculus hæserit, quia tum paulatim crescens brevi excerni nequit, et gravem irritationem, dolorem tum vesicæ, sed magis adhuc ostii

urethræ, stranguriam, dysuriam, ischuriam, incontinentiam urinæ, inflammationem, suppurationem, ulcus, gangrænâ, callum vesicæ, inducit, et tandem (nisi his malis citius æger succumbat) exhaustis miseri viribus, perpetuo dolore et irritatione, febrem lentam, hecticam, maciem, et tabem, tarde fortasse, sed certe lethales.

751. Postremo, silentio non est prætereundum, organa secretentia, quæ strictius Glandulæ vocantur, obstructioni, et diris quibusdam quæ ex ea profluunt malis, præ reliquis partibus corporis obnoxia esse.



752. Hinc sæpe insignis tumor, et mira durities, non modo  
*Hence often great swelling, and wonderful hardness, not only*  
 sine dolore, sed sæpe cum minuto sensu affectæ partis;  
*without pain, but frequently with diminished sensibility of the affected part;*  
 quod genus mali vocatur Scirrhus. Idem (sc. scirrhus) aliquando  
*which kind of disorder is called Scirrhus. The same sometimes*  
 manet diu sine dolore, vel sane ullâ molestiâ: vero ocyus  
*remains a long time without pain, or truly any inconvenience: but sooner*  
 serius incipit dolere, et quidem acerrime; paulatim  
*or later it begins to be painful, and indeed very acutely so; by degrees*  
 abit in tardam atque malignam suppurationem, et tandem  
*it goes off into slow and malignant suppuration, and at length*  
 fit horrendum ulcus, primo non modo consumens affectam  
*becomes a horrible ulcer, at first not only consuming the affected*  
 partem, sed depascens omnes vicinas, et corrumpens totum  
*part, but feeding upon all the contiguous (parts), and corrupting the whole*  
 corpus acerrimo et immedicabili veneno. Hoc vocatur Carcinoma,  
*body with a very acrid and incurable poison. This is called Carcinoma,*  
 nonnunquam subito lethale, scilicet magnâ arteriâ aut venâ  
*sometimes suddenly fatal, that is by a large artery or vein*  
 erosâ, vero plerumque inducturum lentam et miserandam tabem,  
*being eroded, but generally will bring on slow and miserable wasting,*  
 interdum cum hecticâ febre, certissime exitiali.  
*sometimes with hectic fever, most certainly fatal.*

753. Ratio horrendi mali hactenus est obscura. Tamen,  
*The cause of this horrid disease as yet is obscure. However,*  
 videtur credibile, fabricam glandularum reddere motum  
*it seems credible, that the structure of the glands renders the motion*  
 sanguinis præter solitum languidum in iis: unde obstructio  
*of the blood unusually languid in them: whence obstruction*  
 facilior, et imperfecta et maligna suppuratio (est.) Porro,  
*is more easy, and an imperfect and malignant suppuration (arises.) Moreover,*  
 peculiaris constitutio corporis, sæpe congenita et hæreditaria, reddit  
*a peculiar constitution of body, often congenital and hereditary, renders*  
 homines opportunos huic morbo: scilicet, debilis, et languida, et  
*persons liable to this disease: that is, a weak, and languid, and*  
 torpida constitutio. Strumosi, quoque, observantur esse, præ aliis  
*torpid constitution. Strumous persons, also, are observed to be, more than other*  
 hominibus, obnoxii huic diro morbo. Morbus est multo  
*persons, liable to this dreadful disease. The disease is by much*  
 frequentior in vetulis quam junioribus, que in iis qui fuerint  
*more frequent in old women than in younger, and in those who have been*

752. Hinc sæpe tumor insignis, et mira durities, non modo sine dolore, sed sæpe cum minuto partis affectæ sensu; quod mali genus Scirrhus vocatur. Idem diu aliquando manet sine dolore, vel sane ulla molestia: serius ocyus vero dolore incipit, et quidem acerrime; paulatim in suppurationem tardam atque malignam abit, et tandem ulcus horrendum fit, non modo partem primo affectam consumens, sed vicinas omnes depascens, et totum corpus acerrimo et immedicabili veneno corrumpens. Hoc Carcinoma vocatur, nonnunquam subito lethale, erosa scilicet magna arteria aut veena, plerum-

que vero lentam et miserandam tabem, interdum cum febre hecticâ certissime exitiali, inducturum.

753. Ratio horrendi mali hactenus obscura est. Credibile tamen videtur, fabricam glandularum motum sanguinis in iis præter solitum languidum reddere: unde facilior obstructio, et imperfecta, et maligna suppuratio. Porro, constitutio corporis peculiaris, sæpe congenita et hæreditaria, homines huic morbo opportunos reddit: constitutio scilicet, debilis, et languida, et torpida. Strumosi quoque, diro huic morbo, præ aliis hominibus, obnoxii esse observantur. In vetulis quam junioribus multo frequentior

vel debilitati ignaviâ, vel exhausti nimiâ et perpetuo labore:  
*either debilitated by idleness, or exhausted by excessive and constant labour:*  
 et in iis, demum, qui tolerant vitam pravo victu,  
*and in those, at length, who support their life (live) upon depraved diet,*  
 parum nutriente, difficili concoctu; vel, denique, quibus graves  
*no way nourishing, difficult to be digested; or, lastly, in whom severe*  
 et diuturni affectus animi multum fregerint omnes  
*and long continued affections of the mind have greatly broken down all*  
 vires, præsertim quæ movent sanguinem.  
*the powers, especially those which circulate the blood.*

754. Scirrhus sæpe incipit sine notâ externâ causâ; aliquando  
*Scirrhus often begins without a known external cause; sometimes*  
 accedit post inflammationem non bene resolutam; sæpius  
*it comes on after inflammation not well resolved; more frequently*  
 oritur a externâ vi illatâ parti refertæ glandulis; neque  
*it arises from external violence done to a part full of glands; nor*  
 ratio harum rerum obscura, nimirum quæ lædant fabricam  
*is the reason of these things obscure, as being things which injure the structure*  
 glandulæ, que sæpe obstruant eam. Hic, omnibus rite per-  
*of the gland, and often obstruct it. Here, all things being rightly con-*  
 pensis, non erit mirum morbum, etiam incipientem,  
*sidered, it will not be wonderful that the disease, even when beginning,*  
 difficillimum sanatu, tandem inveteratum, evadere insanabilem.  
*is very difficult to be cured, at length inveterated, becomes incurable.*

## CAP. XXI.

## CHAP. XXI.

De facultate generandi in utroque sexu, que variis morboris  
*Of the faculty of generating in both sex, and the various diseased*  
 affectionibus ejus, et organorum quæ inserviunt ei.  
*affections of it, and of the organs which subserve to it.*

755. Quoniam singuli homines, annis labentibus, senescunt et  
*Because individual men, the years gliding on, grow old and*  
 moriuntur, secundum leges Naturæ; cautum est, (ut)  
*die, according to the laws of Nature; it has been provided, that*  
 genus ipsum ne pereat, mirabili facultate quâ (sc. facultate)  
*the race itself should not perish, by the wonderful faculty which*

est morbus, inque iis qui vel ignavia debilitati fuerint, vel nimia et perpetua labore exhausti: et in iis demum qui victu pravo, parum nutriente, difficili concoctu, vitam tolerant, vel denique quibus animi affectus graves et diuturni, vires omnes, præsertim quæ sanguinem movent, multum fregerint.

754. Incipit sæpe scirrhus sine nota causa externa; aliquando post inflammationem non bene resolutam accedit; sæpius a vi externa parti glandulis refertæ illata oritur: neque harum rerum obscura ratio, nimirum quæ

fabricam glandulæ lædant, eamque sæpe obstruant. Hic omnibus rite pensis, non mirum erit morbum, etiam incipientem sanatu difficillimum, inveteratum tandem, insanabilem evadere.

CAP. XXI.—De Generandi Facultate in utroque Sexu, variisque ejus et quæ ei inserviunt Organorum Affectionibus Morboris.

755. QUONIAM singuli, secundum Naturæ leges, homines, labentibus annis, senescunt et moriuntur; ne genus ipsum pereat, cautum est

homo et omne animal fruitur gignendi prolem ex sese,  
*man and every animal enjoys of generating an offspring from himself,*  
 similem (sc. sui).  
*similar to itself.*

756. Quamvis nemo hominum hactenus perscrutatus sit hoc  
*Although none of men hitherto has thoroughly investigated this*  
 ultimum arcanum Naturæ, neque fortasse unquam fuerit, cuiquam  
*last secret of Nature, nor perhaps ever will there be, to any one*  
 mortalium, facultas explorandæ aut explanandæ penitus rei  
*of mortals, the power of examining or of explaining thoroughly a subject*  
 adeo obscuræ; tamen, omnis medicus facturus est pretium  
*so obscure; nevertheless, every physician will reap the reward*  
 operæ qui didicerit singulares res veras, pertinentes huc,  
*of his labour who will learn the individual facts true, pertaining to this subject,*  
 utcumque exiguas et imperfectas, quas vel ratio docuit, vel  
*however scanty and imperfect, which either reason has taught, or*  
 observatio comprobavit: præsertim quum non modo functio ipsa,  
*observation has proved: especially since not only the function itself,*  
 haud levis momenti, sit obnoxia suis vitiis, sed status  
*of no slight moment, is liable to its own disorders, but the condition*  
 quoque partium quæ inserviunt eidem, multum afficiat  
*also of the parts which subservise to the same, may greatly affect*  
 universum corpus, que sæpe vel inducat varios morbos, vel  
*the entire body, and often either induce various diseases, or*  
 solvat jam urgentes.  
*resolve them already troubling.*

757. Primâ ætate est nulla genitalis vis: vero, certâ  
*At the first age there is no generative power: but, at a certain*  
 ætate, plerumque circa decimum quartum annum, quum compago  
*age, generally about the fourteenth year, when the frame*  
 corporis, jam facta firmior, que quædam partes, ut videtur,  
*of the body, now become more firm, and certain parts, as it seems,*  
 appropinquant ad justam formam et magnitudinem, dirigunt  
*approaching to their due shape and size, direct*  
 cursum sanguinis alio, masculina genitalia organa, prius  
*the current of the blood elsewhere, the male generative organs, before*  
 inutilia et parva, et crescentia lente cum reliquo corpore, tantum  
*useless and small, and growing slowly with the rest of the body, only*  
 pro rata parte, subito mutantur, crescunt, et evolvuntur,  
*in proportion to the part, suddenly are changed, grow, and are evolved,*  
 facta idonea ad propria munera. Tum pubes  
*rendered fitted to their proper functions. Then the hair of the pubes*

mirabili facultate qua homo et omne animal fruitur, ex sese prolem similem gignendi (12,13).

756. Quamvis nemo hominum hactenus perscrutatus sit, ultimum arcanum Naturæ, neque fortasse unquam mortalium rei adeo obscuræ penitus explorandæ aut explanandæ unquam facultas fuerit; tamen operæ pretium omnis medicus facturus est, qui res veras singulares, huc pertinentes, didicerit, utcumque exiguas et imperfectas, quas vel ratio docuit, vel observatio comprobavit: præsertim quum non modo ipsa haud levis momenti functio suis obnoxia sit vitiis, sed status quoque par-

tium, quæ eidem inserviunt, universum corpus multum afficiat, variosque sæpe morbos vel inducat (52), vel jam urgentes solvat.

757. Prima ætate, nulla vis genitalis est: certa vero ætate, plerumque circa decimum quartum annum, quum jam compago corporis firmior facta, partesque, ut videtur, quædam ad justam formam et magnitudinem appropinquant, sanguinis cursum alio dirigunt, organa genitalia masculina prius inutilia, et parva, et lente, pro rata tantum parte, cum reliquo corpore crescentia, mutantur subito, crescunt, et evolvuntur, ad propria munera

venit, que fecundum semen sucernitur, stimulo cuius adolescens comes, and a fruitful semen is secreted, by the stimulus of which the youth incitatur ad grata munera Veneris. is excited to the agreeable functions of Venery.

758. Hoc stimulo, quem multa juvant, multa augent, nimirum, By this stimulus, which many things assist, many increase, namely, quæ accendunt imaginationem, secundum leges consensûs, which inflame the imagination, according to the laws of sympathy, cursus sanguinis versus genitalia organa augetur, quo the current of the blood towards the genital organs is increased, by which sanguine tandem influente per arterias, copiosiore quam blood at length flowing in by the arteries, more copious(ly) than reducitur per venas, inguen tumet, riget, et it is brought back by the veins, the yard (penis) swells, stiffens, and glans, demum, turgida plurimo sanguine, adipiscitur acutissimum the glands, in fine, turgid with a great deal of blood, acquires a very acute sensum; ita ut levis titillatio ejûsdem, qualis fuerit sensibility; so that a slight tickling of the same, such as may have been in Venere, det vehementissimum sensum et voluptatem, que in Venery, produces a most exquisite sensation and pleasure, and convellat totum nervosum genus in mirum modum, que agitates the whole nervous system in a wonderful manner, und præsertim cieat vicinos musculos, dictos levatores ani, ad especially excites the contiguous muscles, named the levators ani, to contractionem, quâ compressione, tandem, vesiculæ seminales que contraction, by which compression, at length, the vesiculæ seminales and deferentes ductus exprimuntur, atque deplentur. excretory ducts (vasa deferentia) are squeezed out, and are emptied. Semen, quoque, ut videtur, secernitur copiosius, eodem The semen also, as it seems, is secreted more copiously, at the same tempore, in testibus ipsis, per auctam actionem vasorum time, in the testicles themselves, by the increased action of the vessels quæ efficiunt eos ex maximâ parte; et effunditur ex his in which form them for the greatest part; and is poured out from them into urethram: vero ibi effusum vel rectâ (actione?) ex testibus, the urethra: but there poured out either directly from the testicles, vel ex vesiculis seminalibus, dat novum stimulum, cui or from the vesiculæ seminales, gives a new stimulus, which accelerator, musculus voluntarii motûs in reddendâ urina, the accelerator, a muscle of voluntary motion in voiding the urine, organum inviti motûs in expellendo semine, paret, validâ an organ of involuntary motion in expelling the semen, obeys, by the powerful

idonea facta. Tam pubes venit, semeuque fecundum sucernitur, cuius stimulo adolescens ad grata Veneris munera incitatur.

758. Hoc stimulo quem multa juvant, multa augent, nimirum quæ accendunt imaginationem, secundum consensûs leges, sanguinis cursus genitalia organa versus augetur, quo tandem sanguine copiosiore per arterias influente, quam per venas reducitur (422), inguen tumet, riget, et glans demum plurimo sanguine turgida acutissimum sensum adipiscitur (143, 170); ita ut levis ejusdem titillatio, qualis in Venere fuerit, vehementissimum sen-

sum et voluptatem det, totumque genus nervosum mirum in modum convellat, musculosque præsertim vicinos, levatores ani dictos, ad contractionem cieat, qua tandem compressione vesiculæ seminales, ductusque deferentes exprimuntur atque deplentur. Semen quoque, ut videtur, eodem tempore copiosius in ipsis testibus secernitur, per auctam actionem vasorum quæ eos maxima ex parte efficiunt; et ex his in urethram effunditur: ibi vero vel recta ex testibus, vel ex vesiculis seminalibus, effusum, novum dat stimulum, cui musculus accelerator paret, in reddendâ urina voluntarii motus, in expellendo

et repetitâ contractione cuius semen ejicitur tandem insigni  
*and repeated contraction of which the semen is ejected at length with great*  
 vi, nimirum quanta fuerit sat ad projiciendum fœcundum  
*force, truly as much as shall be sufficient to propel the fruitful*

humorem qua debet penetrare, vel saltem in uterum.  
*fluid where it ought to penetrate, or at least into the uterus.*

759. Neque accelerator musculus solus conveilitur: plerumque  
*Nor is the accelerator muscle alone convulsed: generally*  
 levis tremor aut convulsio, vero aliquando vehementissima convulsio  
*a slight tremor or convulsion, but sometimes a very violent convulsion*  
 omnium musculorum, observatur in venere: hinc anhelatio, palpitatio,  
*of all the muscles, is observed during venery: hence panting, palpitation,*  
*syncope, nonnunquam epilepsia, vel demum subita mors, quæ*  
*syncope, sometimes epilepsy, or even sudden death, which*  
 abripuit nonnullos occupatos cultu Veneris nec timentes  
*has snatched away some engaged in the worship of Venus nor fearing*  
 quidquam tale.  
*any such thing.*

760. Opere finito, corpus semper languet nonnihl,  
*The work being finished, the body always is languid in some degree,*  
 aliquando diu; inguen detumet, sanguine affluente  
*sometimes for a long time; the penis subsides, the blood flowing*  
 parciore resumpto copiosiore per venas; cupido  
*more sparing (ly) being taken up more copious (ly) by the veins; the desire*  
 pacatur, irritatio summovetur, corpus solvitur, et somnus obrepit  
*is appeased, irritation is removed, the body is relaxed, and sleep steals on*  
 facilius.  
*more easily.*

761. Homines pubescent tardius in frigidis regionibus, maturius  
*Men arrive at puberty more slowly in cold regions, more early*  
 in calidis. Pubertas quoque venit tardior in pueris occupatis  
*in warm ones. Puberty also comes on slower in boys occupied*  
 valido labore et utentibus parco et tenui victu; maturior fere  
*in hard labour and using a scanty and thin diet; earlier commonly*  
 viventibus laute et luxuriosis. Eadem sæpe festinatur  
*in those living sumptuously and in the luxurious. The same often is hastened*  
 non bene colloquiis aut cogitationibus quæ accendunt  
*not advantageously by conversation or thoughts which inflame*  
 imaginationem, vel turpi usu partium prius quam sit fas  
*the imagination, or by a base use of the parts before that it is permitted*  
 vibrare arma Veneris.  
*to brandish the arms of Venus.*

semine inviti motus organum, cuius contrac-  
 tione valida et repetita, semen tandem ejicitur  
 insigni vi, quanta nimirum, sat fuerit ad hu-  
 morem fœcundum, qua debet penetrare, vel  
 saltem in uterum, projiciendum.

759. Neque solus accelerator musculus convel-  
 litur; levis plerumque tremor aut convulsio,  
 aliquando vero vehementissima convulsio om-  
 nium musculorum, in venere observatur: hinc  
 anhelatio, palpitatio, syncope, epilepsia nonnun-  
 quam, vel demum subita mors, quæ nonnullos  
 Veneris cultu occupatos, nec tale quidquam  
 timentes, abripuit.

760. Finito opere, corpus nonnihl semper

languet, aliquando diu; inguen detumet, san-  
 guine parciore affluente, copiosiore per venas  
 resumpto; cupido pacatur, irritatio summove-  
 tur, corpus solvitur, et somnus facilius obrepit.

761. Tardius pubescunt homines in regionibus  
 frigidis, maturius in calidis. Pubertas quoque  
 tardior venit pueris valido labore occupatis, et  
 victu parco et tenui utentibus; maturior fere  
 laute viventibus et luxuriosis. Eadem sæpe  
 festinatur non bene, colloquiis aut cogitatio-  
 nibus quæ imaginationem accendunt, vel turpi  
 usu partium, priusquam Veneris arma vibrare  
 fas sit.

762. Neque genitalia organa sola mutantur pubertate; totum corpus subit graves et sæpe saluberrimas mutationes. Barba pullulat, vox fit gravis et magis sonora, corpus evadit firmius et validius, et sæpe crescit multum et subito, que multi morbi provententes vel a nimia laxitate solidarum partium, vel a mobilitate nervosi generis, convulsiones, struma, &c. sæpe evanescent suâ sponte. Quin et nova vis accedit æque animo ac corpori, que puerilibus moribus exutis juvenis brevi induit viriles. Vero nihil hujusmodi accidit eunuchis; neque vox mutatur, neque barba venit; et corpus manet debile, et raro adipiscitur justam formam; et ipsi fere sunt languidi, que levis, mollis, effœminati animi. Igitur est non dubium istas mutationes que similes sed adhuc majores quæ observantur in aliis animalibus quodammodo pendere a pubertate et secretionem seminis, quacunque ratione demum fiant. Refert parum sive semen fuerit retentum diu sive exhaustum justâ venere. Vero hæc (sc. vernus) nimis culta valde nocet, præsertim junioribus animos quorum pariter ac corpora multum degenerat: ratio cuius rei erit haud obscura si quis reputaverit secum quanta vis inferatur universo corpori et imprimis nervoso generi venere.

762. Neque sola genitalia organa mutantur pubertate; totum corpus graves, et sæpe saluberrimas, mutationes subit. Barba pullulat, vox fit gravis et magis sonora, corpus firmius et validius evadit, et sæpe multum et subito crescit, multique morbi, vel a nimia laxitate partium solidarum, vel a mobilitate generis nervosi provententes, convulsiones, struma, &c. sæpe sua sponte evanescent. Quin et nova vis animo æque ac corpori accedit, moribusque puerilibus exutis, juvenis brevi viriles induit. Eunuchis vero nihil hujusmodi accidit: neque vox mutatur, neque barba venit; et corpus debile manet, et raro justam formam adipisci-

tur; et ipsi fere languidi sunt, animique levis, mollis, effœminati. Non dubium igitur est, istas mutationes, similesque sed majores adhuc, quæ in aliis animalibus observantur, a pubertate et secretionem seminis quodammodo pendere, quacunque demum ratione fiant. Parum refert, sive retentum fuerit diu, sive justa venere exhaustum semen. Hæc vero nimis culta valde nocet, præsertim junioribus, quorum animos pariter ac corpora multum degenerat: cuius rei ratio haud obscura erit, si quis secum reputaverit quanta vis universo corpori, et generi nervoso imprimis, inferatur venere.

763. Homines optime valent ad venerem florente et virili ætate.  
*Men are best able for venery in flowering and manly age.*

Primâ senectute adhuc apti sed pigriores ad prælia  
*In commencing old age (they are) still fit but more sluggish for the battles*

Veneris. Vero summâ senectute Venus aut est nulla aut sterilis,  
*of Venus. But in ripe old age Venus either is none or sterile,*

et gravis elumbi et exsucco corpori, neque fere  
*and oppressive to the loin less (feeble) and sapless frame, nor scarcely*

toleranda impune; quia nimirum omnis sensus deficit senibus  
*to be endured with impunity; because indeed every sense fails in old men*

et nervosa vis est minor, et motus sanguinis languidior, et  
*and the nervous power is less, and the motion of the blood more languid, and*

secretiones, fere parclores imprimis seminis, que musculi  
*the secretions, commonly more scanty especially of the semen, and the muscles*

qui ejiunt hoc debiles et fere paralytici, propter  
*which eject this weak and almost paralytic, on account of*

innumera mala horum organorum que vicinarum partium,  
*the numberless diseases of these organs and of the neighbouring parts,*

quibus (sc. malis) senectus est obnoxia. Autem differentia hominum  
*to which old age is liable. But the difference of men*

de his rebus (est) magna; enim exempla decantantur  
*about these things (in this respect) is great; for examples are related*

senum merentium strenuissime in castris Veneris postquam  
*of old men serving very vigorously in the camps of Venus after that*

compleverant centum annos; neque sane dubium, aut adeo  
*they had completed a hundred years; nor indeed (is it) doubtful, or so*

raram octogenarium fieri patrem.  
*uncommon that the octogenarian becomes a father.*

764. Facultas generandi aliquando deficit maribus, et est  
*The faculty of generating sometimes fails in males, and there is*

nulla cupido, neque inguen unquam arrigit neque  
*no desire, nor does the penis ever rise up (become erect), nor*

semen emittitur, propter vitia organorum fere  
*is the semen emitted, on account of defects of the organs commonly*

ignota, puta, pravam fabricam, derivatam ab naturâ  
*unknown, for instance, a depraved structure, derived from nature*

ipsâ, vel defectum sensûs vel secretionis. Vero talis impotentia  
*itself, or a defect of feeling or of secretion. But such impotence*

sæpius oritur ab aliis morbis genitalium partium, lue  
*more frequently arises from other diseases of the genital organs, (as) lues*

venereâ, vel fabricâ læsâ a contusione aut vulnere;  
*venerea, or the structure being injured by contusion or a wound;*

763. Florente ætate, et virili, homines ad Venerem optime valent. Prima senectute apti adhuc, sed pigriores ad Veneris prælia. Summa vero senectute venus aut nulla est, aut sterilis, et elumbi et exsucco corpori gravis, neque fere impune toleranda; nimirum quia senibus sensus omnis deficit, et vis nervosa minor est, et sanguinis motus languidior, et secretiones fere parclores, imprimis seminis, musculique qui hoc ejiunt debiles, et fere paralytici, propter innumera horum organorum partiumque vicinarum mala, quibus senectus obnoxia est (715). Magna autem de his rebus hominum differentia:

decantantur enim exempla senum, in castris Veneris strenuissime merentium, postquam centum annos compleverant; neque sane dubium, aut adeo rarum, octogenarium patrem fieri.

764. Deficit aliquando maribus generandi facultas, et nulla cupido est, neque unquam arrigit inguen, neque semen emittitur, propter vitia fere ignota organorum, puta pravam ab ipsa natura derivatam fabricam, vel defectum sensus vel secretionis. Sæpius vero talis impotentia oritur ab aliis partium genitalium morbis, lue venerea, vel læsa fabrica a contusione

haud raro visa est oriri a nimiâ, præsertim solitariâ  
*not unfrequently it has seemed to arise from excessive, especially solitary*  
 venere, scilicet cui est (pro habet) nullus modus.  
*venery, that is which has no bounds.*

765. Est verisimile viros aliquando esse steriles a vitio  
*It is probable that men sometimes are sterile from a fault*  
 seminis, quamvis nulla vitia organorum appareant, et  
*of the semen, although no disorders of the organs may appear, and*  
 ipsi (sc. viri) valeant probe ad venerem, que multa exempla  
*they themselves may be able thoroughly for venery, and many examples*  
 ostenderunt omnem virum esse non fœcundum cum omni  
*have shewn that every man was not fruitful with every*  
 fœminâ, quamvis uterque foret satis fœcundus cum aliis.  
*woman, although each would be sufficiently fruitful with others.*

766. Inguen nonnunquam arrigit pertinaciter et cum dolore, vel  
*The penis sometimes is erect obstinately and with pain, or*  
 citra cupidinem, vel cum ingente et inexplebili libidine. Rarum  
*without desire, or with great and insatiable lust. A rare*  
 genus vitii, cui nomina Tentigo, Priapismus, Satyriasis,  
*kind of disorder, to which the names Tentigo, Priapism, Satyriasis,*  
 dantur. Oritur fere a gravi irritatione membri ipsius,  
*are given. It arises mostly from severe irritation of the member itself,*  
 vel vicinarum partium, præsertim vesicæ, vel stimulatæ  
*or of the contiguous parts, especially of the bladder, either stimulated*  
 acribus medicamentis, veluti cantharidibus, sumptis, vel distentæ  
*by acrid medicines, as cantharides, being taken, or distended*  
 multâ et acriore urinâ: hinc levior tentigo familiaris  
*with much and very acrid urine: hence the slighter tentigo common*  
 expergiscentibus, alioquin sanissimis, neque libidinosis: hinc quoque  
*to persons waking, otherwise very healthy, nor lustful: hence also*  
 inguen sæpe riget infantibus que pueris impuberibus, quamvis  
*the penis often stiffens in children and boys under puberty, although*  
 fabrica ejus nondum ita evolvatur ut tumeat et  
*the structure of it may not yet be so evolved that it can swell and*  
 arrigat, sicut solet viris.  
*erect itself, as is accustomed in men.*

767. Fere eâdem ætate quâ pueri pubescunt, puellæ  
*Almost at the same age in which boys arrive at puberty, girls*  
 solent fieri nubiles: genitalia organa evolvuntur, et  
*are accustomed to become marriageable: the genital organs are evolved, and*  
 valent ad propria munera; pubes venit, mammæ  
*are adequate to their proper functions; the hair of the pubes comes, the breasts*

aut vulnere: haud raro oriri visa est a nimia  
 venere, præsertim solitaria, scilicet, cui nullus  
 modus est.

765. Verisimile est, viros aliquando steriles  
 esse a vitio seminis, quamvis nulla organorum  
 vitia appareant, et ipsi ad venerem probe  
 valeant; multaque exempla ostenderunt, non  
 omnem virum cum omni fœmina fœcundum  
 esse, quamvis uterque cum aliis satis foret  
 fœcundus.

766. Nonnunquam inguen pertinaciter et cum  
 dolore arrigit, vel citra cupidinem, vel cum in-  
 gente et inexplebili libidine. Rarum vitii genus,  
 cui nomina Tentigo, Priapismus, Satyriasis

dantur. Oritur fere a gravi irritatione ipsius  
 membri, vel partium vicinarum, vesicæ præsertim,  
 vel acribus medicamentis, veluti cantharidibus,  
 sumptis, stimulatæ, vel multa et acriore  
 urinâ distentæ: hinc levior tentigo familiaris  
 expergiscentibus, alioquin sanissimis, neque  
 libidinosis, familiaris: hinc quoque inguen  
 sæpe riget infantibus puerisque impuberibus,  
 quamvis nondum ita evolvatur ejus fabrica, ut  
 tumeat et arrigat, sicut viris solet.

767. Eadem fere ætate qua pueri pubescunt,  
 puellæ solent nubiles fieri: genitalia organa  
 evolvuntur, et ad propria munera valent; pubes  
 venit, mammæ efflorescunt, nova venustas ori-



efflorescunt, nova venustas accedunt (plural, propt. duos nominativos)  
shoot forth, a new beauty comes

ori, nova elegantia universæ formæ. Valetudo, quoque,  
to the face, a new grace to the whole figure. The health, also,

siquando fuisset antea infirmior, sæpe et subito vertitur  
if it had been previously more infirm, often and suddenly is changed

in meliorem, non secus ac accidit adolescentibus alteriûs sexûs.  
into better, in like manner as happens to young persons of the other sex.

Vero multum abest ut tanta mutatio universi corporis accidat  
But it is far from that so great a change of the whole body befalls

fœminis quanta observetur in viris. Enim neque vox mutatur,  
women as is observed in men. For neither is the voice changed,

neque barba venit, neque eadem vis et robur  
nor does the beard come, nor do the same strength and vigour

contingunt aut corpori aut animo: et nunc demum  
befall either the body or the mind: and now at length

differentia sexuum, quod ad constitutionem corporis, in infantibus  
the difference of the sexes, as to the constitution of the body, in infants

fere nulla, in pueris atque puellis obscura, neque semper observanda,  
almost none, in boys and girls obscure, nor always to be observed,

manifeste prodit se.  
manifestly sets itself forth.

778. Autem gravissima mutatio absolvitur in intimis visceribus  
But the most important change is effected in the innermost viscera

puellæ, quâ uterus, prius inutile organum, effundat  
of the girl, by which the uterus, before a useless organ, pours forth

pauillum sanguinis singulis mensibus, et evadat idoneus ad  
a little (of) blood every month, and becomes fitted to

susciendam, et gestandam et alendam prolem, donec prodeat,  
receive, and carry and nourish an offspring, until it come forth,

suo tempore, in auras que lucem.  
at its due time, into the air and light.

769. Multum disputatum est inter medicos quo pacto  
It has been much disputed amongst physicians by what means

menses evenirent, et quo consilio magna Prens rerum  
the menses came forth, and with what design the great Parent of nature

tulisset legem adeo iniquam, ut videtur, fœminis solis. Enim  
had imposed a law so unjust, as it appears, upon women alone. For

nondum constat num menses contingant aliis animalibus  
it is not yet established whether the menses happen to other animals

nova elegantia universæ formæ accedunt. Valetudo quoque, siquando fuisset, sæpe et subito in meliorem vertitur, non secus ac adolescentibus alterius sexus accidit. Multum vero abest ut tanta universi corporis mutatio fœminis accidat, quanta in viris observetur. Neque enim vox mutatur, neque barba venit, neque eadem vis et robur aut corpori aut animo contingunt: et nunc demum differentia sexuum, quod ad corporis constitutionem, in infantibus fere nulla, in pueris atque puellis obscura neque semper observanda, manifeste se prodit.

768. Gravissima autem in intimis puellæ visceribus mutatio absolvitur, qua uterus, prius inutile organum, pauillum sanguinis singulis mensibus effundat, et idoneus evadat ad prolem suscipiendam, et gestandam, et alendam, donec suo tempore in auras lucemque prodeat.

769. Multum disputatum est inter medicos, quo pacto menses evenirent, et quo consilio rerum magni Parentis solis fœminis adeo iniquam ut videtur legem tulisset. Nondum enim constat, num aliis quoque animalibus menses contingant; si ullis, certe paucissimis, iisque tantum quæ generi humano simillima sunt.

quoque; si ullis certe paucissimis, que iis tantum quæ sunt  
*also; if to any certainly to very few, and to those only which are*  
 simillima humano generi.  
*most like the human race.*

770. Nemo sanus conatus fuerit reddere rationem cur  
*No sensible person will endeavour to offer an explanation why*  
 talis fabrica qualis efficiat fluxum hujusmodi, data fuerit  
*such a mechanism as can cause a flow of this sort, should have been given*  
 fœminis, que iis solis: neque est (officium) medici  
*to women, and to them alone: nor is it (the duty) of the physician*  
 perscrutari arcana istiusmodi. Erit sat si explicaverit  
*to investigate secrets of that sort. It will be sufficient if he should explain*  
 quænam ista fabrica sit, et ostenderit quomodo fluxus  
*what that mechanism is, and should shew how the flow*  
 mensium fiat, quibus usibus inserviat, quibus causis  
*of the menses takes place, what purposes it serves, from what causes*  
 vitietur, quâ ratione vitiatas noceat, et quibus remediis  
*it is vitiated, in what manner (when) vitiated it injures, and by what remedies*  
 vitia ejus corrigantur. Autem plurima desiderantur  
*the disorders of it may be corrected. But very many things are required*  
 adhuc ut ratio talis menstrual fluxus reddatur.  
*as yet that an account of such a menstrual discharge be rendered.*

771. Quum corpore crescente indies, quadam partes adeptæ sint  
*When by the body growing daily, certain parts have acquired*  
 fere justam molem, et figuram et firmitatem, videntur quodammodo  
*almost their due size, and shape and strength, they seem in some degree*  
 dirigere cursum sanguinis versus alias partes, laxiores, et nondum  
*to direct the course of the blood towards other parts, more lax, and not yet*  
 evolutas, sed aptas per suam fabricam, ut, propriis vitalibus  
*evolved, but so fitted by their own structure, that, by the proper vital*  
 viribus corporis juvantibus, tandem crescant et evolvantur certâ  
*powers of the body assisting, at length they grow and are evolved in a certain*  
 ratione. Est verisimile quoque ovaria ipsa, evoluta hoc  
*manner. It is probable also that the ovaries themselves, evolved in this*  
 modo, que tandem valentia ad suum munus, secernere  
*manner, and at length availing (becoming adequate) to their function, secrete*  
 quosdam fœcundos humores, qui demum plurimum afficiant uterum  
*some fruitful fluids, which indeed greatly affect the uterus*  
 que vicinas partes per suum stimulum, que invitent sanguinem  
*and neighbouring part by their stimulus, and invite the blood*  
 imprimis in arterias ipsarum.  
*first of all into the arteries of themselves (their own arteries).*

770. Nemo sanus conatus fuerit rationem reddere, cur talis fœminis, iisque solis, fabrica data fuerit, qualis hujusmodi fluxum efficiat: neque medici est istiusmodi arcana perscrutari. Sat erit si quænam ista fabrica sit explicaverit, et ostenderit quomodo mensium fluxus fiat, quibus usibus inserviat, quibus causis vitietur, qua ratione vitiatas noceat, et quibus remediis ejus vitia corrigantur. Plurima autem desiderantur adhuc, ut talis fluxus menstrui ratio reddatur.

771. Quum corpore indies crescente, partes quædam justam fere adeptæ sicut molem, et

figuram, et firmitatem, sanguinis cursum quodammodo dirigere videntur alias partes versus, laxiores, et nondum evolutas, sed per suam fabricam aptas, ut juvantibus propriis corporis viribus vitalibus (47) certa tandem ratione crescant et evolvantur. Verisimile quoque est ovaria ipsa, hoc modo evoluta, ad suumque tandem munus valentia, humores quosdam fœcundos secernere, qui demum per suum stimulum uterum, partesque vicinas, plurimum afficiant, sanguinemque imprimis in ipsarum arterias invitant (475).

772. Vero omnes arteriæ comparatæ cum venis observantur capaces  
*But all the arteries compared with the veins are observed capacious*  
 et lax fœminis præ viris: imprimis descendens aorta, que  
*and lax in women more than men: in the first place the descending aorta, and*  
 præsertim rami ejûs qui tendunt ad uterum sunt præ cæteris  
*especially the branches of it which go to the uterus are more than the others*  
 capaces et laxi. Porro rami arteriarum uteri ampli,  
*capacious and lax. Moreover the branches of the arteries of the uterus being large*  
 flexuosi, serpentine, videntur aptissimi ad congerendum sanguinem;  
*flexuous, serpentine, seem very fitted to congest the blood;*  
 vero turgidi congesto sanguine hiant in uterum multis  
*but (when) turgid with congested blood they open into the uterus with many*  
 osculis, que fundunt sanguinem in eum, elapsurum brevi  
*small mouths, and pour the blood into it, to escape in a short time*  
 per vaginam.  
*by the vagina.*

773. Igitur est probabile fœminas esse præ viris proclives  
*Therefore it is probable that women are more than men liable*  
 ad plenitudinem sanguinis; quod sane plurima confirmant, præsertim  
*to fulness of blood; which indeed many things confirm, especially*  
 quum corpore crescente lentius, omnis nutriens humor  
*when the body growing more slowly, all the nutritious fluid*  
 qui paratur non impenditur nutrimento ejûs; est quoque  
*which is prepared is not expended in the nutrition of it; it is also*  
 probabile nimiam copiam sanguinis congeri præcipue in  
*probable that an excessive quantity of blood is congested principally in*  
 arteriis et imprimis laxioribus ramis qui distenduntur facillime,  
*the arteries and chiefly in the laxer branches which are distended most easily,*  
 que ideo in vasis uteri. Vero hæc distenta et  
*and consequently in the vessels of the uterus. But these distended and*  
 irritata incitantur ad novos et validiores motus, que expriment  
*irritated are excited to new and more powerful motions, and press out*  
 humorem primo tenuem vix coloratum per oscula, jam  
*a fluid at first thin scarcely coloured by small mouths, now*  
 nonnihil patefacta, hiantia in uterum vero portea fundunt rubrum  
*somewhat expanded, opening into the uterus but afterward pour out red*  
 sanguinem. (Notandum est non sanguinem sed secretionem esse menses.)  
*blood.*

774. Quamvis omnia hæc videantur quodammodo obscura et  
*Although all these things seem in some degree obscure and*

772. Fœminis vero, præ viris, arteriæ omnes  
 capaces et laxæ, cum venis comparatæ, obser-  
 vantur: aorta descendens imprimis, ejus-  
 que rami præsertim qui ad uterum tendunt,  
 præ cæteris capaces et laxi sunt. Porro, rami  
 arteriarum uteri, ampli, flexuosi, serpenti-  
 ni, ad congerendum sanguinem aptissimi  
 videntur: congesto vero sanguine turgidi,  
 in uterum multa osculis hiant, sanguinem-  
 que in eum fundunt, per vaginam brevi elap-  
 surum.

773. Probabile igitur est, fœminas, præ viris,  
 ad sanguinis plenitudinem proclives esse; quod

sane plurima confirmant, præsertim quum,  
 lentius crescente corpore, humor nutriens qui  
 paratur non omnis nutrimento ejus impenditur;  
 probabile quoque est, nimiam sanguinis copiam  
 in arteriis præcipue congeri, et imprimis in  
 ramis laxioribus, qui facillime distenduntur,  
 ideoque in vasis uteri. Hæc vero distenta et  
 irritata ad novos et validiores motus incitantur,  
 humoremque, primo tenuem vix coloratum,  
 per oscula in uterum hiantia jam nonnihil  
 patefacta expriment, postea vero rubrum san-  
 guinem fundunt.

774. Quamvis hæc omnia quodammodo ob-

incerta; tamen confirmantur haud parum observatione multorum  
*uncertain; yet they are confirmed not a little by the observation of many*  
 signorum quæ præcedunt et comitantur menses erumpentes. Cujûs  
*symptoms which precede and accompany the menses breaking forth. Of which*  
 modi sunt fluxus albidus humoris e vaginâ, recurrens  
*sort are the flow of a white fluid from the vagina, recurring*  
 incertis, sæpe longis intervallis, per unum ve alterum annum ante  
*at uncertain, often long intervals, for one or two years before*  
 plenam pubertatem; insolita lassitudo, dolor lumborum et capitis,  
*complete puberty; unusual lassitude, pain of the loins and of the head,*  
 vertigo, nausea, tumor et aliquando dolor mammarum, recrudescencia  
*vertigo, nausea, swelling and sometimes pain of the breasts, recurring*  
 per intervalla donec tandem sincerus sanguis prorumpat; quod simul  
*at intervals until at length pure blood bursts forth; which as soon as*  
 fit hæc mala evanescent, reditura, vero quamvis incerto  
*it happens these disorders vanish, to return, indeed although at an uncertain*  
 tempore. Sic menses sæpe redeunt longis et incertis  
*period. Thus the menses often return at long and uncertain*  
 intervallis puellis nondum plene puberibus; vero paulatim reducendi  
*intervals in girls not yet fully ripe; but gradually to be reduced*  
 ad menstruum intervallum, signis jam recensitis, nunc  
*to the menstrual interval, the symptoms already enumerated, sometimes*  
 levioribus nunc gravioribus, fere præcedentibus.  
*slighter sometimes more severe, commonly preceding.*

775. Nulla ratio intervalli adeo æqualis reddita est hactenus;  
*No explanation of an interval so regular has been given hitherto;*  
 pleræque res tamen habent sua tempora quibus incipiunt  
*most things however have their own periods in which they begin*  
 et absolvuntur: vis consuetudinis videtur facere nonnihil hic.  
*and are completed: the force of habit seems to do something here.*  
 Neque tamen est intervallum ædeo æquale fœminis, quin menses  
*Nor however is the interval so regular in women, but that the menses*  
 redeant multis, alioquin sanissimis, per breviora aut longiora  
*may return in many, otherwise very healthy, at shorter or longer*  
 spatia. Exempla mulierum, quæ habent nullos menses, bene  
*periods. Examples of women, who have no menses, being*  
 valentium sunt rarissima, et fœcunditatis sine mensibus adhuc  
*in good health are very rare, and of fecundity without the menses still*  
 rariora: vero quædam puellæ factæ sunt matres priusquam  
*more rare: but some girls have become mothers before that*  
 menses erupissent: vero postea profluxuri (sunt) solito more.  
*the menses had broken forth: but afterward they will flow on in the usual manner.*

scura et incerta videantur; tamen haud parum confirmantur observatione multorum signorum quæ erumpentes menses præcedunt et comitantur. Cujusmodi sunt fluxus humoris albidus e vagina, incertis intervallis, sæpe longis, recurrens, per annum unum alterumve ante plenam pubertatem; lassitudo insolita, dolor lumborum et capitis, vertigo, nausea, mammarum tumor et aliquando dolor, per intervalla recrudescencia, donec tandem sanguis sincerus prorumpat; quod simul fit, hæc mala evanescent, reditura vero, quamvis incerto tempore. Sic puellis nondum plene puberibus menses sæpe longis et incertis intervallis redeunt: paulatim

vero ad intervallum menstruum reducendi, præcedentibus fere signis jam recensitis, nunc levioribus nunc gravioribus.

775. Ratio intervalli adeo æqualis nulla hactenus reddita est: habent tamen sua tempora pleræque res, quibus incipiunt et absolvuntur: vis consuetudinis (317) nonnihil hic facere videtur. Neque tamen intervallum adeo æquale fœminis est, quin multis, alioquin sanissimis, per breviora aut longiora spatia, menses redeant. Rarissima sunt exempla mulierum bene valentium, quæ nullos menses habent, et rariora adhuc, sine mensibus, fœcunditatis: puellæ quædam vero prius matres factæ sunt, quam

776. Vero annis labentibus, in nostris regionibus vix ante  
*But the years gliding on, in our climate scarcely before*  
 quadragesimum, et fere ante quinquagesimum annum ætatis, menses  
*the fortieth, and mostly before the fiftieth year of age, the menses*  
 desinunt et cum iis fœcunditas. Quo citius incipiunt fere  
*cease and with them fecundity. The earlier they begin commonly*  
 eo maturius desinunt. Neque plerumque reprimuntur subito;  
*the earlier they cease. Nor generally are they repressed suddenly;*  
 aliquando redeunt et ingente copiâ, insolitis intervallis, sive  
*sometimes they return and in great quantity, at unusual intervals, whether*  
 brevioribus sive longioribus justo (sc. intervallo;) sæpe cum gravibus  
*shorter or longer than (the proper one;) often with severe*  
 morbis uteri que partium vicinarum et conspirantium, imprimis  
*diseases of the uterus and of the parts contiguous and acting in concert, especially*  
 (morbo) fluore albo, neque mediocri discrimine valetudinis. Ratio  
*with fluor albus, nor with slight danger of the health. The cause*  
 harum rerum videtur esse firmitas et rigiditas totiûs corporis,  
*of these things seems to be the firmness and rigidity of the whole body,*  
 præsertim arteriarum, crescentes indies et tandem superantes  
*especially of the arteries, increasing daily, and at length overcoming*  
 vim venarum. Hinc ultima plenitudo arteriarum (fit)  
*the strength of the veins. Hence the last (latest) fulness of the arteries occurs*  
 in laxissimâ parte; paulatim tardior, sed inordinata, et tandem nulla.  
*in the laxest part; gradually slower, but irregular, and at length none.*  
 Nonnunquam quamvis rarissime, menses et fœcunditas simul manent  
*Sometimes, although very rarely, the menses and fecundity together remain*  
 ultra quinquagesimum annum. Vero plerumque, si vetula  
*beyond the fiftieth year. But for the most part, if an old woman*  
 habet menses est morbosum (sc. negotium.)  
*have the menses it is a diseased matter.*

777. Igitur menses contingunt mulieribus, potissimum ut videtur  
*Therefore the menses happen to women, principally as it appears*  
 hac ratione, quod habent universam fabricationem corporis aptam  
*from this cause, that they have the entire mechanism of their body fitted*  
 ad comparandam plenitudinem seu abundantiam sanguinis, et idoneum  
*to acquire a plenitude or abundance of blood, and a fit*  
 organum est in promptu, per quod sanguis excernatur. Viri que  
*organ is at hand, by which the blood can be excreted. Men and*  
 cætera animalia haud fiunt nimis pleni sanguine ita facile, neque si  
*other animals do not become too full of blood so easily, nor if*

menses erupissent: postea vero more solito profuxuri.

776. Labentibus vero annis, nostris in regionibus vix ante quadragesimum, et fere ante quinquagesimum ætatis annum, menses desinunt, et cum iis fœcunditas. Quo citius incipiunt, eo fere maturius desinunt. Neque subito plerumque reprimuntur: aliquando insolitis intervallis, sive brevioribus sive longioribus justo, redeunt, et ingente copia; cum gravibus sæpe uteri partiumque vicinarum et conspirantium morbis, fluore albo imprimis, neque mediocri valetudinis discrimine. Harum rerum ratio videtur esse totius corporis, arteriarum præsertim, firmitas et rigiditas, indies

crescentes, et vim venarum tandem superantes. Hinc ultima arteriarum plenitudo in parte laxissima: paulatim tardior, sed inordinata, et tandem nulla. Nonnunquam, quamvis rarissime, menses simul et fœcunditas ultra quinquagesimum annum manent. Plerumque vero, si vetula menses habet, morbosum est.

777. Menses igitur, ut videtur, mulieribus contingunt hac potissimum ratione, quod universam corporis fabricationem, ad plenitudinem seu sanguinis abundantiam comparandam, aptam habent, et idoneum organum in promptu est per quod sanguis excernatur. Viri cæteraque animalia haud ita facile sanguine nimis pleni fiunt, neque si ita facti fuerint simile

facti fuerint ita, habent simile organum. (Menses) Deficiunt  
*they should have become so, have they a similar organ. They fail*

vetulis, quia fabrica uteri mutatur haud parum  
*to old women, because the structure of the uterus is changed not a little*

præsertim firmitas arteriarum ejûs. Porro, dum mulier  
*especially the strength of the arteries of it. Moreover, whilst a woman*

uterum gerit fere habet nullos menses, quia pars uteri  
*is pregnant generally she has no menses, because the part of the uterus*

unde solent profluere occupatur a placenta; neque  
*whence they are accustomed to flow forth is occupied by the placenta; nor*

menses fluunt per plures menses dum mulier alit  
*do the menses flow during the many months whilst the woman nourishes*

infantem, nimirum quia sanguis divertitur ad aliam partem  
*the infant, doubtless because the blood is diverted to another part*

cui est (pro habet) mirus consensus cum utero.  
*which has a wonderful sympathy with the uterus.*

778. Menses conducunt parum vel nihil ad cupidinem.  
*The menses conduce little or not at all to desire.*

Auctus fluxus sanguinis versus genitalia organa, pubere ætate,  
*The increased flow of blood towards the genital organs, at ripe age,*

que nonnulli humores, ut creditur, assidue secreti, possunt non non  
*and some fluids, as it is believed, constantly secreted, cannot not*

stimulare et calefacere. Autem fœminæ feruntur in venerem  
*(must) stimulate and heat. But women are disposed for venery*

minore impetu quam viri, et fœminæ fere omnium animalium  
*with a less impetus than men, and the females of almost all animals*

(feruntur, &c.) quam mares; neque sane hi in quibusdam  
*than the males; nor indeed do the latter in some*

generibus animalium subigunt suas fœminas sine quâdam vi.  
*species of animals subdue their females without some force.*

Vero major ve minor cupido venerearum rerum facit nihil ad  
*But a greater or less desire of venereal congress contributes in no way to*

fœcunditatem. Fœminæ calidioris constitutionis aliquando observantur  
*fecundity. Women of a warmer constitution sometimes are observed*

steriles; dum frigidissimæ, quibus sæpe gaudia veneris (sunt) fere  
*sterile; whilst of the coldest, to whom often the pleasures of venery are almost*

nulla, sunt mirâ fœcunditate. Vero effrænata et inexplebills  
*none, are of a wonderful fecundity. But an unbridled and insatiable*

libido, est demum morbus in fœminis non secus ac in viris,  
*desire, is indeed a disease in women in like manner as in men,*

aliquando vere corporeus, inductus forsân a vitis genitalium  
*sometimes a truly corporeal one, induced perhaps by diseases of the genital*

organum habent. Deficiunt vetulis, quia fabrica uteri haud parum mutatur, præsertim firmitas ejus arteriarum. Porro, dum mulier uterum gerit, menses nullos fere habet, quin pars uteri unde profluere solent a placenta occupatur; neque per plures menses, dum infantem alit mulier, fluunt menses, nimirum quia ad aliam partem, cui mirus cum utero consensus est, sanguis divertitur.

778. Menses parum vel nihil ad cupidinem conducunt. Auctus, ætate pubere, genitalia organa versus sanguinis fluxus, humoresque ut creditur, nonnulli (634), assidue secreti, non possunt non stimulare et calefacere.

Fœminæ autem quam viri, et omnium fere animalium fœminæ quam mares, minore impetu in venerem feruntur; neque hi sane in quibusdam animalium generibus, sine vi quâdam suas fœminas subigunt. Nihil vero ad fœcunditatem facit major minorve cupido rerum venerearum. Fœminæ aliquando calidioris constitutionis steriles observantur; dum frigidissimæ sæpe, quibus Veneris gaudia fere nulla, mira fœcunditate sunt. Effrænata vero et inexplebills libido, in fœminis non secus ac in viris, morbus demum est, aliquando vere corporeus, forsân a vitis genitalium organorum, irritatione, nimio sanguinis fluxu,

organorum, irritatione, nimio fluxu sanguinis, nimia secretione  
*organs, irritation, excessive flux of blood, excessive secretion*  
 fœcundorum humorum; vero sæpius ducens originem a læsâ  
*of fecundating humours; but more often deriving its origin from a diseased*  
 et corruptâ imaginatione.  
*and corrupted imagination.*

779. In fœcundâ venere est probabile non modo clitoridem que  
*In a fruitful congress it is probable not only that the clitoris and*  
 cæteras exteriores partes genitalium organorum fœminarum, sed quoque  
*other more external parts of the genital organs of females, but also*  
 intimas imprimis Fallopianas tubas, turgere et erigi  
*the inmost especially the Fallopian tubes, grow turgid and are erected*  
 sanguine influente; que has tubas admoveri ad ovaria que  
*by the blood flowing in; and that these tubes are applied to the ovaries and*  
 amplecti eadem suis fimbriis, que deferre masculinum semen  
*that they embrace the same with their fimbriæ, and convey the male semen*  
 ad ea (sc. ovaria), que vel deducere ovum separatum ex ovario  
*to them, and either bring down the ovum separated from the ovarium*  
 postquam fuerit fœcundatum, masculino semine, vel forsitan  
*after it has been fecundated, by the male semen, or perhaps*  
 tantum humorem rupti ovi mixtum cum semine, in uterum.  
*only the fluid of the ruptured ovum mixed with the semen, into the uterus.*

780. Vero adhuc parum constat num hæc fiunt ita,  
*But as yet it is not decided whether these things take place so,*  
 vel demum quo tempore; scilicet quia occasiones observandi  
*or even at what time; truly because the opportunities of observing*  
 sunt admodum raræ in hominibus, que multa vetant adhibere  
*are very rare in men, and many things forbid us to give*  
 fidem plurimis observationibus, quas varii auctores protulerunt.  
*credit to the many observations, which various authors have set forth.*  
 Vero quantum possit colligi ex inspectionibus animalium institutis  
*But as far as can be collected from the inspections of animals instituted*  
 a peritissimis medicis, vel, denique, paucarum mulierum, cada-  
*by the most skilful physicians, or, finally, of the few women, the dead*  
 vera quarum fuerit facultas inspiciendi brevi tempore  
*bodies of whom there has been any possibility of examining a short time*  
 post conceptum, neque fœtus neque ovum possunt detegi ante  
*after conception, neither fœtus nor ovum can be detected before*  
 viginti dies post conceptum: tenax, glutinosus, pellucidus humor  
*twenty days after conception: a tenacious, glutinous, pellucid fluid*  
 tantum conspicitur in utero aut tubis; qui, tamen, continet  
*only is seen in the uterus or tubes; which, however, contains*

nia humorum fœcundorum secretionem, in-  
 ductus; sæpius vero a læsâ et corrupta ima-  
 ginatione originem ducens.

779. In fœcunda venere probabile est, non  
 modo clitoridem cæterasque partes exteriores  
 genitalium organorum fœminarum, sed intima-  
 s quoque, tubas imprimis Fallopianas, in-  
 fluente sanguine turgere et erigi; hasque  
 tubas ad ovaria admoveri, eademque suis  
 fimbriis amplecti, semenque masculinum ad  
 ea deferre, ovumque vel separatum ex ovario,  
 postquam semine masculino fœcundatum fuerit,  
 vel forsitan rupto tantum ovi humorem, cum  
 semine mixtum, in uterum deducere.

780. Hæc vero num ita fiunt, vel quo demum

tempore, parum adhuc constat: scilicet, quia  
 observandi occasiones in hominibus raræ ad-  
 modum sunt, multaque vetant adhibere fidem  
 plurimis, quas varii auctores protulerunt, ob-  
 servationibus. Quantum vero ex inspectionibus  
 animalium, a peritissimis medicis institutis, vel  
 denique paucarum mulierum, quarum cadavera  
 brevi post conceptum tempore inspiciendi  
 facultas fuerit, colligi possit, neque fœtus,  
 neque ovum, ante viginti dies post conceptum,  
 detegi possunt: humor tantum tenax, glutino-  
 sus, pellucidus in utero aut tubis conspicitur;  
 qui tamen primordia novi animalis continet,  
 quamvis oculi, etiam armati optimis  
 vitris, aciem fugientia. Quamprimum vero

primordia novi animalis, quamvis fugientia (sc. primordia) aciem  
*the rudiments of the new animal, although baffling the field*  
 oculi, etiam armati optimis vitris. Vero quam primum partes  
*of the eye, though armed with the best glasses. But as soon as the parts*  
 crudi fœtus adeptæ sunt tantum firmitatis et coloris ut  
*of the crude fetus have acquired so much firmness and colour that*  
 possint distingui, tum ovum observatur, constans ex molli  
*they can be distinguished, then the ovum is observed, consisting of a soft*  
 et tenui membranâ, et continens pellucidam aquulam, in quâ  
*and thin membrane, and containing a pellucid little water, in which*  
 novum animal natat, incurvum, pendulum per funem umbilici  
*the new animal swims, bent, pendulous by the cord of the navel*  
 a placentâ et membranâ ovi deforme, capite  
*from the placenta and membrane of the ovum shapeless, with the head*  
 pro ratâ parte ingente, corpore parvo, adhuc instructum nullis artubus,  
*in proportion large, the body small, as yet furnished with no limbs,*  
 hactenus mollissimum, et fere fluidum.  
*to this time (as yet) - very soft, and almost fluid.*

781. Sterilitas a conclusis tubis, corpora lutea, ut vocantur,  
*The sterility from shut up tubes, corpora lutea, as they are called,*  
 reperta in ovaris semper post, nunquam ante, conceptum, que  
*found in the ovaries always after, never before, conception, and*  
 demum fœtus hærentes vel in ovaris, vel tubis vel delapsi  
*finally fetuses sticking either in the ovaries, or in the tubes or having fallen*  
 in abdomen ruptis tubis, docent masculinum semen penetrare,  
*into the abdomen from the ruptured tubes, prove that the male semen penetrates,*  
 quodammodo, per Fallopianas tubas ad ovaria feminarum,  
*in some way, through Fallopian tubes to the ovaries of females,*  
 aliquid necessarium ad generationem derivari ex ovaris, et  
*that something necessary to generation is derived from the ovaries, and*  
 descendere per easdam tubas ad uterum.  
*descends by the same tubes to the uterus.*

782. Similitudo parentum, vel alterius tantum, vel mixta  
*The likeness of the parents, either of the one only, or a mixed*  
 utriusque, reviviscens in liberis, suadet primordia novi  
*of both, reviving in the children, persuades that the rudiments of the new*  
 animalis derivari pariter ex utroque parente: ita, tamen, ut alii  
*animal are derived equally from each parent: so, however, that some*  
 liberorum, qui habent mixtam similitudinem, inclinent ad patrem,  
*of the children, which have a mixed likeness, incline to the father,*  
 alii magis ad matrem: et singularis constitutio  
*others more to the mother: and the peculiar constitution (idiosyncrasy)*

tantum firmitatis et coloris adeptæ sunt partes crudi fœtus, ut possint distingui, tum ovum observatur ex molli et tenui membranâ constans, et aquulam pellucidam continens, in qua novum animal, incurvum, per funem umbilici a placenta et membranâ ovi pendulum, deforme, ingente pro rata parte capite, parvo corpore, nullis adhuc artubus instructum, natat, mollissimum hactenus et fere fluidum.

781. Semen masculinum ad ovaria feminarum per tubas Fallopianas quodammodo penetrare, aliquid ad generationem necessarium ex

ovariis derivari, et per eandem tubas descendere ad uterum, docent sterilitas a conclusis tubis, corpora lutea ut vocantur in ovaris semper post conceptum, nunquam ante, reperta, fœtusque demum, vel in ovaris, vel in tubis hærentes, vel ruptis tubis in abdomen delapsi.

782. Primordia novi animalis ex utroque parente pariter derivari, suadet similitudo parentum, vel alterius tantum, vel utriusque mixta, in liberis reviviscens: ita tamen ut liberorum, qui mixtam similitudinem habent, alii ad patrem, alii magis ad matrem, incli-



patris renascatur, vel pura, vel mixta et correcta in filio,  
*of the father revives, either pure, or mixed and corrected in the son,*  
 et sic proclivitas ad suscipiendos multos morbos transeat a  
*and thus a tendency to take on many diseases may pass from*  
 parentibus in prolem, aliquando nihil imminuta, immo,  
*parents to their offspring, sometimes nothing diminished, nay,*  
 forsā facta gravior, vero sæpe mitior et levior, et paulatim  
*perhaps become more severe, but often milder and lighter, and gradually*  
 delenda, si tanta cura impenderetur generationi hominum  
*to be obliterated, if as great care were expended on the generation of men*  
 quanta datur propagandis equis, et juvenicis, et catulis. Maxima  
*as is given in propagating horses, and bullocks, and whelps. The greatest*  
 varietas quæ observatur in humano genere, scilicet, inter  
*difference which is observed in the human race, namely, between*  
 Æthiopes et Europæos, post aliquot generationes, ut fertur  
*the Æthiopians and Europeans, after some generations, as it is said*  
 quatuor, deletur penitus, et evanescit, nec unquam renascitur si  
*four, is obliterated entirely, and disappears, nor does it ever revive if*  
 mixta proles habuerit nuptias cum altero genere tantum. Autem  
*the mixed offspring should contract marriage with one race only. But*  
 plurimæ varietates, multo minus notabiles, *Temperamenta* ut  
*very many varieties, much less remarkable, Temperaments as*  
 dicuntur, statura et forma corporis, lineamenta vultus,  
*they are called, stature and shape of the body, lineaments of the countenance*  
 color oris, capillorum, oculorum, *miscetur*  
*(features), colour of the face, of the hair, eyes, are mixed*  
 facillime in humanâ gente, et sæpe latent diu: sed  
*very easily in the human race, and often lie dormant for a long time: but*  
 usque vigent in stirpe; nunquam penitus delendæ. Enim  
*constantly prevail in the progeny; never wholly to be destroyed. For*  
 illæ minutæ varietates hominum prodeunt identidem, summo  
*those minute varieties of men go forth occasionally, with the most profound*  
 neque obscuro consilio, fortasse post multas generationes, non minus  
*nor obscure wisdom, perhaps after many generations, not less*  
 puræ quam extiterant triginta secula ante; alioquin singuli  
*pure than they had existed thirty ages before; otherwise individual*  
 homines possent vix, aut ne quidem vix secerni et  
*men could scarcely, or not even scarcely be separated and*  
 internosci invicem a se.  
*be distinguished in turn from themselves (each other).*

783. Vero profecerunt parum hactenus, qui conati sunt  
*But they have effected little hitherto, who have endeavoured*

ment; et constitutio singularis patris vel pura renascatur in filio, vel mixta et correcta, et sic proclivitas ad multos morbos suscipiendos a parentibus in prolem transeat, aliquando nihil imminuta, immo forsā facta gravior, vero sæpe mitior et levior, et paulatim delenda, si tanta hominum generationi impenderetur cura, quanta equis, et juvenicis, et catulis propagandis datur. Maxima quæ in genere humano observatur varietas, scilicet inter Æthiopes et Europæos, post aliquot generationes, quatuor ut fertur, deletur penitus, et evanescit, nec unquam renascitur, si mixta proles cum altero tantum genere nuptias habuerit. Pluri-

mæ autem varietates, multo minus notabiles, *Temperamenta* ut dicuntur, statura et forma corporis, lineamenta vultus, color oris, capillorum, oculorum, in gente humana miscetur facillime, et sæpe diu latent: sed vigent usque in stirpe; nunquam penitus delendæ. Summo enim neque obscuro consilio, multas fortasse post generationes, identidem prodeunt minutæ illæ hominum varietates, non minus puræ quam ante triginta secula extiterant: alioquin singuli homines a se invicem vix aut ne vix quidem secerni possent et internosci.

783. Parum vero profecerunt hactenus qui conati sunt rationem reddere variarum partium

reddere rationem variarum partium quas uterque parens con-  
*to give an explanation of the various parts which each parent con-*  
 ferret ad generationem. Nec melius intelligitur quænam (sit)  
*tributed to generation. Nor is it better understood what is*  
 virtus masculini seminis, quisnam usus minutissimorum  
*the virtue of the male semen, what the use of the very minute*  
 animalium quæ scant ibi, aut quid depromatur  
*animals (animalcules) which abound there (in it), or what is drawn out*  
 ex ovario, aut corpore luteo. Vero est non dubium quendam  
*from the ovarium, or corpus luteum. But it is not doubtful that a certain*  
 fabricam, utcunque imperfectam, novi animalis, subesse ab con-  
*structure, however imperfect, of the new animal, exists from con-*  
 ceptu ipso, quamvis non obviam nostris sensibus; nimirum, quia  
*ception itself, although not obvious to our senses; indeed, because*  
 simul potest conspici, fœtus habet cerebrum, et cor, et  
*so soon as it can be seen, the fœtus has a brain, and heart, and*  
 aortam, et actionem cordis, et motum sanguinis, quamvis  
*aorta, and action of the heart, and motion of the blood, although*  
 nondum rubri, et ideo actionem cerebri; neque quisquam  
*not yet red, and consequently action of the brain; nor would any one*  
 facile contenderit nihil istiusmodi adfuisse pridie  
*easily contend that nothing of that sort was present the day before*  
 quam tota fabrica facta esset visibilibus nostris oculis.  
*that the whole structure became visible to our eyes.*

784. Autem nemo est qui dixerit unde variæ partes,  
*But no one is (exists) who could say whence the various parts,*  
 quæ sunt omnino necessariae ad vitam, veniant, et quando et  
*which are absolutely necessary to life, come, and when and*  
 quo ordine perficiantur, aut quomodo talis conditio  
*in what order they are perfected, or by what means such a condition*  
 datur, ut videtur rudi que indigestæ massæ, qualis fecerit  
*is given, as it seems to a rude and undigested mass, as should render*  
 eandem idoneam ut distendatur certo modo, et tandem  
*the same fit that it be distended in a certain manner, and at length*  
 crescat in pulcherrimam formam.  
*grow into a most beautiful shape.*

785. Tamen, juvabit novisse talem fabricam subesse a  
*However, it will benefit to know that such a conformation existed from*  
 principiis vitæ, evolvendam certo tempore et ordine, et  
*the beginning of life, to be evolved in a certain time and order, also*  
 magnam et constantem vim quæ distendat (subesse,) et  
*that a great and constant force which distends it (exists,) and*

quas uterque parens ad generationem conferret. Nec melius intelligitur quænam virtus seminis masculini, quisnam minutissimorum quæ ibi scant animalium usus, aut quid ex ovario aut corpore luteo depromatur. Non dubium vero est, fabricam quendam, utcunque imperfectam, novi animalis, ab ipso conceptu subesse, quamvis nostris non obviam sensibus: nimirum, quia simul conspici potest, fœtus cerebrum habet, et cor et aortam, et actionem cordis, et motum sanguinis, quamvis nondum rubri, et ideo actionem cerebri (359); neque facile quisquam contenderit nihil istiusmodi adfuisse pridie

quam tota fabrica nostris oculis visibilis facta esset.

784. Variæ autem partes quæ ad vitam omnino necessariae sunt, unde veniant, et quando et quo ordine perficiantur, nemo est qui dixerit, aut quomodo talis conditio rudi indigestæque, ut videtur, massæ detur, qualis eandem idoneam fecerit, ut certo modo distendatur, et crescat tandem in pulcherrimam formam.

785. Juvabit tamen novisse talem, a principiis vitæ, subesse fabricam, certo tempore et ordine evolvendam, et magnam et constantem vim quæ distendat, et compagem fœtus

compagem fœtus (esse) mollissimam, et ideo aptissimam  
*that the frame of the fœtus is very soft, and therefore very fit*  
 ad extentionem.  
*for extention.*

786. Distendens vis est actio cordis et arteriarum,  
*The distending force is the action of the heart and arteries,*  
 propellens humores quaquaversum per totum corpusculum:  
*driving the fluids in every direction through the whole (of) the little body:*  
 hæc vis, incipiens, ut videtur, a primo ventriculo cordis  
*this force, beginning, as it seems, from the first ventricle of the heart*  
 qui conspicitur, evolvit aortam, que extendit primo in simplicem  
*which is seen, evolves the aorta, and extends it first into a simple*  
 tubum, dividendum paulatim in ramulos, qui inveniunt, vel  
*tube, to be divided gradually into little branches, which find, or*  
 aperiant, vel evolvant venas respondentes sibi.  
*open, or evolve the veins answering (corresponding) to them.*

787. Hæc vis, ut videtur, dirigitur primâ fabricatione corporis  
*This force, as it seems, is directed by the first construction of the body*  
 in alia atque alia organa, variâ proportione, et hæc igitur  
*to the different organs, in various proportion, and they therefore*  
 crescunt, et sane admodum inæqualiter. Sic caput efficitur  
*grow, and indeed very unequally. Thus the head is rendered*  
 grande, et thymus et jecur ingentia, occupantia magnam partem  
*large, and the thymus and liver great, occupying a large proportion*  
 thoracis, cum pulmo adhuc est exiguus, et nulli artus  
*of the thorax, when the lung as yet is small, and no limbs*  
 apparent. Vero hi veniunt suo ordine, et superiores  
*appear. But they come in their proper order, and the upper ones*  
 (sc. artus) pullulant prius.  
*shoot forth first.*

788. Totus homunculus quum primo potest conspici, vix  
*The whole homunculus (little man) when first it can be seen, scarce*  
 major formicâ, et pendens unum ve alterum granum, natat  
*larger than an ant, and weighing one or another (two) grain, swims*  
 in ovo, quod facile contineat duas ve tres uncias aquæ:  
*in the ovum, which easily can contain two or three ounces of water:*  
 vero quo plus ovum crescit, eo minus aquæ, pro rata parte,  
*but the more the ovum grows, the less (of) water, in proportion,*  
 est in eo, et fœtus qui habitat major: donec, tandem,  
*there is in it, and the fœtus which inhabits it is larger: until, at length,*  
 sub finem graviditatis, fere impleat ingens ovum, aquâ  
*towards the end of pregnancy, it nearly fills up the great ovum, the water*

mollissimam, et ideo ad extensionem aptissimam (81, 84).

786. Vis distendens est actio cordis et arteriarum humores quaquaversum per totum corpusculum propellens: hæc vis, ut videtur, a primo qui conspicitur cordis ventriculo incipiens, aortam evolvit, extenditque, primo in simplicem tubum, paulatim in ramulos dividendum, qui venas sibi respondentes inveniunt, vel aperiant, vel evolvant.

787. Hæc vis, prima, ut videtur, corporis fabricatione, varia proportione in alia atque alia organa dirigitur, et hæc igitur certo

ordine crescunt, et sane admodum inæqualiter. Sic caput grande efficitur, et thymus et jecur ingentia magnam thoracis partem occupantia, cum pulmo adhuc exiguus est, et artus nulli apparent. Hi vero suo ordine veniunt, et prius superiores pullulant.

788. Totus homunculus, quum primo conspici potest, vix formica major, et granum unum alterumve pendens, natat in ovo, quod facile duas tresve aquæ uncias contineat: quo plus vero crescit ovum, eo minus pro rata parte aquæ in eo est, et fœtus qui habitat major: donec tandem, sub finem graviditatis, ingens

relictâ parcâ, ipse (sc. fœtus) tum sesquipedalis, et pendens  
*being left scanty, itself then a foot and half long, and weighing*  
 circiter octo libras.  
*about eight pounds.*

789. A primis diebus funis prodit ex umbilico, constans ex  
*From the first days a cord proceeds from the navel, consisting of*  
 binis arteriis, quibus unica vena respondet, et format placentam  
*two arteries, to which a single vein answers, and forms the placenta*  
 quæ tecta (quoad) concavam partem intimâ membranâ  
*which covered as to its concave portion with the inmost membrane*  
 ovi, convexam externâ, plerumque adnectitur ovo  
*of the ovum, on its convex with the external, generally is connected with the ovum*  
 et utero prope superiorem partem utriusque et efficit comateum  
*and uterus near the upper part of both and effects a communication*  
 inter matrem que fœtum, nimirum ducens sanguinem ab alterâ  
*between the mother and fetus, namely carrying the blood from the one*  
 ad alterum que reducens.  
*to the other and bringing it back.*

790. Profecto nondum constat apud medicos quo modo  
*Indeed it is not yet agreed among physicians by what means*  
 hic comateus absolvatur, sive iter a matre ad  
*this communication is effected, whether the passage from the mother to*  
 fœtum sit per continua vasa vehentia sanguinem, sive  
*the fetus be by continuous vessels carrying blood, or whether*  
 sanguis effundatur in cavernulas ex vasis utriusque,  
*blood be poured out into little cells from the vessels of each,*  
 resorbendus denuo per hiantia vasa. Lis ipsa dirimenda.  
*to be absorbed again by open vessels. The dispute itself to be removed*  
 experiendo non argumentando, pertinet parum ad medicum  
*(settled) by experimenting not by arguing, pertains little to medical*  
 usum. Tamen, oportet meminisse auctum impetum sanguinis  
*practice. However, it is necessary to remember that the increased impetus of the blood*  
 in vasis uteri sæpe separare placentam et ideo  
*in the vessels of the uterus often separates the placenta and on that account*  
 inducere abortum, et hanc (placentam) quocunque modo separatam,  
*brings on abortion, and that it in whatever way separated,*  
 sive naturali partu, sive abortu, sivi magnâ vi admotâ  
*whether by natural parturition, or by abortion, or by great force applied*  
 funi umbilici, veluti ab imperitâ obstetrice post partum  
*to the cord of the navel, as by an unskilful obstetrician after delivery*  
 semper efficere aliquem, nonnunquam ingentem et lethalem, fluxum  
*always causes some, sometimes a great and fatal, flow*  
 sanguinis.  
*of blood.*

ovum fere impleat, parca relicta aqua, ipse tum sesquipedalis, et circiter octo libras pendens.

789. A primis diebus funis ex umbilico prodit, ex binis arteriis constans, quibus unica vena respondet, et placentam format, quæ intima ovi membrana tecta concavam partem, externa convexam, ovo et utero plerumque prope partem superiorem utriusque adnectitur, et comateum inter matrem fœtumque efficit, sanguinem nimirum ab altera ad alterum ducens reducensque.

790. Nondum profecto constat apud medicos, quo modo hic comateus absolvatur, sive per vasa sanguinem vehentia continua, iter a matre

ad fœtum sit, sive sanguis ex utriusque vasis effundatur in cavernulas, per vasa hiantia denuo resorbendus. Lis ipsa, experiendo non argumentando dirimenda, parum ad usum medicum pertinet. Oportet tamen meminisse, auctum sanguinem in vasis uteri impetum placentam sæpe separare, et ideo abortum inducere, et hanc quocunque modo separatam, sive partu naturali, sive abortu, sive magna vi funi umbilici admota, veluti ab imperita obstetrice post partum, aliquem semper sanguinis fluxum, nonnunquam ingentem et lethalem, efficere.

791. Singularis cursus sanguinis in fœtu longe diversus ab  
*A particular course of the blood in the fœtus far different from*  
 eo qui observatur in adulto, nimirum, per foramen ovale,  
*that which is observed in the adult, namely, through the foramen ovale,*  
 et ductum arteriosum, inter pulmonalem arteriam et aortam, et  
*and ductus arteriosus, between the pulmonary artery and aorta, and*  
 umbilicales arterias et placentam, et umbilicalem venam et ductum  
*the umbilical arteries and placenta, and the umbilical vein and ductus*  
 venosum, jam descriptus est; neque igitur repetendus  
*venosus, has already been described; nor therefore to be repeated*  
 fusius hic.  
*more at large here (in this place).*

792. Parum constat de origine variarum tunicarum  
*It is not at all established concerning the origin of the different tunics*  
 quæ formant ovum, sive formentur ex fœcundis liquoribus  
*which form the ovum, whether they be formed of the fecundating liquors*  
 utriusque sexûs non secus ac fœtus ipse, sive deriventur  
*of both sex in like manner as the fœtus itself, or whether they be derived*  
 ab utero. Saltem exterior membrana chorii, dicta  
*from the uterus. At least the external membrane of the chorion, named*  
 decidua, videtur esse ab utero nimirum quæ fertur  
*the decidua, seems to be (arise) from the uterus as being one which is said*  
 adfuisse in utero quum fœtus que ovum hærent in  
*to have been in the uterus when the fœtus and ovum were sticking in*  
 Fallopianâ tubâ.  
*the Fallopian tube.*

793. Uterus ipse crescit in mirum modum dum mulier  
*The uterus itself grows in a wonderful degree whilst the woman*  
 est gravida, factus fere quinquagies capaciior quam fuerat  
*is pregnant, becoming nearly fifty times more capacious than it had been*  
 in virgine. Neque fit ideo tenuior: scilicet  
*in the virgin. Nor does it become on that account thinner: because*  
 vasa vehentia sanguinem evolvuntur, et continent plurimum  
*the vessels carrying blood are evolved, and contain a great deal of*  
 sanguinem, et forsan reticulata tela, quæ nectit musculosas  
*blood, and perhaps the cellular tissue, which connects the muscular*  
 fibras, crescit quoque.  
*fibres, grows also.*

794. Nonnullæ mulieres, ut fertur, statim ut conceperint,  
*Some women, as it is said, as soon as they have conceived,*  
 norunt id certo sensu, qualis abfuit a sterili venere,  
*know it by a certain feeling, such as was absent from a barren embrace,*

791. Singularis sanguinis in fœtu cursus, ab eo qui in adulto observatur longe diversus, nimirum per foramen ovale, et ductum arteriosum inter arteriam pulmonalem et aortam, et arterias umbilicales et placentam, et venam umbilicalem et ductum venosum, jam descriptus est (417); neque igitur hic fusius repetendus.

792. Parum constat de origine variarum quæ ovum formant tunicarum, sive ex liquoribus fœcundis utriusque sexus formentur, non secus ac ipse fœtus, sive ab utero deriventur. Exterior saltem membrana chorii, decidua dicta, ab utero videtur esse, nimirum quæ in utero adfuisse

fertur, quum fœtus ovumque in tuba Fallopiana hærent.

793. Uterus ipse, dum mulier gravida est, mirum in modum crescit, quinquagies fere capaciior factus quam in virgine fuerat. Neque ideo tenuior fit: vasa scilicet sanguinem vehentia evolvuntur, et plurimum sanguinem continent, et tela forsan reticulata, quæ fibras musculosas nectit, crescit quoque.

794. Nonnullæ mulieres, ut fertur, statim ut conceperint, id norunt, certo sensu, qualis a sterili venere abfuit, et horrore aliquo illico ingrudente, et nausea, postridie fortasse, vel

et aliquo horrore ingruente illico, et nausæ accedente  
*and some shivering attacking thereupon, and nausea coming on*  
 postriedie fortasse, vel saltem paucis diebus. Plerisque mulieribus  
*the following day perhaps, or at least in a few days. In most women*  
 dum gerunt uterum, os ejus clauditur, et sunt  
*whilst they carry the uterus, the mouth of it is closed, and there are*  
 nulli menses, et norunt potissimum hoc signo se  
*no menses, and they know chiefly by this sign that they*  
 concepisse. Neque tamen est adeo rarum gravidam  
*have conceived. Nor however is it so uncommon that a pregnant woman*  
 habere solitum fluxum (sc. mensium) primis mensibus.  
*should have the usual flow in the first months.*

795. Multæ (sc. mulieres) laborant a stomacho usque a  
*Many suffer from the stomach incessantly from*  
 conceptu ad partum, et vexantur importunissimâ nausæ et  
*conception till delivery, and are teased with the most urgent nausea and*  
 vomitu, præsertim matutinis horis; paucæ quidem sunt omnino  
*vomiting, especially in the morning time; few indeed are wholly*  
 immunes ab his malis, ita ut vix habeantur  
*exempt from these evils, so that they scarcely can be considered*  
 morbosa (sc. mala). Abnormis appetitus cibi que potûs, qualis vocatur  
*diseased. An irregular appetite for food and drink, such as is called*  
 Malacia, nonnunquam accidit gravidis. Mala hujusmodi  
*Malacia, sometimes happens to gravid women. Disorders of this sort*  
 oriuntur a consensu inter stomachum et uterum, que ne  
*arise from the sympathy between the stomach and uterus, and not*  
 ab mole hujus organi comprimente reliqua viscera:  
*from the bulk of the latter organ compressing the remaining viscera:*  
 quippe quia sæpe incipiunt prius quam uterus tumeat, et  
*in as much as they often begin before that the uterus can swell, and*  
 aliquando desinunt vel sublevantur ultimis mensibus graviditatis,  
*sometimes cease or are relieved in the last months of pregnancy,*  
 cum uterus est amplissimus.  
*when the uterus is largest.*

796. Haud pauca alia incommoda quoque aliquando oriuntur a  
*Not a few other inconveniences also sometimes arise from*  
 graviditate, præsertim tumor pedum et crurum, hæmorrhoids  
*pregnancy, especially swelling of the feet and legs, hæmorrhoids (piles),*  
 et quædam vitia urinæ; ratio quarum rerum est  
*and certain disorders of the urine; the reason of which things is*  
 haud obscura. Vero nonnullæ mulieres dum sunt plenæ  
*not obscure. But some women whilst they are full (pregnant)*

saltem paucis diebus, accedente. Plerisque mulieribus, dum uterum gerunt, os ejus clauditur, et menses nulli sunt, et hoc potissimum signo norunt se concepisse. Neque tamen adeo rarum est, gravidam primis mensibus solitum fluxum habere.

795. Multæ a conceptu ad partum usque a stomacho laborant, et importunissima nausea, et vomitu, præsertim horis matutinis, vexantur: paucæ quidem ab his malis omnino immunes sunt, ita ut vix morbosa habeantur. Abnormis cibi potusque appetitus, qualis Malacia (615) vocatur, nonnunquam gravidis accidit. Hujus-

modi mala a consensu inter stomachum et uterum oriuntur, neque ab hujus organi mole reliqua viscera comprimente: quippe quia prius incipiunt sæpe, quam uterus tumeat, et aliquando desinant, vel sublevantur, ultimis mensibus graviditatis, cum uterus amplissimus est.

796. Alia quoque haud pauca a graviditate aliquando oriuntur incommoda; pedum præsertim et crurum tumor, hæmorrhoids, et quædam urinæ vitia (743, 744); quarum rerum ratio haud obscura est. Nonnullæ vero mulieres, dum plenæ sunt, optima et firmissima valetu-

fruuntur optimâ et firmissimâ valetudine: ita ut  
*enjoy the best and firmest (most steady) health: so that*  
 graviditas sæpe fuerit his remedio multorum morborum.  
*pregnancy often will bring to them the remedy (of) for many diseases.*

797. Finis graviditatis est nono mense: mulier rarissime  
*The end of pregnancy is in the ninth month: a woman very seldom*  
 gerit uterum ultra decem menses. Partus sex mensium superstites  
*carries the uterus beyond ten months. Births of six months that survive*  
 rarissime observantur; vero septem et octo mensium sæpe, et  
*very seldom are observed; but of seven and eight months often, and*  
 quo propius ventum fuit (sc. ab iis imperis.) ad justum tempus,  
*the nearer they have approached to the proper time,*  
 eo validior infans, et in meliore spe.  
*the stronger the infant (is), and in the better hope.*

798. Demum, justo tempore, quum fœtus tandem adeptus est  
*Finally, at the due time, when the fœtus at length has acquired*  
 debitam molem et vigorem, et liquor amnii factus est pro  
*its proper bulk and vigour, and the liquor amnii has become in*  
 ratâ parte multo parcior, que igitur uterus magis stimulat  
*proportion much more scanty, and therefore the uterus is more stimulated*  
 pondere et motu infantis, dolores puerperii adoriuntur,  
*by the weight and motion of the infant, the pains of labour arise,*  
 naturali molimine ad producendos menses, ut videtur, sæpe  
*the natural endeavour to produce the menses, as it seems, often*  
 juvante.  
*assisting.*

799. Isti dolores paulatim recrudescentes frequentius excitant  
*Those pains by degrees recurring more frequently excite*  
 uterum ipsum, et musculos respirationis, qui consentiunt cum  
*the uterus itself, and the muscles of respiration, which cooperate with*  
 eo (sc. utero), ad validam contractionem, quæ (sc. contractio) tandem  
*it to powerful contraction, which at length*  
 patefaciat os uteri, que propellat membranas ovi per  
*opens the os uteri, and propels the membranes of the ovum through*  
 hoc in vaginam: ibi ruptæ vel laceratæ vel vi  
*it into the vagina: there ruptured or lacerated either by the violence*  
 contractionis, vel externâ arte, effundunt liquorem amnii cum  
*of the contraction, or by external art, they pour out the liquor amnii with*  
 paxillo sanguinis, qui laxet atque emolliat partes per quas  
*a little blood, which relaxes and softens the parts through which*  
 fœtus debet exire.  
*the fœtus ought to go out.*

dine fruuntur: ita ut his graviditas multorum  
 sæpe morborum remedio fuerit.

797. Finis graviditatis nono mense est: rarissime ultra decem menses uterum gerit mulier. Partus sex mensium rarissime superstites observantur: septem vero et octo mensium sæpe, et quo propius ad justum tempus ventum fuit, eo infans validior, et in meliore spe.

798. Justo demum tempore, quum fœtus tandem adeptus est debitam molem et vigorem, et liquor amnii pro rata parte multo parcior factus est (788), uterusque igitur, pondere et motu infantis magis stimulat, dolores puerperii

adoriuntur, juvante sæpe, ut videtur, molimine naturali ad menses producendos.

799. Isti dolores paulatim frequentius recrudescunt uterum ipsum, et qui cum eo consentiunt respirationis musculos, ad validam contractionem excitant, quæ tandem os uteri patefaciat, membranasque ovi per hoc in vaginam propellat: ibi vel vi contractionis, vel arte externa, ruptæ vel laceratæ, liquorem amnii cum paxillo sanguinis effundunt, qui partes, per quas fœtus exire debet, laxet atque emolliat.

800. Tum dolores fere mitescunt paulisper, autem redituri  
*Then the pains generally moderate a little, but to return*  
 brevi vehementiores, que tandem expulsuri infantem, præcipitem,  
*shortly more violent, and at length to expel the infant, head foremost,*  
 cum immani cruciату, et tremore totiùs corporis, aliquando  
*with severe torture, and tremor of the whole body, sometimes*  
 etiam convulsione nonnunquam forsân lethali: vero quam primum  
*even with a convulsion occasionally perhaps fatal: but as soon as*  
 caput ejùs exiverit reliquum corpus facile sequitur.  
*the head of it has gone forth the rest of the body easily follows.*

801. Brevi post partum placenta separatur ab utero, et  
*Shortly after birth the placenta is separated from the uterus, and*  
 expellitur cum reliquis partibus ovi, plerumque  
*is expelled with the rest (of) the parts of the ovum, for the most part*  
 non sine magnâ jacturâ sanguinis, qualis sæpe non caruerit  
*not without great loss of blood, such as often would not be free*  
 periculo, præsertim si aliqua vis ad separandam placentam fuerit  
*from danger, especially if any force to separate the placenta should be*  
 admota. Vero plerumque fluxus sanguinis brevi compescitur, vel  
*applied. But generally the flow of blood quickly is suppressed, or*  
 saltem temperatur subitâ et validissimâ contractione uteri:  
*at least is moderated by the sudden and very strong contraction of the uterus:*  
 ita ut fluxus, qui vocatur lochia, brevi evadat parclor et  
*so that the flux, which is called lochia, soon becomes more scanty and*  
 pallidior, et tandem omnino serosus. Idem serius ocyus  
*paler, and at length altogether serous. The same later (or) sooner*  
 reprimitur penitus, secundum constitutionem puerperæ  
*is repressed entirely, according to the constitution of the puerperal woman*  
 et rationem vitæ: nonnullis uno vel altero die, vero  
*and the manner of life: in some on the first or second day, but*  
 nonnullis vix intra mensem; recurrit quoque interdum quum  
*in some scarcely within the month; it recurs also sometimes when*  
 puerpera primo redit ad solita munera.  
*the puerperal woman first returns to her usual duties.*

802. Corpus, debilitatum et exhaustum doloribus, et nixu, et  
*The body, debilitated and exhausted with pains, and straining, and*  
 jacturâ sanguinis, non recuperat illico vires, et partim  
*the loss of blood, does not recover immediately its strength, and partly*  
 propter infirmitatem, partim propter auctam mobilitatem et  
*because of weakness, partly through increased mobility and*  
 sensum, afficitur multum et male sæpe levibus causis. Neque  
*sensibility, is affected much and badly often from slight causes. Nor*

800. Tum dolores paulisper fere mitescunt, brevi autem vehementiores redituri, tandemque cum immani cruciату, et totiùs corporis tremore, aliquando etiam convulsione, forsân lethali nonnunquam, infantem præcipitem expulsuri: quam primum vero caput ejus exiverit, reliquum corpus facile sequitur.

801. Brevi post partum, placenta ab utero separatur, et cum reliquis ovi partibus expellitur, non sine magna plerumque sanguinis jactura, qualis sæpe periculo non caruerit, præsertim si vis aliqua ad separandam placentam admota fuerit. Plerumque vero sanguinis fluxus brevi

compescitur, vel temperatur saltem, subita et validissima uteri contractione: ita ut fluxus, qui lochia vocatur, brevi parclor et pallidior, et tandem serosus omnino evadat. Idem serius ocyus reprimitur penitus, secundum puerperæ constitutionem, et vitæ rationem: nonnullis die uno vel altero, nonnullis vero vix intra mensem; recurrit quoque interdum, quum primo puerpera ad solita munera redit.

802. Corpus, doloribus, et nixu, et sanguinis jactura, exhaustum et debilitatum, non illico vires recuperat, et partim propter infirmitatem, partim propter auctam mobilitatem et sensum,



sane omnis cura quæ datur puerperis absurda: vero  
*indeed (is) all the care which is given to puerperal women absurd: but*  
 erraverunt multum qui, habentes omnem puerperam pro  
*they have erred much who, considering every puerperal woman as*  
 morbosâ, voluerunt custodire eas nimîa solitudine,  
*a diseased one, wished to guard them with too much care,*  
 et non modo defendere a gravi irritatione, aut frigore, sed  
*and not only to defend them from great irritation, or cold, but*  
 fovere perpetuo calore, vel fortasse adhibere remedia ad  
*to heat them with constant heat, or perhaps to exhibit remedies to*  
 excitandum sudorem; scilicet quia talis ratio ipsa tractandi  
*excite sweating; truly because such a method itself of treating*  
 non caret periculo, et debilitat corpus magis que magis, et  
*is not devoid of danger, and debilitates the body more and more, and*  
 reddit aptius ad suscipiendos morbos.  
*renders it more fit (liable) to take on diseases.*

803. Incerto tempore post partum sanguis, pulsus contractione  
*At an uncertain period after parturition the blood, driven by the contraction*  
 uteri, ab eo fertur majore copiâ versus mammas  
*of the uterus, from it is conveyed in greater quantity towards the mammae,*  
 quæ brevi tument, et incipiunt secernere lac. Tantus fluxus  
*which shortly swell, and begin to secrete milk. So great a flow*  
 sanguinis ad mammas aliquando accidit, ut ipsæ turgid  
*of blood to the breasts sometimes occurs, that they become turgid*  
 multum et nonnunquam inflammentur et  
*very much (become greatly turgid) and sometimes are inflamed and*  
 suppurentur, et sic vel secretio lactis impediatur, vel lac  
*are suppurated, and thus either the secretion of milk is impeded, or the milk*  
 jam secretum nequeat exsugi præ dolore et tumore  
*already secreted cannot be sucked out for the pain and the swelling*  
 fere obruente papillam mammæ. Aliquando etiam mulieres,  
*almost burying in the nipple of the breast. Sometimes even women,*

alioquin sanæ, habent nullum lac; quod tamen est  
*in other respects healthy, have no milk; which however is*  
 multo rarius vitium quam vulgo dictum est. Plerumque  
*by much a rarer defect than commonly has been said. Generally*  
 si infans admovetur mammæ paucis horis post partum, ut  
*if the infant be put to the breast a few hours after delivery, as*  
 Natura ipsa docet esse faciendum, (supp. nobis,) neque  
*Nature herself teaches ought to be done, (or that we ought to do,) neither*  
 lac deficit, neque venit nimis subito, neque vehemens  
*does the milk fail, nor does it come too suddenly, nor do the violent*

levibus sæpe causis multum et male afficitur. Neque sane absurda omnis quæ puerperis datur cura: multum vero erraverunt, qui omnem puerperam pro morbosâ habentes, eas nimia solitudine custodire voluerunt, et non modo a gravi irritatione, aut frigore defendere, sed perpetuo calore fovere, vel fortasse remedia adhibere ad sudorem excitandum: scilicet, quia talis tractandi ratio ipsa periculo non caret, et corpus magis magisque debilitat, et ad morbos suscipiendos aptius reddit.

803. Incerto post partum tempore, sanguis, uteri contractione ab eo pulsus, mammas versus majore copia fertur, quæ tument brevi, et lac

incipiunt secernere. Aliquando tantus sanguis ad mammas fluxus accidit, ut ipsæ multum turgiant, et nonnunquam inflammentur et suppurentur, et sic vel lactis secretio impediatur, vel lac jam secretum exsugi nequeat præ dolore, et tumore mammæ papillam fere obruente. Aliquando etiam mulieres, alioquin sanæ, nullum lac habent: quod tamen multo rarius vitium est, quam vulgo dictum est. Plerumque, si infans paucis post partum horis mammæ admovetur, ut ipsa Natura faciendum esse docet, neque lac deficit, neque nimis subito venit, neque vehemens tumor, neque inflammatio mammarum, neque fibris, acci-

tumor, neque inflammatio mammarum neque febris accidunt,  
*swelling, nor the inflammation of the breasts nor the fever come on,*  
 et eo citius fluxus sanguinis ab utero reprimitur.  
*and the more quickly the flow of blood from the uterus is restrained.*

804. Lac, quale primum secernitur post partum, est tenue et parum  
*Milk, such as it is first secreted after delivery, is thin and no way*  
 nutriens, et ut vulgo fertur, purgat infantem deorsum  
*nutrient, and as is commonly said, purges the infant downwards*  
 magis quam aliud lac; quod tamen est minus certum; vero  
*more than other milk; which however is less certain; but*  
 paulatim fit crassius et magis nutriens. Si mulier alit  
*gradually it becomes thicker and more nutrient. If a woman suckles*  
 suum infantem menses plerumque non redeunt per majorem partem  
*her child the menses generally do not return for the greater part*  
 anni, vel fortasse per integrum annum; neque nutrix facile  
*of the year, or perhaps for a whole year; nor does the nurse easily*  
 fit gravida hoc tempore, quamvis non abstinuerit a  
*become gravid at this period, although she should not have abstained from*  
 venere: sin minus, menses solent redire fere  
*venery; but if not (do not suckle), the menses are accustomed to return nearly*  
 menstruo spatio post partum.  
*at the menstrual interval after delivery.*

805. Si nutrix pergit nutrire infantem, lac manebit  
*If the nurse continues to suckle the infant, the milk will remain*  
 forsitan per plures annos. Vero si infans fuerit depulsus  
*perhaps for several years. But if the infant should be driven*  
 a mammâ secretio lactis reprimetur brevi.  
*from the breast (weaned) the secretion of milk will be suppressed in a short time.*

Observatur lac, mensibus instantibus, plerumque male  
*It is observed that milk, the menses approaching, generally badly*  
 afficere infantem, quamvis dum fluunt sæpe non noceat  
*affects the child, although whilst they are flowing often it does not hurt*  
 eidem (sc. infanti).  
*the same.*

806. Quædam mulieres exhauriuntur alendo infantem, et habent  
*Some women are exhausted by suckling the child, and feel*  
 se male. Vero pleræque hoc tempore fruuntur optimâ sanitate:  
*themselves badly. But most at this time enjoy the best health:*  
 appetunt cibum præter solitum, et concoquunt bene, et dormiunt  
*they desire food beyond the usual, and digest well, and sleep*  
 bene, et sunt boni coloris, et sæpe pinguescunt. Neque  
*well, and are of a good colour, and often grow fat. Nor*

dunt, et sanguinis ab utero fluxus eo citius reprimitur.

804. Lac, quale primum post partum secernitur, tenue est, et parum nutriens, et, ut vulgo fertur, infantem deorsum purgat magis quam aliud lac; quod tamen minus certum est; paulatim vero crassius fit et magis nutriens. Si mulier suum infantem alit, menses plerumque non redeunt per majorem partem anni, vel fortasse per annum integrum; neque hoc tempore nutrix facile gravida fit, quamvis a venere non abstinuerit; sin minus, menses redire solent menstruo fere post partum spatio.

805. Si nutrix infantem nutrire pergit, lac manebit forsitan per plures annos. Si vero infans a mamma depulsus fuerit, secretio lactis brevi reprimetur. Observatur lac, instantibus mensibus, infantem plerumque male afficere, quamvis dum fluunt, eidem sæpe non noceat.

806. Quædam mulieres infantem alendo exhauriuntur, et male se habent. Pleræque vero optima hoc tempore sanitate fruuntur: cibum præter solitum appetunt, et bene concoquunt, et bene dormiunt, et boni coloris sunt, et sæpe pinguescunt. Neque profecto rarum est, plura

perfecto est rarum plures morbos, præsertim quales ducunt  
indeed is it uncommon that many diseases, especially such as derive  
originem a abnormali distributione sanguinis, arceri vel  
their origin from an irregular distribution of the blood, are prevented or  
depelli, donec mulier gerat uterum, vel postea alat infantem.  
driven away, while a woman is pregnant, or afterwards nurses the infant.

807. Postremo, est dignum observatu, quamvis periculum haud  
*Lastly, it is worthy to be observed, although the danger should not*  
fuerit exiguum in puerperlo fœcundas vivere diutius et  
*be trifling in child-bearing, that fruitful live longer and*

sanius quam steriles (sc. fœminas) que eas quæ nupserant  
*more healthily than barren (women) and those who had married*  
primâ juventute, et fuerant fœcundissime quam eas quæ  
*in early youth, and had been most fruitful than they who*  
factæ erant matres serius. Est verisimile nonnullos morbos  
*had become mothers later. It is probable that some diseases*

quibus amabilis sexus plectitur, qui non modo afficiunt  
*with which the lovely sex is attacked, which not only affect*  
genitalia organa ipsa sed sæpe labefactant totam valetudinem,  
*the genital organs themselves but often undermine the whole health,*

vel induci vel multum ingravescere viginitate; ad quam  
*either are induced or greatly increase by virginity; for which*  
scilicet, fœminæ sunt non natæ: neque est incredibile eosdem  
*truly, women are (were) not born: nor is it incredible that the same*

morbos sæpe sanatum iri connubio ratione haud obscurâ.  
*diseases often would be cured by marriage for a reason no way obscure.*

808. Demum, cuncta numerâ propria muliebri sexui sæpe  
*In fine, all the functions peculiar to the female sex often*  
vitiantur, non sine gravi incommodo et magno periculo  
*are vitiated, not without serious inconvenience and great danger*  
valetudinis.  
*of health.*

809. Est plane vitium, si menses non proflexerint  
*It is evidently a disease, if the menses should not have flowed forth*  
solitâ ætate: ætas quâ puellæ incipiunt habere menses  
*at the usual age: the age at which girls begin to menstruate*

variat multum, sanitate adhuc salvâ; scilicet qui fere  
*varies much, the health being still good; as being which commonly*  
accidunt maturius in calidis regionibus, que puellis bene pastis  
*come on earlier in hot climates, and in girls well fed*  
et luxuriosis, et desidibus que iis quæ crescunt subito, et  
*and luxurious, and indolent and those who grow suddenly, and*

morbos, præsertim quales a distributione sanguinis abnormali (474, 478) originem ducunt, arceri, vel depelli, donec mulier uterum gerat, vel postea infantem alat.

807. Postremo, observatu dignum est, quamvis periculum in puerperlo haud exiguum fuerit, fœcundas quam steriles, easque quæ prima juventute nupserant, et fœcundissimæ fuerant, quam eas quæ serius matres factæ erant, diutius et sanius vivere. Verisimile est, nonnullos quibus amabilis sexus plectitur morbos, qui non modo ipsa genitalia organa afficiunt, sed totam valetudinem sæpe labefactant, vel induci virginitate, vel multum ingra-

vescere; scilicet, ad quam non natæ sunt fœminæ: neque incredibile est, eosdem sæpe morbos, haud obscura ratione, connubio sanatum iri.

808. Cuncta demum munera muliebri sexui propria sæpe vitiantur, non sine gravi incommodo, et magno valetudinis periculo.

809. Vitium plane est, si menses solita ætate non proflexerint: ætas qua puellæ menses habere incipiunt variat multum, salva adhuc sanitate; scilicet, qui maturius fere accidunt in regionibus calidis, puellisque bene pastis, et luxuriosis, et desidibus, iisque quæ subite crescunt, et justam corporis formam cito

cito adipiscuntur justam formam corporis; vero tardius, etiam  
*quickly attain the due form of body; but more slowly, even*  
 citra morbum in frigidis regionibus, et puellis debilibus crescentibus  
*without disease in cold countries, and in girls weakly, growing*  
 lente, tolerantibus vitam tenui victu, et assuetis valido  
*slowly, supporting life on slender diet, and accustomed to hard*  
 labori.  
*labour.*

810. Vero plerumque, si menses non prorumpunt justo  
*But generally, if the menses do not break forth at the proper*  
 tempore, valetudo multum afficitur. Omnis vigor perit, fere  
*time, the health is much affected. All vigour perishes, nearly*  
 singulæ functiones corporis impediuntur plus ve minus, appetentia  
*all the functions of the body are impeded more or less, the desire*  
 cibi deficit aut vitiat, concoctio ejus corrumpitur, totum  
*for food fails or is vitiated, the concoction of it is corrupted, the whole*  
 corpus solvitur, flaccescit, pallet, marcescit, sanguis ipse  
*body is relaxed, grows flaccid, grows pale, wastes, the blood itself,*  
 evadit tenuis et pallidus, et sic via sternitur plurimis morbis.  
*becomes thin and pallid, and thus the way is paved for many diseases.*  
 Talis defectus mensium dicitur *Emansio* apud medicos (frequentius  
*Such a defect of the menses is called Emansio by physicians*

hodie terentio.) Lenta valetudo oriunda ex eâ vocatur *chlorosis*.  
*The lingering disease arising from it is called chlorosis.*

811. Vero sæpe postquam menses profluxerint diu justis  
*But often after that the menses have flowed a long time at the proper*  
 intervallis ut decet (sc. iis), vel non redeunt solito  
*intervals (periods) as they ought, either they do not return at the usual*  
 tempore, citra graviditatem, vel jam fluentes subito reprimuntur.  
*period, without pregnancy, or already flowing suddenly are suppressed.*

Hoc genus mali vocatur *Amenorrhœa* seu suppressio mensium.  
*This kind of disease is called Amenorrhœa or suppression of the menses.*

812. Hinc plurima mala; autem varia secundum constitutionem  
*Hence many diseases; but varying according to the constitution*  
 ægræ (sc. fœminæ) que multas externas concurrentes res: primo plenitudo  
*of the patient and many external concurring things: first fullness*  
 vasorum uteri vehementium sanguinem, postea universi  
*of the vessels of the uterus carrying blood, afterwards of the whole*  
 corporis, abnormis distributio sanguinis et auctus impetus ejus,  
*body, irregular distribution of the blood and increased impetus of it,*  
 febris, congestiones sanguinis in variis partibus, fluxus sanguinis  
*fever, congestions of blood in different parts, fluxes of blood*

adipiscuntur; tardius vero, etiam citra morbum, in regionibus frigidis, et puellis debilibus, lente crescentibus, victu tenui vitam tolerantibus, et valido labori assuetis.

810. Plerumque vero, si menses justo tempore non prorumpunt, valetudo multum afficitur. Vigor omnis perit, singulæ fere corporis functiones plus minusve impediuntur, appetentia cibi deficit aut vitiat, concoctio ejus corrumpitur, totum corpus solvitur, flaccescit, pallet, marcescit, sanguis ipse tenuis et pallidus evadit, et sic plurimis morbis via sternitur. Talis mensium defectus *Emansio* apud medicos

dicitur. Lenta valetudo ex ea oriunda *Chlorosis* vocatur.

811. Sæpe vero, postquam menses diu, ut decet, justis intervallis profluxerint, vel solito tempore, citra graviditatem, non redeunt, vel jam fluentes subito reprimuntur. Hoc mali genus *Amenorrhœa* vocatur, seu *Suppressio Mensium*.

812. Plurima hinc mala; varia autem secundum constitutionem ægræ, multasque res externas concurrentes: plenitudo primo vasorum sanguinem vehementium uteri, postea universi corporis, distributio sanguinis fluxus a naribus,

a naribus, pulmonibus, ventriculo, ano, in quibusdam exemplis, ut  
*from the nose, lungs, stomach, anus, in some examples, as*  
 fertur, ab fere omni parte corporis: dolor lumborum,  
*it is said, from almost every part of the body: pain of the loins,*  
 capitis, pectoris, ventriculi, vertigo, nimia mobilitas, aliquando  
*head, breast, stomach, vertigo, excessive irritability, sometimes*  
*hysteria, tandem generalis debilitas, omnes functiones, impeditæ, et*  
*hysteria, at length general debility, all the functions, impeded, and*  
 valetudo labefacta ab omni parte.  
*the health undermined from (in) every part.*

813. Variæ causæ mensium vel suppressorum vel nunquam  
*The various causes of the menses either being suppressed or never*  
 profluentium sunt eo magis dignæ attentione quod sanatio  
*flowing forth are the more worthy attention because the cure*  
 morbi et revocatio fluxûs potissimum pendet ex naturâ  
*of the disease and the recall of the discharge principally depend upon the nature*  
 earum (sc. causerum) bene perspectâ.  
*of them being well understood.*

814. Menses deficient aliquando fortasse, sed rarissime, propter  
*The menses fail sometimes perhaps, though very seldom, through*  
 pravam fabricam uteri quâ minus valeat ad congerendum  
*a depraved structure of the uterus by which it is less adequate to accumulate*  
 et effundendum sanguinem; interdum etiam, quamvis haud multo  
*and pour out the blood; sometimes also, although not much*  
 frequentius sanguis effusus in uterum reprimitur ibi,  
*more frequently the blood poured out into the uterus is retained there,*  
 viâ scilicet, ex utero impeditâ præter naturam.  
*the passage, indeed, from the uterus being impeded unnaturally.*

815. Vero sæpius, fabricâ organorum omnino salvâ,  
*But more often, the structure of the organs being altogether sound,*  
 menses non prorumpunt solitâ ætate ob defectum istius  
*the menses do not break forth at the usual age through a want of that*  
 conditionis, ovariorum unde secretio fœcundorum  
*condition, of the ovaries whence (upon which) the secretion of the fecundating*  
 humorum qui videntur esse stimulo utero pendet; vel  
*fluids which seem to be a stimulus to the uterus depends; or*  
 propter corpus non bene nutritum aut exhaustum gravi  
*on account of the body not being well nourished or exhausted by severe*  
 labore aut valetudine, vel denique valde debilitatum quâcunque  
*labour or disease, or in fine greatly debilitated by whatever*  
 causâ, ita ut vel nulla abundantia sanguinis possit fieri, vel  
*cause, so that either no abundance of blood can take place, or*

pulmonibus, ventriculo, ano, in quibusdam ut fertur exemplis, ab omni fere corporis parte: dolor lumborum, capitis, pectoris, ventriculi, vertigo, nimia mobilitas, hysteria aliquando, tandem debilitas generalis, omnesque functiones impeditæ, et valetudo ab omni parte labefacta.

813. Variæ sunt causæ mensium vel suppressorum, vel nunquam profluentium, eo magis attentione dignæ, quod ex earum natura bene perspecta, morbi sanatio et fluxus revocatio potissimum pendet.

814. Deficiunt aliquando fortasse menses, sed rarissime, propter pravam uteri fabricam, qua

minus valeat ad sanguinem congerendum et effundendum; interdum etiam, quamvis haud multo frequentius, sanguis in uterum effusus ibi reprimitur, viâ scilicet ex utero præter naturam impedita.

815. Sæpius vero, salva omnino organorum fabrica, menses solita ætate non prorumpunt ob defectum istius conditionis ovariorum, unde secretio humorum fœcundorum qui utero stimulo videntur esse (771) pendet; vel propter corpus non bene nutritum, aut gravi labore aut valetudine exhaustum, vel denique quâcunque causa valde debilitatum, ita ut vel nulla sanguinis abundantia fieri possit, vel si-

si qua (abundantia) fuerit facta nulla vis adsit quæ invitet  
*if any should be produced no force is present which can invite*  
 sanguinem ad uterum, vel propellat per vasa ejûs. Ex iisdem  
*the blood to the uterus, or propel it through the vessels of it. From the same*  
 causis menses sæpe supprimuntur fœminis quæ ante habuissent eos  
*causes the menses often are suppressed in women who before had them*  
 naturali modo.  
*in the natural way.*

816. Sæpe etiam menses jam instantes impediuntur, vel dum  
*Often also the menses now approaching are impeded, or whilst*  
 fluunt subito sistuntur variis causis quales possint inducere  
*they are flowing suddenly are stopped by various causes such as may bring on*  
 vel debilitatem istius modi, vel contractionem, aut spasmus utero  
*either debility of that kind, or contraction, or a spasm upon the uterus*  
 que arteriis ejûs, vel divertere sanguinem alio: cujusmodi sunt  
*and the arteries of it, or divert the blood elsewhere: of which kind are*  
 vehementes affectus animi, sive excitantes sive deprimentes, frigus  
*violent affections of the mind, whether exciting or depressing, cold*  
 præsertim admotum pedibus, magnæ exinanitiones, fortiora medicamenta,  
*especially applied to the feet, large evacuations, stronger medicines,*  
 demum varii morbi. Menses quoque instantes impediuntur, vel  
*in fine various diseases. The menses also impending are impeded, or*  
 fluentes reprimuntur eo facilius causis quæ viderentur  
*while flowing are suppressed the more easily by causes which seem*  
 levissimæ, que suppressi nocent eo magis quod dum instant vel  
*the slightest, and suppressed hurt the more because whilst they approach or*  
 fluunt insolita mobilitas universi corporis viget.  
*are flowing an unusual irritability of the whole body prevails.*

817. Hinc ratio erit in promptu cur plurima et admodum  
*Hence the reason will be in readiness why very many and very*  
 diversa remedia aut inducant aut revocent menses, aut  
*different (opposite) remedies either may induce or recall the menses, or*  
 sublevant mala provenientia ex suppressione eorum;  
*relieve the disorders proceeding from the suppression of them;*  
 nimirum quæ impleant, depleant, roborent laxent stimulent  
*as being things which can replete, deplete, strengthen, relax, stimulate,*  
 sopiant corpus, ve dirigant sanguinem versus uterum: qualia  
*lull the body, or direct the blood towards the uterus: such*  
 sunt lautior victus, detractio sanguinis, stimulantia medicamenta,  
*are more sumptuous fare, abstraction of blood, stimulating medicines,*  
 veluti niger helleborus, aut calida gummi, electrica aura, exercitatio,  
*as black hellebores, or the warm gums, the electric spark, exercise,*

qua facta fuerit, vis nulla adsit quæ sanguinem ad uterum invitet, vel per ejus vasa propellat. Ex iisdem causis, menses sæpe supprimuntur fœminis quæ ante eos naturali modo habuissent.

816. Sæpe etiam impediuntur jam instantes menses vel subito sistuntur, dum fluunt, variis causis, quales vel istiusmodi debilitatem, vel contractionem, aut spasmus utero ejusque arteriis inducere vel sanguinem alio divertere possint: cujusmodi sunt vehementes animi affectus, sive excitantes sive deprimentes, frigus, præsertim pedibus admotum, magnæ exinanitiones, medicamenta fortiora, varii

demum morbi. Menses quoque eo facilius impediuntur instantes, vel reprimuntur fluentes causis quæ viderentur levissimæ, suppressive quoque magis nocent, quod insolita, dum instant vel fluunt, universi corporis mobilitas viget.

817. Hinc ratio in promptu erit, cur plurima, et admodum diversa remedia, aut inducant aut revocent menses, aut mala sublevant ex eorum suppressione provenientia; nimirum, quæ corpus impleant, depleant, roborent, laxent, stimulent, sopiant, dirigant sanguinem versus uterum: qualia sunt victus lautior, sanguinis detractio, stimulantia medicamenta, veluti helleborus niger, aut gummi calida, aura

balneum, fomenta, opium, &c. neque erit mirum omnia, etiam  
*the bath, fomentations, opium, &c. nor will it be wonderful that all, even*  
 laudatissima remedia sæpe fallere spem medici; neque sane  
*the most celebrated remedies often deceive the hope of the physician; nor indeed*  
 (est) credibile quodvis remedium unquam repertum iri, vel casu vel  
*(it is) credible that any remedy ever will be found, either by accident or*  
 ratione, quod fuerit semper utile, que sanaverit morbum qui  
*research, which will be always useful, and will cure a disease which*  
 agnoscat tot que tam varias causas, que noceat corpori  
*acknowledges so many and so varied causes, and hurts the body*  
 tot que tam diversis modis.  
*in so many and such different ways.*

818. Porro menses haud raro vel profluunt nimia  
*Moreover the menses not unfrequently either flow forth in too great*  
 copia vel redeunt nimis frequenter: que alterum (sc. vitium) sæpe  
*quantity or return too frequently: and the one often*  
 jungitur cum altero vitio; nimirum quia utrumque agnoscit  
*is joined with the other disorder; doubtless because both acknowledges*  
 fere similes causas.  
*nearly similar causes.*

819. Frequentissimæ causæ talis vitii sunt nimia abundantia  
*The most frequent causes of such a disease are too great abundance*  
 sanguinis, que auctus impetus præsertim directus versus  
*of blood, and increased impetus (of it) especially directed towards*  
 uterum, vel stimulantibus admotis huic que vicinis partibus,  
*the uterus, or stimulants applied to it and the neighbouring parts,*  
 vel spasm, seu aliquâ contractione inductis aliis et remotis  
*or by spasm, or by some contraction brought on other and remote*  
 partibus; impeditus reditus sanguinis per venas ex utero,  
*parts: impeded return of blood by the veins from the uterus,*  
 propter varias obstructions; laxitas et debilitas uteri que  
*on account of various obstructions; laxity and debility of the uterus and*  
 arteriarum ejus a crebra graviditate aut frequente abortu; vel  
*of the arteries of it from frequent pregnancy or frequent abortion; or*  
 demum varias vitia uteri, ulcus, erosio, carcinoma.  
*in fine various diseases of the uterus, ulcer, erosion, cancer.*

820. Igitur ratio erit in aprico, cur multiplex vitium  
*Therefore the reason will be evident, why a complicated disease*  
 aliquando postulet varia, et quæ videantur contraria medicamenta,  
*sometimes should require different, and what may seem opposite medicines,*  
 veluti detractionem sanguinis, tenuem diætam, laxantia, roborantia,  
*as detraction of blood, thin (low) diet, relaxing, strengthening,*

*electrica, exercitatio, balneum, fomenta, opium, &c. neque mirum erit omnia, etiam laudatissima remedia, spem medici sæpe fallere; neque sane credibile, remedium quodvis, vel casu vel ratione unquam repertum iri, quod semper utile fuerit, morbumque sanaverit, qui tot tamque varias agnoscat causas, corporique tot tamque diversis modis noceat.*

818. Porro, menses haud raro vel nimia copia profluunt, vel nimis frequenter redeunt: alterumque cum altero vitio sæpe jungitur; nimirum, quia utrumque similes fere causas agnoscit.

819. Causæ talis vitii frequentissimæ sunt,

nimia sanguinis abundantia, auctusque impetus, præsertim uterum versus directus, vel stimulantibus huic partibusque vicinis admotis, vel spasm seu contractione aliqua aliis et remotis partibus inductis (475, 476); impeditus sanguinis ex utero per venas reditus, propter varias obstructions; laxitas et debilitas uteri ejusque arteriarum a crebra graviditate aut frequente abortu; vel demum varia uteri vitia, ulcus erosio, carcinoma.

820. Ratio igitur in aprico erit, cur multiplex vitium, varia, et quæ videantur contraria, medicamenta aliquando postulet; veluti sanguinis detractionem, tenuem diætam, laxantia,

refrigerantia, (sc. medicamenta,) anodyna, &c.  
 refrigerating, (medicines,) anodynes, &c.

821. Tale profuvium exhaurit corpus, laxat solidas partes,  
*Such a profuvium exhausts the body, relaxes the solid parts,*  
 attenuat fluidas (sc. partes) debilitat uterum, inducit fluorum album,  
*alternates the fluids weakens the uterus, brings on fluor albus,*  
 reddit mulieres vel steriles vel proclives ad abortum et demum impedit  
*renders women either barren or subject to abortion and at length impedes*  
 omnes functiones, labefactat universam valetudinem, raro subito lethale,  
*all the functions, undermines the whole health, seldom suddenly fatal,*  
 vero aliquando origo et causa morborum fere insanabilem.  
*but sometimes the origin and cause of diseases almost incurable.*

822. Aliud vitium familiare et molestissimum muliebri sexui,  
*Another disease, common and very troublesome to the female sex,*  
 quod vocatur Fluor Albus (Leucorrhœa), videtur quodammodo affine  
*which is called Fluor Albus (whites), seems in some degree akin*  
 huic: scilicet fluxus albidus humoris e vaginâ.  
*to this: namely a flow of whitish fluid from the vagina.*

823. Hoc vitium sæpe comitatur profuvium mensium, que tum  
*This disorder often accompanies a flux of the menses, and then*  
 fere præcedit et consequitur eos; nimirum, quum arteriæ  
*commonly precedes and follows them; that is, when the arteries*  
 que foramina hiantia in uterum, nondum ita dilatantur, ut  
*and foramina opening into the uterus, are not yet so dilated, that*  
 possint transmittere crassum et rubrum sanguinem; tenuior pars  
*they can transmit the thick and red blood; the thinner part*  
 sola ejus transit, et nonnihil spissata per remoram, que  
*alone of it passes, and somewhat thickened during its delay, and*  
 fortasse aliter mutata, et mixta cum muco, elabatur e  
*perhaps otherwise changed, and mixed with mucus, escapes from*  
 vaginâ; que, pari ratione, postquam eadem vasa et  
*the vagina; and, for a like reason, after that the same vessels and*  
 foramina, aliquantum constricta, cohibent cruorem, fluxus  
*foramina, somewhat constricted, restrain the cruor (the red part), the flow*  
 tenuis et albidus humoris adhuc superest paulisper. Vero  
*of the thin and whitish humour still remains for a little. But*  
 malum ingravescens, fit constans, que occupat totum  
*the disorder increasing, becomes constant, and occupies the whole*  
 intervallum mensium.  
*interval of the menses.*

824. Hoc malum, non secus ac profuvium mensium, debilitat  
*This disorder, in like manner as the flux of the menses, weakens*

roborantia, refrigerantia, anodyna, &c.

821. Tale profuvium corpus exhaurit, solidas partes laxat, fluidas attenuat uterum debilitat, *fluorem album* inducit, mulieres vel steriles reddit, vel ad abortum proclives, et demum omnes functiones, impedit, universam valetudinem labefactat, raro subito lethale, aliquando vero insanabilem fere morborum origo et causa.

822. Huic quodammodo affine videtur aliud vitium, sexui muliebri familiare et molestissimum, quod *Fluor Albus* vocatur: fluxus scilicet humoris albidus e vaginâ.

823. Mensium profuvium hoc vitium sæpe

comitatur, eosque tum fere præcedit et consequitur; nimirum quum arteriæ, foraminaque in uterum hiantia, nondum ita dilatantur, ut crassum et rubrum sanguinem transmittere possint; pars ejus tenuior sola transit, et spissata nonnihil per remoram aliterque fortasse mutata, et cum muco mixta e vagina elabatur; parique ratione, postquam eadem vasa et foramina aliquantum constricta cruorem cohibent, tenuis adhuc et albidus humoris fluxus paulisper superest. Ingravescens vero malum constans fit, totumque mensium intervallum occupat.

824. Hoc malum non secus ac mensium pro-



uterum, exhaust corpus, sæpe facit mulierem sterilem, et  
*the uterus, exhausts the body, often renders a woman barren, and*  
 labefactat universam valetudinem. Frequentissime ducit originem  
*undermines the whole health. Very frequently it derives its origin*  
 a profluvio mensium debilitante uterum, laxante totum  
*from a flux of the menses weakening the uterus, relaxing the whole*  
 corpus, attenuante sanguinem; oritur ex fere hisdem causis, que  
*body, attenuating the blood; arises from nearly the same causes, and*  
 sæpe reprimitur similibus remediis. Tamen, oritur haud raro  
*often is repressed by similar remedies. However, it arises not unfrequently*  
 a mensibus suppressis vel deficientibus. Mulieres quæ laborant  
*from the menses being suppressed or deficient. Women who suffer*  
 tali morbo, haud fiunt gravidæ ita facile ac sanæ (sc. mulieres),  
*from such a disease, do not become pregnant so easily as healthy ones,*  
 vel, si conceperint, crudus fœtus sæpe effluit brevi.  
*or, if they should conceive, a crude fœtus often escapes in a short time.*  
 Quod si talis mulier prospere gesserit uterum, morbus  
*But if such a woman should prosperously carry the uterus, the disease*  
 quo prius laboraverat fere reprimitur, fortasse  
*from which she had previously suffered generally is repressed, perhaps*  
 nunquam rediturus: præsertim si fuerit idonea ratio vitæ  
*never to return: especially if there should be a proper kind of life*  
 post partum.  
*after parturition.*

825. Demum, est vitium, si menses, quamvis neque suppressi  
*In fine, it is a disorder, if the menses, although neither suppressed*  
 neque profluentes nimis copiose, tamen erumpunt solitis  
*nor flowing too copiously, notwithstanding break forth at the usual*  
 et naturalibus intervallis ægre, et cum dolore uteri,  
*and natural intervals with difficulty, and with pain of the uterus,*  
 lumborum, capitis, que gravi perturbatione totius corporis. Multæ  
*loins, head, and great perturbation of the whole system. Many*  
 fœminæ quæ expertæ erant nulla vel admodum levia incommoda  
*women who had experienced none or very slight inconveniences*  
 hujusmodi primis puberibus annis, adhuc florente ætate, que  
*of this sort in the first ripe years, yet in flourishing age, and*  
 ipsæ vegetæ, et alioquin sanæ, fere ægrotant hoc modo,  
*themselves fresh, and otherwise healthy, mostly get ill in this manner,*  
 quoties menses debent fluere. Incommodum oriundum vel  
*as often as the menses ought to flow. An inconvenience arising either*  
 a crescente firmitate solidarum partium, vel a nimia  
*from the increasing firmness of the solid parts, or from excessive*

flavium uterum debilitat, corpus exhaust, mulierem sæpe sterilem facit, et universam valetudinem labefactat. Frequentissime a profluvio mensium, uterum debilitante, totum corpus laxante, sanguinem attenuante, originem ducit; ex hisdem fere causis oritur (819), similibusque sæpe remediis reprimitur. Haud raro tamen oritur a suppressis vel deficientibus mensibus. Mulieres, quæ tali morbo laborant, haud ita facile ac sanæ gravidæ fiunt, vel, si conceperint, crudus fœtus sæpe brevi effluit. Quod si prospere uterum gesserit talis mulier, morbus quo prius laboraverat fere reprimitur,

fortasse nunquam rediturus; præsertim si post partum idonea vitæ ratio fuerit.

825. Vitium demum est, si menses, quamvis neque suppressi neque nimis copiose profluentes, ægre tamen et cum dolore uteri, lumborum, capitis, gravique totius corporis perturbatione, solitis et naturalibus intervallis erumpunt. Multæ fœminæ, quæ nulla vel levia admodum hujusmodi, primis puberibus annis, expertæ erant incommoda, florente adhuc ætate, ipsæque vegetæ, et alioquin sanæ, hoc modo fere ægrotant, quoties menses debent fluere. Incommodum vel a crescente solidarum

contractione arteriarum et foraminum uteri, sublevatur optime  
*contraction of the arteries and foramina of the uterus, is relieved best*  
 laxantibus remediis et anodynis: neque confugiendum est (sc. nobis)  
*by relaxing remedies and anodynes: nor must we have recourse*  
 temere ad calefacientia, stimulantia, aut cardiaca remedia, qualia  
*rashly to heating, stimulating, or cordial remedies, such as*  
 mulierculæ amant præcipere; quamvis, profecto, remedia  
*the little women (doctresses) like to prescribe; although, truly, remedies*  
 istiusmodi, possint nimirum, motu sanguinis incitato,  
*of this sort, may no doubt, by the motion of the blood being quickened,*  
 superare illum renixum ortum a firmitate uteri que con-  
*overcome that resistance arising from the firmness of the uterus and con-*  
 tractione arteriarum ejus, que promovere menses.  
*traction of the arteries of it, and promote the menses.*

826. Est quoque vitium, si mulier est sterilis ætate quâ  
*It is also a disease, if a woman is barren at an age in which*  
 debet esse fœcunda. Hoc aliquando fit propter pravam  
*she ought to be fruitful. This sometimes happens on account of a depraved*  
 fabricam uteri, aut tubarum, aut ovariorum, qualis  
*structure of the uterus, or of the tubes, or of the ovaries, such as*  
 detecta fuerit inspectione cadaverum, in nonnullis,  
*has been detected (discovered) by the inspection of dead bodies, in some,*  
 quamvis admodum raris exemplis; neque sivisset masculinum semen  
*although very rare examples; and had not permitted the male semen*  
 penetrare ad ovaria, vel muliebri, quicquid fuerit, necessarium  
*to penetrate to the ovaria, or the female, whatever it might be, necessary*  
 ad generationem misceri cum eo, vel habere justum comæatum  
*for generation to be mixed with it, or to have a proper communication*  
 cum utero; puta obstructum aut scirrhosum uterum, vel  
*with the uterus; as for instance an obstructed or scirrhus uterum, or*  
 tubas conclusas, vel ovaria facta hydropica, &c.  
*the tubes closed up, or the ovaries become dropsical, &c.*

827. Vero mulieres sæpius fiunt steriles a vitiis mensium,  
*But women more often become barren from diseases of the menses,*  
 suppressione, profluvio, fluore albo; scilicet quæ vel  
*(as) suppression, immoderate flow, fluor albus; as being things which either*  
 non sinunt eas concipere, vel ejiciunt fœtum adhuc fluidum,  
*do not permit them to conceive, or eject the fœtus as yet fluid,*  
 vel impediunt justum et naturale nutrimentum ejus per placentam,  
*or prevent the due and natural nourishment of it by the placenta,*  
 et vasa umbilicæ.  
*and the vessels of the umbilicus.*

partium firmitate, vel a nimia arteriarum et foraminum uteri contractione oriundum, remediis laxantibus et anodynis optime sublevatur: neque temere ad calefacientia, stimulantia, aut cardiaca remedia, qualia mulierculæ amant præcipere, confugiendum est; quamvis istiusmodi profecto remedia, incitato nimirum sanguinis motu, renixum illum a firmitate uteri ejusque arteriarum contractione ortum superare, mensesque promovere, possint.

826. Vitium quoque est, si mulier, ætate quæ debet esse fœcunda, sterilis est. Hoc aliquando fit propter pravam uteri, aut tubarum, aut ovariorum, fabricam, qualis, in nonnullis quam-

vis admodum raris exemplis, inspectione cadaverum detecta fuerit; neque sivisset semen masculinum ad ovaria penetrare, vel muliebri quicquid fuerit ad generationem necessarium cum eo misceri, vel justum cum utero comæatum habere; puta, uterum obstructum, aut scirrhosum, vel tubas conclusas, vel ovaria hydropica facta, &c.

827. Sæpius vero a vitiis mensium, suppressione, profluvio, fluore albo, mulieres steriles fiunt; scilicet quæ eas vel non sinunt concipere, vel fœtum adhuc fluidum et naturale nutrimentum ejus per placentam et vasa umbilicæ impediunt.

828. Humores ipsi, quotquot fœminæ debent conferre ad  
*The fluids themselves, whatever women ought to contribute to*  
 generationem, possunt corrumpi, non secus ac virile semen, et  
*generation, may be corrupted, like as the male semen, and*  
 fieri parum fœcundi. Venus quoque, nimis culta, solet  
*become no way fruitful. Venus also, too much indulged, is accustomed*  
 facere fœminas steriles.  
*to render women barren.*

829. Fœcunditas pendet multum a primâ et congenitâ consti-  
*Fecundity depends much upon the original and congenital consti-*  
 tutione corporis; quippe quæ observetur mira, et fere  
*tution of the body; as being what is observed wonderful, and almost*  
 constans, in quibusdam familiis, dum quædam antiquæ stirpes  
*constant (uniform), in some families, whilst some ancient races*  
 tulerint unicum filium per plures generationes.  
*have borne a single offspring through several generations.*

830. Ignavia et luxus vel paulatim reddunt omnes homines steriles,  
*Idleness and luxury either gradually render all persons sterile,*  
 vel producunt debilem atque morbosam prolem, qualis superaverit  
*or produce a weak and diseased offspring, such as will pass over*  
 infantiam ægre, et raro attigerit virilem ætatem. Sic  
*infancy with difficulty, and seldom will reach virile age. Thus*  
 infere omnes rustici fœcundi sanæ et vegetæ prolis;  
*almost all country persons (are) fruitful of sound and vigorous offspring;*  
 vero urbani sæpe vel steriles, vel parentes miserandæ  
*but townspeople often either (are) sterile, or the parents of a miserable*  
 progeniei. Rus solum, quidem, ferax hominum, quos  
*progeny. The country alone, indeed, (is) fruitful of men, whom*  
 educat non sibi soli, sed urbibus quoque, quæ aliter  
*she brings up not for herself alone, but for the cities also, which otherwise*  
 brevi forent inanes: enim exempla, familiarum artificum quæ  
*quickly would be empty: for examples, of the families of artificers which*  
 floruerunt per quatuor generationes rara. Quin et, nobilissimæ  
*have flourished for four generations (are) rare. Moreover, the most noble*  
 et antiquissimæ gentes optimatum et principum minuuntur indies, et  
*and ancient races of grandes and princes are diminished daily, and*  
 pereunt: ita ut brevi nulla nobilitas superesset, nisi  
*are perishing: so that in a short time no nobility would remain, unless*  
 nuptiæ fierent cum plebe, et novi homines eveci ad  
*marriages were made with the common people, and commoners raised to*  
 summos honores, adscriberentur antiquis familiis; quamvis sit  
*the highest dignities, were enrolled with the old families; although it is*

828. Humores ipsi, quotquot fœminæ ad generationem conferre debent, corrumpi possunt, non secus ac semen virile (765), et parum fœcundi fieri. Venus quoque nimis culta fœminas solet steriles facere.

829. Fœcunditas pendet multum a prima et congenita corporis constitutione; quippe quæ mira et fere constans in quibusdam familiis observetur, dum stirpes quædam antiquæ unicum per plures generationes filium tulerint.

830. Ignavia et luxus omnes homines vel steriles paulatim reddunt, vel prolem producunt debilem atque morbosam, qualis infantiam

ægre superaverit et raro virilem ætatem attigerit. Sic rustici fere omnes fœcundi sanæ et vegetæ prolis; urbani vero, sæpe vel steriles, vel miserandæ progeniei parentes. Solum quidem rus ferax hominum, quos non sibi soli educat, sed urbibus quoque, quæ aliter brevi inanes forent: rara enim exempla familiarum artificum quæ per quatuor generationes floruerunt. Quin et nobilissimæ et antiquissimæ gentes optimatum et principum indies minuuntur, et pereunt; ita ut nulla brevi nobilitas superesset, nisi cum plebe nuptiæ fierent, et novi homines ad summos honores eveci, anti-

non dubium, patrem longe alium ac (eum quem) nuptiæ  
*not doubtful, that a father far different than (him whom) nuptials*  
 demonstrarent sæpe multum emendasse nobilem stirpem, onustam  
*would point out often has greatly amended a noble race, loaded*  
 vitis et morbis animi et corporis viginti atavorum,  
*with the vices and diseases of mind and body of twenty great grandfathers*  
 et aliquando renovasse perituram.  
*(generations), and sometimes has revived it (when) about to perish.*

831. Quamvis constitutio utriusque parentis, corrupta luxu et  
*Although the constitution of either parent, corrupted by luxury and*  
 ignaviâ, possit conferre ad hanc degenerationem aut sterilitatem;  
*idleness, may contribute to this degeneracy or sterility;*  
 tamen satis constat maximum vitium et causam  
*nevertheless it is sufficiently established that the greatest fault and cause*  
 sterilitatis sæpe esse in fœminis, scilicet quæ solvuntur,  
*of sterility often is (exists) in the women, as being persons who are relaxed,*  
 et multum debilitantur, et fiunt nimis plenæ sanguine tali  
*and are much debilitated, and become too full of blood by such*  
 genere vitæ; et ideo habent menses copiosiores quam  
*a kind of life; and therefore have the menses more copious than*  
 rusticæ et robustæ fœminæ solent habere, et laborant sæpe  
*rustic and robust women are accustomed to have, and suffer often*  
 fluore albo, sæpe profluvio, sæpe suppressione mensium.  
*from fluor albus, often from a flux, often suppression of the menses.*

832. Expulsio crudi fœtus vocatur abortus; sane frequentis-  
*The expulsion of the crude fœtus is called abortion; indeed a very fre-*  
 simum vitium; accidens sæpius tertio mense; repetitum  
*quent disorder: happening more often in the third month; repeated*  
 aliquoties facile transiens in consuetudinem, difficillimè rum-  
*several times easily passing into a habit, very difficultly to be*  
 pendam: fere eo periculosius quo propius fuerit ventum (im-  
*broken: commonly the more dangerous the nearer it shall be come (it shall*  
 pers.) ad justum tempus.  
*approach) to the proper (full) time.*

833. Agnoscit fere easdem causas ac profluviu mensium,  
*It acknowledges nearly the same causes as a profluviu of the menses,*  
 cuius sæpe est pars et effectus; plerumque, si oritur a  
*of which often it is a part and effect; generally, if it arises from*  
 interno vitio, accidens tempore mensium, et ducens  
*an internal disease, happening at the time of the menses, and deriving*  
 originem, ut videtur, a solito molimine naturæ ad produendos  
*its origin, as it seems, from the usual endeavour of nature to produce*

quis familiis adscriberentur; quamvis non dubium sit, longe alium ac nuptiæ demonstrarent patrem, nobilem stirpem, vitis et morbis animi et corporis viginti atavorum, onustam multum sæpe emendasse, et aliquando renovasse perituram.

831. Quamvis utriusque parentis constitutio, luxu et ignavia corrupta, ad hanc degenerationem aut sterilitatem conferre possit; tamen satis constat, maximum sæpe vitium et causam sterilitatis in fœminis esse, scilicet, quæ tali vitæ genere solvuntur, et debilitantur multum, et sanguine nimis plenæ fiunt; et menses ideo copiosiores habent, quam rusticæ et robustæ

mulieres habere solent, et sæpe fluore albo, sæpe profluvio, sæpe suppressione mensium laborant.

832. Abortus vocatur crudi fœtus expulsio; vitium sane frequentissimum: sæpius tertio mense accidens; aliquoties repetitum facile in consuetudinem transiens, difficillimè rumpendam: eo fere periculosius quo propius ad justum tempus ventum fuerit.

833. Easdem fere agnoscit causas ac mensium profluviu, cuius sæpe pars est et effectus; plerumque, si a vitio interno oritur, tempore mensium accidens, et, ut videtur, a solito naturæ molimine ad eos producendos originem ducens. Quicquid præterea commeatum inter

eos (sc. menses). Præterea, quicquid rumpit commercium inter matrem  
*them.* Besides, whatever breaks the communication between the mother  
 et fœtum, vel stimulat, debilitat, vel ullo modo lædit  
*and fœtus, or stimulates, weakens, or in any manner injures*  
 uterum, vel convellit nervosum genus, vel calefacit corpus, potest  
*the uterus, or convulses the nervous system, or heats the body, may*  
 inducere abortum: scilicet, auctus impetus sanguinis, præsertim in  
*bring on abortion: namely, increased impetus of blood, especially in*  
 vasis uteri; vehemens febris, quæ sane raro accidit  
*the vessels of the uterus; intense fever, which indeed seldom happens*  
 gravidis, neque fere sine periculo abortus, vel  
*in pregnant (women), nor commonly without the hazard of abortion, or*  
 discrimine vitæ ipsius; valida exercitatio, defatigatio, ingens nixus,  
*danger of life itself; strong exercise, fatigue, great straining,*  
 externa vis illata corpori, præsertim ventri, immodica  
*external violence done to the body, especially to the belly, immoderate*  
 venus, irritatio vicinarum partium, veluti a fortibus medi-  
*venery, irritation of the neighbouring parts, as from strong medi-*  
 camentis; graves affectus animi, sive excitantes sive deprimentes,  
*cines; severe affections of the mind, whether exciting or depressing,*  
 ingens debilitas, vel generalis, vel tantum uteri, vel demum,  
*great debility, either general, or only of the uterus, or in fine,*  
 syncope, veluti ab enormibus exinanitionibus; et denique, nonnulla  
*syncope, as from excessive evacuations; and lastly, some*  
 vitia fœtus ipsius, monstri mole vel figurâ, que minus  
*faults of the fœtus itself, monstrous in bulk or shape, and a not*  
 idoneus situs ejus in utero, vel morbi qui faciunt  
*suitable (unsuitable) position of it in the uterus, or diseases which cause*  
 circuitum sanguinis per placentam languere, vel denique  
*the circulation of the blood through the placenta to languish, or finally*  
 mors, quæ sistit omnem motum humorum per placentam, que  
*death, which stops all motion of fluids through the placenta, and*  
 rumpit commercium cum matre.  
*breaks the communication with the mother.*

834. Igitur, ratio præcavendi ab instante malo,  
*Therefore, the method of guarding against the threatening evil,*  
 haud erit obscura, detractio sanguinis, decumbendo, quiete  
*will not be obscure, by detraction of blood, by lying down, by tranquillity*  
 animi et corporis, anodynus remediis (hoc superevacuum est), frigore  
*of mind and body, anodyne remedies, by cold*  
 admoto variis modis, que aliis remediis adhibitis prout  
*applied in various ways, and other remedies administered according as*

matrem et fœtum (789, 790) rumpit, vel uterum  
 stimulat, debilitat, vel ullo modo lædit, vel  
*genus nervosum* convellit, vel corpus calefacit,  
 abortum inducere potest: auctus scilicet san-  
 guinis impetus, præsertim in uteri vasis; febris  
 vehemens, que sane raro gravidis accidit,  
 neque fere sine abortus periculo, vel vitæ ipsius  
 discrimine; exercitatio valida, defatigatio,  
 nixus ingens, vis externa corpori, præsertim  
 ventri, illata, venus immodica, irritatio partium  
 vicinarum, veluti a fortibus medicamentis;  
 graves animi affectus, sive excitantes sive de-  
 deprimentes, ingens debilitas, vel generalis, vel

uteri tantum, vel *syncope* demum, veluti ab  
 enormibus exinanitionibus; et vitia denique  
 nonnulla fœtus ipsius, mole vel figura mon-  
 stri, ejusque minus idoneus in utero situs,  
 vel morbi qui circuitum sanguinis per *placentam*  
 languere faciunt, vel mors denique, que omnem  
 humorum per *placentam* motum sistit, commu-  
 nicumque cum matre rumpit.

834. Ratio igitur haud obscura erit ab in-  
 stante malo præcavendi, sanguinis detractio,  
 decumbendo, quiete animi et corporis, anodynus  
 remediis, frigore variis modis admoto, aliisque  
 remediis, prout res postulaverint, adhibitis.

res postulaverint. Neque aut mulier semper facit-abortum,  
*circumstances shall require. Nor does either the woman always abort,*  
 aut infans perit, quamvis nonnihil aquæ vel sanguinis etiam  
 or the infant perish, although some water or blood even  
 effluxerit, nimirum quia placenta, si fuerit aliquantum  
 should flow out, truly because the placenta, though it should be somewhat  
 separatæ, potest rursus concrescere cum utero, et liquor  
 separated, may again grow together (reunite) with the uterus, and the liquor  
 amnii iterum suppleri.  
 amnii again be supplied.

835. Vero quum sit jam ventum ad justum tempus, partus  
 But when it is already come to the full time, parturition  
 sæpe fit difficilis et laboriosus, aut periculosus, propter  
 often becomes difficult and laborious, or dangerous, on account of  
 plurimas causas, perpendere quas speciatim, et excogitare idonea  
 many causes, to consider which particularly, and to think of the proper  
 auxilia singularum, est obstetricis. Erit sat hic  
 aids for each, is for (belongs) to the obstetrician. It will be sufficient here  
 memorasse, naturalem et felicissimum partum, penitus carere  
 to state, that natural and the most prosperous parturition, is entirely free from  
 neque dolore neque quodam periculo: vero periculum et dolorem  
 neither pain nor from some danger: but that the danger and pain  
 pariter esse fere majora junioribus puellis, que annosis fœminis,  
 alike are commonly greater in young girls, than in oldish women,  
 primiparis, nimirum quia illis (pro nom.) est (pro habent) nondum  
 on first deliveries, truly because the former have not as yet  
 justa magnitudo, aut conformatio, aut robur partium quæ patiuntur  
 the due size, or conformation, or strength of the parts which suffer  
 in puerperio; et contra, nimia rigiditas omnium reddit  
 in childbirth; and again on the contrary, too much rigidity of all renders  
 transitum fœtus difficiliorem his; vero maximum  
 the transit of the fœtus more difficult in the latter; but that the greatest  
 periculum instare, si fabrica vel uteri vel ossium  
 danger threatens, if the structure either of the uterus or of the bones  
 pelvis fuerit prava, ita ut hæc (sc. ossa) nequeant transmittere  
 of the pelvis should be bad, so that the latter cannot transmit  
 partum (met. fœtum), nec ille (uterus) edere justam vim,  
 the fœtus, nor the former put forth (exert) the due force,  
 neque tolerare eam sine periculo lacerationis. Quoque delicatæ,  
 nor bear it without the danger of laceration. Also delicate,  
 debiles, valde mobiles mulieres, impatientes doloris, exhaustæ morbis,  
 weak, very irritable women, impatient of pain, exhausted by diseases,

Neque semper aut mulier abortum facit, aut infans perit, quamvis aquæ nonnihil, vel sanguinis etiam, effluxerit, nimirum quia placenta, si separatæ aliquantum fuerit, cum utero rursus concrescere potest, et liquor amnii iterum suppleri.

835. Quum vero jam ad justum tempus ventum sit, partus sæpe difficilis et laboriosus, aut periculosus, fit, propter plurimas causas, quas speciatim perpendere, et idonea singularum auxilia excogitare, obstetricis est. Sat erit hic memorasse, partum naturalem et felicissimum, neque dolore neque periculo quodam penitus

carere: periculum vero et dolorem pariter fere majora esse, puellis junioribus, feminisque annosis primiparis, nimirum, quia illis, nondum justa est magnitudo, aut conformatio, aut robur, partium quæ in puerperio patiuntur; et his contra nimia omnium rigiditas transitum fœtus difficiliorem reddit; maximum vero periculum instare, si prava vel uteri vel ossium pelvis fabrica fuerit, ita ut hæc partum transmittere nequeant, nec ille justam vim edere, neque eam sine lacerationis periculo tolerare. Mulieres quoque delicatæ, debiles, valde mobiles, doloris impatientes, morbis exhaustæ,

versantur majore periculo quam sanæ et validæ (sc. mulieres). Porro, *are in greater danger than healthy and strong women.* Moreover, varia vitia fœtus, placentæ, que funis, sæpe reddunt *various disorders of the fetus, of the placenta, and of the cord, often render* partum difficilem, aliquando prorsus impediunt: veluti deformitas *the delivery difficult, sometimes wholly impede it: as deformity* fœtus, ingens caput, monstruosus situs; placenta concrescens *of the fetus, a large head, preternatural position; the placenta growing* insolitæ parti uteri, nimis longa funis, contorta præternaturam circa fœtum, &c. *to an unusual part of the uterus, too long a cord, twisted un-* Plurima vitiorum hujusmodi possunt *naturally about the fetus, &c. Very many of the disorders of this sort may* concurrere simul, que igitur efficere varias et inexpectatas *occur together, and therefore cause various and unexpected* difficultates pariendi. *difficulties of child-bearing.*

836. Denique, lochia sæpe, post partum, aut fluunt nimiam *Lastly, the lochia often, after delivery, either flow in too great* copiam, aut subito supprimuntur: ratio et damnum utriusque *quantity, or suddenly are suppressed: the cause and injury of either* vitii intelligentur facile ex dictis, præsertim si *disease will be understood easily from (what has been) said, especially if* attendamus animum ad hoc, nimirum, corpus, exhaustum et debilitatum *we apply the mind to this, namely, that the body, exhausted and debilitated* doloribus puerperii, et jacturâ sanguinis, fieri valde mobile *by the pains of childbirth, and by loss of blood, becomes very mobile* et irritabile; que uterum ipsum, delicatissimum organum, multum *and irritable; and that the uterus itself, a most delicate organ, (when) much* irritatum, reddi proclivem ad inflammationem: quo fit *irritated, is rendered disposed to inflammation: by which it happens* ut levissimæ causæ sæpe male afficiant puerperas, que *that the slightest causes often badly affect puerperal women, and* accendant vehementem febrem, aut inflammationem uteri, serpturam *excite intense fever, or inflammation of the uterus, that will creep* aliquando ad vicina viscera, et desituram facile in *sometimes to the neighbouring viscera, and that will terminate easily in* gangrænam. Ratio maxime frequentium vitiorum discernendi lactis, *gangrene. An account of the most frequent disorders of secreting milk,* post partum, jam est reddita. *after delivery, has already been given.*

837. Est observandum, quo plus negotium pariendi *It is to be observed, the more the affair of child-bearing (parturition)*

quam sanæ et validæ, majore periculo versantur. Porro, varia fœtus, placentæ, funisque vitia, partum sæpe difficilem reddunt, aliquando prorsus impediunt; veluti deformitas fœtus, ingens caput, situs monstruosus; placenta insolitæ parti uteri concrescens, funis nimis longa, præternaturam circa fœtum contorta, &c. Hujusmodi vitiorum plurima simul concurrere possunt, variasque igitur et inexpectatas pariendi difficultates efficiere.

836. Denique, lochia post partum sæpe ant nimia copia fluunt, aut subito supprimuntur: utriusque vitii ratio et damnum facile intelliguntur, ex dictis (811), præsertim si animum

ad hoc attendamus, nimirum, corpus, doloribus puerperii et sanguinis jactura exhaustum et debilitatum, valde mobile et irritabile fieri; uterumque ipsum, delicatissimum organum, multum irritatum, ad inflammationem proclivem reddi: quo fit ut levissimæ causæ puerperas sæpe male afficiant, febremque vehementem, aut inflammationem uteri ad vicina viscera aliquando serpturam, et in gangrænam facile desituram, accendant. Vitiorum lactis post partum discernendi, maxime frequentium, ratio jam (803) reddita est.

837. Observandum est, quo plus pariendi et lactandi negotium Naturæ committitur, eo fere

et lactandi committitur Naturæ, eo felicius utrumque  
*and of suckling is intrusted to Nature, that the more prosperously do both*  
 fere succedere; quod peritissimi medici qui susceperunt  
*generally succeed; which the most skilful physicians who have undertaken*  
 munus obstetricis nunc demum agnoscunt, et qui  
*the duty of the obstetrician now at length acknowledge, and (they) who*  
 soli norunt ferre opem confidunt parum arti, plurimum  
*alone know (how) to render assistance trust little to art, a great deal*  
 Naturæ; nisi in raris exemplis jam recensitis.  
*to Nature; except in the rare examples already enumerated.*

## CAP. XXII.

## CHAP. XXII.

De nutrimento, incremento, statu, imminutione,  
 Of the nutrition, growth, full age (acme or perfection), decay,  
 et morte corporis; que (de) morbis qui solent  
 and death of the body; and of the diseases which are accustomed  
 comitari et affligere varias ætates.  
 to accompany and to afflict the various ages (periods of life).

833. En aliud arcanum Naturæ, vix minus mirabile  
*Behold another secret of Nature, scarcely less wonderful*  
 generatione ipsâ, neque eo melius intellectum quod perficitur  
*than generation itself, nor the better understood because it is performed*  
 magis aperte. Nimirum infans, parvus, debilis, impotens pariter  
*more openly. That the infant, small, weak, impotent alike*  
 animi ac corporis, crescit paulatim, et adipiscitur pulcherrimam et  
*in mind and body, grows by degrees, and acquires a very beautiful and*  
 perfectam formam, tandem factus compos omnium facultatum  
*perfect shape, at length rendered possessed of all the faculties*  
 animi que corporis.  
*of mind and of body.*

839. Humanum corpus viget aliquamdiu perfectissimum formâ,  
*The human body flourishes for some time most perfect in shape,*  
 sanitate, viribus; vero annis labentibus, delabitur lenta ruina;  
*health, strength; but the years rolling on, it decays in a slow ruin;*

utrumque feliciter succedere; quod peritissimi  
 qui obstetricis munus susceperunt medici nunc  
 demum agnoscunt, et qui soli opem ferre no-  
 runt, parum arti, plurimum Naturæ, confidunt;  
 nisi in raris exemplis jam (835) recensitis.

CAP. XXII.—*De Corporis Nutrimento, Incre-  
 mento, Statu, Imminutione, et Morte; Morbisque  
 qui varias Ætates comitari et affligere solent.*

833. EN aliud Naturæ arcanum, ipsa genera-

tione vix minus mirabile, neque eo melius intel-  
 lectum, quod magis aperte perficitur. Infans  
 nimirum, parvus, debilis, animi pariter ac cor-  
 poris impotens, paulatim crescit, et pulcherrimam  
 et perfectam formam adipiscitur, omnium  
 tandem animi corporisque facultatum compos  
 factus (14).

839. Aliquamdiu corpus humanum viget,  
 forma, sanitate, viribus perfectissimum; laben-  
 tibus vero annis, lenta ruina delabitur (12);



Ille flos juventæ perit, et vis animi et vigor corporis.  
*that flower of youth perishes, also the strength of mind and vigour of body.*

Invida ætas minuit quemque robustissimum immedicabili  
*Envious age (time) consumes every strongest person by incurable*

morbo, qui cogit omnes mortales eodem. Et profecto  
*disease, which collects all mortals in the same place. And truly*

senectus premitur tantis que tam continuis malis, ut mors  
*old age is pressed by so many and so continued evils, that death*

ipsâ, si homines saperent, veniret omnibus, optata finis  
*itself, if men were wise, would come to all, wished for (as) the ter-*

mination of so many miseries.

840. Philosophi et medici conati sunt reddere rationem  
*Philosophers and physicians have endeavoured to render an account*

harum rerum, et explicare quomodo corpus accipiat suum nutrimentum,  
*of these things, and explain how the body receives its nourishment,*

cur certo tempore crescat, cur tandem desinat crescere, et  
*why at a certain time it grows, why at length it ceases to grow, and*

demum decrescat suo tempore. Quamvis subsit adhuc multum ob-  
*finally decreases at its proper time. Although there be as yet much of ob-*

scuri et incerti (pro substantivis) hic, tamen oportet novisse quid  
*secure(ity) and of uncertain(ity) here, nevertheless it behoves to know what*

fuerit propositum de gravissimo argumento, quid stabilitum,  
*has been advanced concerning this very weighty subject, what established,*

quid fictum: præterea, plurimi morbi pendent ab ætate, scilicet,  
*what imagined: besides, many diseases depend upon the age, namely,*

qui oriuntur a mutationibus quas corpus subit variis  
*those which arise from the changes which the body undergoes at the various*

ætatibus; igitur, decet medicum intelligere naturam et  
*ages; therefore, it becomes the physician to understand the nature and*

causas horum.  
*causes of them.*

841. Constat, certissimis et simplicissimis experimentis,  
*It is established, by the most certain and simple experiments,*

omnes partes corporis, solidas pariter ac fluidas, assidue dissipari  
*that all parts of the body, solid as well as fluid, constantly are dissipated*

et deteri variis functionibus vivi hominis. Neque est  
*and worn down by the various functions of the living man. Nor is it*

dubium alimenta quæ sumimus reparare hanc jacturam.  
*doubtful that the aliments which we take repair this loss.*

Vero hæc primo confecta, et soluta, et concocta in ore  
*But these first chewed, and dissolved, and concocted in the mouth*

flos ille juventæ perit, et vis animi, et vigor corporis. Robustissimum quemque invida ætas minuit, immedicabili morbo, qui omnes mortales eodem cogit. Et profecto, tantis tamque continuis malis senectus premitur, ut mors ipsa, tot ærumnarum finis, optata, si saperent homines, omnibus veniret.

840. Philosophi et medici conati sunt rationem reddere harum rerum, et explicare quomodo corpus suum nutrimentum accipiat, cur certo tempore crescat, cur crescere tandem desinat, et demum suo tempore decrescat. Quamvis multum hic subsit obscuri et incerti adhuc,

tamen oportet novisse, quid de gravissimo argumento propositum fuerit, quid stabilitum, quid fictum: præterea, plurimi morbi ab ætate pendent, scilicet qui a mutationibus quas corpus variis ætatibus subit oriuntur; horum igitur naturam et causas medicum decet intelligere (22, 51).

841. Certissimis et simplicissimis experimentis constat, omnes corporis partes, solidas pariter ac fluidas, variis functionibus vivi hominis assidue dissipari et deteri. Neque dubium est alimenta quæ sumimus hanc jacturam reparare. Hæc vero primo in ore et ventriculo, et intes-

et ventriculo, et intestinis, postea forsitan amplius mutata in  
*and stomach, and intestines, afterwards perhaps further changed in*  
 pulmone, demum vertuntur in sanguinem, gluten cuius,  
*the lungs, at length are changed into blood, the gluten of which,*  
 (scilicet, fibrina, albumen, et gelatina,) ut videtur, est (pro affert)  
*(that is, the fibrine, albumen, and gelatine,) as it appears, brings*  
 nutrimento solidis partibus.  
*nourishment to the solid parts.*

842. Humores corporis posse reparari tali subsidio,  
*That the fluids of the body may be replenished by such a supply,*  
 facile intelligitur: vero ratio quâ solidæ partes reficiantur  
*is easily understood: but the means by which the solid parts are recruited*  
 multo obscurior.  
*(is) much more obscure.*

843. Sunt auctores, neque profecto parvi nominis, qui credunt  
*There are authors, nor indeed of small reputation, who believe*  
 particulas solidarum partium, vasorum, fibrarum, ossium, reticulatæ  
*that the particles of the solid parts, vessels, fibres, bones, cellular*  
 telæ, detritas variis muneribus vitæ, relinquere scrobes seu  
*tissue, worn out by the various functions of life, leave behind furrows or*  
 fossulas; que has fossulas, puta, in intima superficie  
*trenches; and that these trenches, for instance, in the inmost surface*  
 cuiusdam vasis vehentis sanguinem, impleri glutinoso humore  
*of any vessel carrying blood, are filled with the glutinous fluid*  
 qui præterfluit, attrahere crassam partem ejusdem humoris  
*which flows through it, that they attract the thick part of the same fluid*  
 sibi, demittere tenuem, perpetuo motu et compressione  
*to themselves, send off the thin, the constant motion and compression*  
 quo omnes partes agitantur juvante et exprimente; si  
*by which all the parts are agitated assisting and expressing; if*  
 fossula esset non penitus impleta, minorem scrobem quæ  
*the fossa were not completely filled up, that the smaller indentation which*  
 tunc superesset, pari ratione, attrahere sibi et detinere  
*then would remain, for a similar reason, attracted to itself and detained*  
 plus glutinis; vero si plus glutinis justo esset receptum hoc  
*more gluten; but if more gluten than proper were admitted in this*  
 modo, ita ut vel minimum frustum excresceret et emineret  
*manner, so that even the smallest fragment grew out and stood out*  
 in medium vas, hoc brevi deteri rivo  
*into the middle (of the) vessel, that this was quickly worn down by the current*  
 præterfluente, donec interna superficies esset facta levis et  
*flowing by, until the internal surface were rendered smooth and*

tinis, confecta, et soluta, et concocta (615, 616), postea forsitan in pulmone amplius mutata (566), in sanguinem demum vertuntur (494, 505), cujus gluten (fibrina, scilicet, albumen, et gelatina), ut videtur, solidis partibus nutrimento est.

842. Facile intelligitur humores corporis tali subsidio reparari posse: multo vero obscurior ratio qua solidæ partes reficiantur.

843. Sunt qui credunt, neque profecto parvi nominis auctores, particulas solidarum partium, vasorum, fibrarum, ossium, telæ reticulatæ, variis vitæ muneribus detritas, scrobes seu fossulas relinquere; hasque fossulas, puta

in intima superficie vasis cuiusdam sanguinem vehentis, humore glutinoso qui præterfluit impleri, crassam ejusdem humoris partem attrahere sibi, tenuem demittere, juvante et exprimente perpetuo quo omnes partes agitantur motu et compressione; si fossula non penitus impleta esset, minorem quæ tunc superesset scrobem, pari ratione, plus glutinis sibi attrahere et detinere; si vero plus justo hoc modo glutinis receptum esset, ita ut frustum vel minimum excresceret et emineret in medium vas, hoc brevi præterfluente rivo deteri, donec superficies interna ut antea levis et æqualis

æqualis ut antea. Porro, hi auctores crediderunt externas  
*equal as before. Moreover, these authors believed that the external*  
 partes vasorum, et reticulatam telam, et fibras nervorum et  
*parts of the vessels, and cellular tissue, and fibres of the nerves and*  
 musculorum, et demum ossa, nutriri fere simili  
*muscles, and in fine the bones, were nourished almost in a similar*  
 modo, vel per minuta vasa vehentia et apponentia gluten et  
*manner, either by minute vessels carrying and placing gluten and*  
 terram, vel per glutinosum humorem exhalatum, qui irrorat  
*earth, or by a glutinous fluid (being) exhaled, which bedews*  
 omnia cava corporis: que tandem, tenuiore parte nutrientis  
*all the cavities of the body: and at length, the thinner part of the nutritious*  
 humoris expressâ, et exhalatâ, et resumptâ, solidam  
*fluid being expressed, and exhaled, and taken up, that the solid*  
 materiam demum relinquit tantam et talem qualis detrita fuerat.  
*matter at last was left so much and such as it had been worn down.*

844. Crediderunt se conspexisse exemplum et demonstrationem  
*They believed that they had seen an example and demonstration*  
 nutrimenti hujusmodi in concretionem vulneris, veluti parvæ  
*of a nutriment of this kind in a growing together of a wound, as of a small*  
 arteriæ, quæ coalescit suâ sponte, et fere hac ratione,  
*artery, which coalesces of its own accord, and commonly in this way,*  
 quod brevi obturatur glutine effuso, et concrecente  
*that it is quickly plugged up by gluten being effused, and growing together*  
 in massam, quæ compescat fluxum sanguinis, que resarciat arteriam  
*into a mass, which restrains the flow of blood, and repairs the artery*  
 ipsam, ita ut post paucas horas, humores fluant iterum per  
*itself, so that after a few hours, the fluids flow again through*  
 eam solito more, nequidem guttulâ elabente; quicquid  
*it in the usual manner, not even a small drop escaping; whatever*  
 nimirum glutinosæ massæ emineret in arteriam, rivus  
*indeed of the glutinous mass projected into the artery, the current*  
 humorum rapuit secum; quod superesset, motus com-  
*of the fluids hurried off along with it; what remained, the motion com-*  
 pressit in firmam substantiam, que resorbentia vasa hausiverunt  
*pressed into a firm substance, and the absorbing vessels drank up*  
 expressum humorem. Vero glutinosa massa quæ formatur circa  
*the expressed fluid. But the glutinous mass which is formed about*  
 sauciam arteriam haud abraditur ita subito; quamvis hæc  
*the wounded artery is not rubbed off so suddenly; although this*  
 quoque paulatim fere minuitur et evanescit, præsertim si  
*also by degrees generally is diminished and disappears, especially if*

facta esset. Crediderunt porro hi auctores partes vasorum externas, et telam reticulatam, et fibras nervorum et musculorum, et ossa demum simili fere modo nutriri, vel per vasa minuta gluten et terram vehentia et apponentia, vel per exhalatum humorem glutinosum (437) qui omnia cava corporis irrorat: tandemque, expressa, et exhalata, et resumpta, tenuiore parte humoris nutrientis, solidam demum relinquit materiam, tantam et talem, qualis detrita fuerat.

844. Hujusmodi nutrimenti exemplum et demonstrationem crediderunt se conspexisse, in concretionem vulneris, veluti parvæ arteriæ,

quæ sua sponte coalescit, et fere hac ratione, quod brevi obturatur glutine effuso et concrecente in massam quæ sanguinis fluxum compescat, arteriamque ipsam resarciat, ita ut post paucas horas, humores iterum per eam more solito fluant, ne guttula quidem elabente; quicquid nimirum massæ glutinosæ in arteriam emineret, humorum rivus secum rapuit; quod superesset motus compressit in firmam substantiam, humoremque expressum vasa resorbentia hausiverunt. Massa vero glutinosa quæ circa sauciam arteriam formatur, haud ita subito abraditur; quamvis hæc quoque paulatim fere minuitur et evanescit, præsertim si vulnus leve

vulnus fuisset leve: aliquando, tamen, imprimis a graviore  
*the wound had been slight: sometimes, however, especially from a more severe*  
 vulnera, fabrica vasorum quæ aliarum partium, quæ fuerant  
*wound, the structure of the vessels and of the other parts, which had been*  
 vulnerata, ita læditur, ut nunquam bene resarciatur, et cicatrix  
*wounded, is so injured, that it never is well repaired, and a cicatrix*  
 major ve minor, fortasse nunquam delenda penitus, immo  
*greater or less, perhaps never to be destroyed entirely, nay even*  
 interdum ingravescens, relinquitur.  
*sometimes increasing, is left behind.*

845. Verum enimvero multum abest ut hæc, et commenta  
*But truly it is far from that these, and comments*  
 hujusmodi, bene explanent nutrimentum corporis. Quamvis sit  
*of this sort, thoroughly explain the nourishment of the body. Although it is*  
 non dubium nutrientem humorem deferri per arterias ad  
*not doubtful that the nutritive fluid is conveyed by the arteries to*  
 omnes partes corporis, et varios motus earum et  
*all parts of the body, and that the various motions of them and*  
 musculorum, usque comprimere arterias ipsas que vicinas  
*of the muscles, continually compress the arteries themselves and contiguous*  
 partes, et sane omnes partes; tamen non bene intelligitur  
*parts, and indeed all parts; notwithstanding it is not well understood*  
 quomodo materia adeo diversa, constans quodammodo ex diversis  
*how a matter so different, consisting in some measure of different*  
 elementis, habens prorsus diversam fabricam et qualitates, appo-  
*elements, having an altogether different structure and qualities, should be*  
 natur variis partibus, dentibus, ossibus, nervis, musculis,  
*deposited in the various parts, the teeth, bones, nerves, muscles,*  
 cartilaginibus, ligamentis, reticulatæ telæ, &c.  
*cartilages, ligaments, cellular tissue, &c.*

846. Enim, plurima terra inest ossibus, cujus parum  
*Moreover, a great deal (of) earth is in the bones, of which little*  
 omnino reperitur in aliis partibus. Neque fere ossa com-  
*at all is found in the other parts. Nor generally are the bones com-*  
 primuntur tantum ac quædam molles partes, veluti arteriæ. Quin et,  
*pressed so much as some soft parts, as the arteries. Besides,*  
 a vitio, raro profecto, sed interdum observato, parum istius  
*from disease, rarely indeed, but sometimes observed, little of that*  
 terræ deponitur in ossibus, quæ (sc. ossa) ideo molliuntur; et  
*earth is deposited in the bones, which therefore are softened; and*  
 interdum, contra, ossea substantia deponitur in alienis  
*sometimes, on the other hand, osseous matter is deposited in unsuitable*

fuisse: aliquando tamen, imprimis a graviore  
 vulnere, fabrica vasorum aliarumque partium  
 quæ vulnerata fuerant, ita læditur, ut nunquam  
 bene resarciatur, et cicatrix major minorve,  
 fortasse nunquam penitus delenda, immo ingra-  
 vescens interdum, relinquitur.

845. Verum enimvero multum abest, ut hæc et  
 hujusmodi commenta nutrimentum corporis  
 bene explanent. Quamvis non dubium sit,  
 humorem nutrientem per arterias ad omnes  
 corporis partes deferri, et varios earum et mus-  
 culorum motus, ipsas arterias partesque vicinas,  
 et sane omnes partes, usque comprimere; tamen

non bene intelligitur quomodo materia adeo  
 diversa, ex diversis quodammodo elementis  
 constans, diversam prorsus fabricam et quali-  
 tates habens, variis partibus, dentibus, ossibus,  
 nervis, musculis, cartilaginibus, ligamentis,  
 telæ reticulatæ, &c. apponatur.

846. Plurima enim ossibus inest terra, cujus  
 parum omnino in aliis partibus reperitur. Neque  
 ossa fere tantum comprimuntur ac partes quæ-  
 dam molles, veluti arteriæ. Quin et a vitio,  
 raro profecto, sed interdum observato, parum  
 istius terræ in ossibus deponitur, quæ ideo  
 molliuntur; et interdum contra, substantia

partibus, musculis, visceribus, &c. ita ut miser ita affectus, si  
*parts, the muscles, viscera, &c. so that the wretch thus affected, if*  
 vixisset, forsitan factus esset totus os.  
*he should live, perhaps would become all (entirely) bone.*

847. Præterea, minuta et delicatissima fabrica organorum,  
*Besides, the minute and very delicate structure of the organs,*  
 puta, musculorum ve nervorum, conservatur inter nutriendum,  
*for example, of the muscles or nerves, is preserved while nourishing*  
 ita ut suæ vitales dotes constant singulis,  
*(during nutrition), so that their own vital properties remain to each,*  
 quod vix fieret tali artificio quale auctores finx-  
*erint, quod nimirum sufficeret rudem et indigestam*  
*imagined, which indeed would substitute a rude and confused*  
 massam in locum pulcherrimæ fabricæ detritæ et  
*mass in the place (instead) of the very beautiful structure worn out and*  
 dilabentis.  
*Decaying (ed).*

848. Alii summi viri crediderunt nutrimentum fieri  
*Other very celebrated men believed that nutrition was accomplished*  
 per nervos non per arterias; que gluten sanguinis  
*through the nerves not through the arteries; and that the gluten of the blood*  
 secretum in cerebro, attenuatum, purgatissimum ab omni  
*being secreted in the brain, attenuated, very well freed from every*  
 sale qui corrumpet, percolari quodammodo per nervos  
*salt which could corrupt it, was strained in some degree through the nerves*  
 que deferri ad varias partes, quodam subtilissimo, mobilissimo,  
*and was conveyed to the different parts, a certain very subtle, mobile,*  
 præstantissimo fluido, quod opinati sunt inesse in nervis, juvante  
*exquisite fluid, which they supposed to exist in the nerves, assisting*  
 et propellente. Multi opinantur herbas nutriri fere  
*and propelling. Many suppose that herbs are nourished almost*  
 simili modo quamvis sane nondum bene constet de  
*a similar manner although indeed it is not yet well determined about*  
 his, que multa potius ostendant eas accipere suum  
*these, and many things rather shew that they receive their*  
 nutrimentum longe diversa ratione, Neque profecto hactenus  
*nourishment in a far different manner. Nor indeed hitherto*  
 constitit cerebrum secernere ullum humorem, aut  
*as it been decided that the brain secreted any fluid, or*  
 ullum fluidum inesse in nervis, aut tenue et purum  
*that any fluid existed in the nerves, or that a thin and pure*

essea in alienis partibus, musculis, visceribus, &c. deponitur, ita ut miser ita affectus, si vixisset, forsitan totus os factus esset.

847. Præterea, minuta et delicatissima organorum, puta musculorum nervorumve, fabrica, inter nutriendum conservatur, ita ut singulis suæ constant dotes vitales, quod vix fieret, tali artificio quale auctores fluxerint; nimirum, quod assam rudem et indigestam sufficerit in locum pulcherrimæ fabricæ detritæ et dilabentis.

848. Crediderunt alii summi viri nutrimentum per nervos, non per arterias, fieri; glutenque sanguinis in cerebro secretum, attenuatum, ab

omni sale qui corrumpet purgatissimum, per nervos quodammodo percolari, adque varias partes deferri, juvante et propellente fluido quodam subtilissimo, mobilissimo, præstantissimo, quod in nervis inesse opinati sunt. Simili fere modo herbas nutriri multi opinantur, quamvis sane nondum de his bene constet, multaque potius ostendant eas longe diversa ratione suum nutrimentum accipere. Neque profecto hactenus constitit, cerebrum ullum secernere humorem, aut fluidum ullum in nervis inesse, aut tenue et purum gluten per eos percolari; nam neque tumen ligati, neque

gluten percolari per eos: nam neque tument ligati,  
*gluten was strained through them: for they neither swell (when) tied,*  
 neque secti fundunt ullum humorem; neque subtilissimam  
*nor (when) cut do they pour out any fluid; nor that a very subtle*  
 auram, qualem nuper et olim fuit opinio inesse iis,  
*vapour, such as lately and formerly was the opinion existed in them,*  
 posse propellere talem humorem saltem crassionem aqua; neque  
*could propel such a fluid at least thicker than water; nor*  
 demum nutrimentum fieri per nervos; nam ovum et  
*in fine that nutrition took place through the nerves; for the ovum and*  
 placenta et umbilici funis nutriuntur et crescunt sine nervis,  
*placenta and umbilical cord are nourished and grow without nerves,*  
 et fœtus satis bene aliti nati sunt sine capite, et  
*and fœtuses sufficiently well nourished have been born without a head, and*  
 in animalibus frigidi sanguinis, multo tenacioribus vitæ quam homo,  
*in animals of cold blood, much more tenacious of life than man,*  
 artus, puta crus et femur bene alitur, neque  
*a limb, for example a leg and thigh is well nourished, nor*  
 marcescit magno nervo qui adit eum secto. Neque  
*does it waste (on) the great nerve which supplies it being cut. Nor*  
 demum melius intelligitur quo pacto sua materia daretur  
*in fine is it better understood by what means their own matter could be given*  
 singulis organis, sua fabrica singulis, per nervos potius  
*to the individual organs, its proper structure to each, through the nerves rather*  
 quam per arterias.  
*than by the arteries.*

849. Utcunque hæc res habuerit se, semper  
*However this matter should have itself, (may be) it will always*  
 juvabit scire nutrimentum affici multum, et vel promoveri  
*benefit to know that nutrition is affected much, and either is promoted*  
 vel impediri non modo statu et actione arteriarum que  
*or impeded not only by the condition and action of the arteries and*  
 nervorum sed plurimis aliis rebus de quibus melius  
*nerves but by a great many other things concerning which it is better*  
 constat. Motu sanguinis per arteriam obstructo vel  
*established. The motion of the blood through an artery being obstructed or*  
 immiuto, artus quem hæc (sc. arteria) adibat friget, torpet,  
*diminished, the limb which it supplied grows cold, is torpid,*  
 et simul marcescit, donec motus sanguinis restituatur vel  
*and at the same time wastes, until the motion of the blood can be restored either*  
 per solitas vias, vel per novas, forsân per communicantes  
*through the usual channels, or through new ones, perhaps by communicating*

secti ullum humorem fundunt; neque subtilissimam auram, qualem inesse iis nuper et olim opinio fuit, talem humorem, aqua saltem crassionem, propellere posse; neque demum nutrimentum per nervos fieri; nam ovum, et placenta, et funis umbilici, sine nervis nutriuntur et crescunt, et fœtus siue capite nati sunt satis bene aliti, et in animalibus frigidi sanguinis vitæ multo quam homo tenacioribus, artus, puta crus et femur, bene alitur, neque marcescit, secto magno qui eum adit nervo. Neque demum melius intelligitur quo pacto per ner-

vos, potius quam per arterias, sua singulis materia (845) sua singulis fabrica daretur.

849. Utcunque hæc se res habuerit, scire semper juvabit, nutrimentum multum affici, et vel promoveri vel impediri, non modo statu et actione arteriarum nervorumque, sed plurimis aliis rebus de quibus melius constat. Obstructo vel immiuto sanguinis per arteriam motu, artus quem hæc adibat, friget, torpet, et simul marcescit, donec motus sanguinis vel per solitas vias restituatur, vel per novas, forsân per ramos communicantes, quas brevi sibi legit

ramos quas (sc. vias) brevi legit sibi; aliquando tamen  
*branches which . it quickly chooses for itself: sometimes however*

artus post talem obstructionem nunquam fit torosus ut antea.  
*the limb, after such an obstruction never becomes brawny as before.*

Plurimo sanguine quoque detracto, totum corpus marcescit.  
*Very much blood also being drawn off, the whole body wastes.*

850. Affectæ partes quoque sæpe marcescunt a paralyti vel  
*The affected parts also often emaciate from paralysis either*

generali, vel cujuslibet partis quod est semper malum signum;  
*general, or of any part: which is always a bad sign;*

que indicat morbum vel prorsus insanabilem, vel difficillimum sanatu.  
*and indicates a disease either altogether incurable, or very difficult to be cured.*

Talis tabes paralytici artus potest fieri, vel propter  
*Such a wasting of a paralytic limb may occur, either on account of*

vim arteriarum, simul cum vi musculorum pereuntem aut  
*the force of the arteries, together with the power of the muscles perishing or*

labefactam, quod aliquando accidit; vel propter perpetuam  
*(being) destroyed, which sometimes happens; or on account of constant*

quietem artus, quæ (sc. quies) facit omnes partes præsertim  
*rest of the limb, which causes all parts especially*

musculosas marcescere, citra paralytin, vel vitium  
*the muscular to waste, without (independent of) paralysis, or disorder*

motus sanguinis, vel sane ullum morbum, non secus ac justus  
*of the motion of the blood, or indeed any disease, just as proper*

usus reddit eas (sc. partes musculosas) torosas; vel denique  
*exercise renders them brawny; or lastly*

propter vim ipsam, quæ reparat jacturam solidarum  
*on account of the power itself, which repairs the loss of the solid*

partium novis particulis apposis, deficientem et corruptam,  
*parts by new particles being deposited, failing and (being) corrupted*

si hæc (sc. vis) est sita in nervis. Quædam partes quoque  
*if it is placed in the nerves. Some parts also*

marcescunt, nunquam fortasse recuperaturæ pristinam molem aut  
*waste, never perhaps to recover their former size or*

vigorem, a magnâ jacturâ sanguinis aut gravi vulnere aut  
*vigour, from great loss of blood or a severe wound or*

ulcere infestante eas diu.  
*an ulcer infesting them for a long time.*

851. Nutrimentum pendet multum a quantitate nec minus a  
*Nutrition depends much upon the quantity nor less upon*

qualitate ciborum quos sumimus, eadem moles et pondus  
*the quality of the foods which we take, the same bulk and weight*

aliquando tamen artus, post talem obstructionem, nunquam ut antea torosus fit. Plurimo quoque detracto sanguine, totum corpus marcescit.

850. Sæpe quoque a paralyti, vel generali vel partis cujuslibet, partes affectæ marcescunt; quod signum semper malum est, morbumque vel prorsus insanabilem, vel sanatum difficillimum, indicat. Talis artus paralytici tabes fieri potest, vel propter vim arteriarum simul cum vi musculorum pereuntem aut labefactam, quod aliquando accidit; vel propter perpetuam artus quietem, quæ citra paralytin,

vel vitium motus sanguinis, vel sane morbum ullum, partes omnes, præsertim musculosas, marcescere facit, non secus ac justus usus eas torosas reddit; vel, denique, propter vim ipsam quæ jacturam solidarum partium novis apposis particulis reparat, deficientem et corruptam, si hæc in nervis sita est. Marcescunt quoque partes quædam, fortasse nunquam pristinam recuperaturæ molem aut vigorem, a magna sanguinis jactura, aut gravi vulnere, aut ulcere eas diu infestante.

851. Nutrimentum pendet multum a quantitate, nec minus a qualitate ciborum quos su-

quorum nimirum continent plus minus nutrimentis materiæ.  
*of which indeed contain more (or) less (of) nutritive matter.*  
 Multum quoque pendet a bonâ vel imperfectâ concoctione  
*Much also depends upon the good or imperfect concoction*  
 cibi quæ fuerit sumptus.  
*of the food which may have been taken.*

852. Ut homo qui fruitur secundâ valetudine fere nutritur  
*As the man who enjoys good health generally is nourished*  
 bene, dummodo habuerit sat idonei cibi: sic qui laborant  
*well, provided he have sufficient of proper food: so they who suffer*  
 ad versâ valetudine plerumque nutriuntur male, et sæpe subito  
*from bad health generally are nourished badly, and often suddenly*  
 marcescunt: scilicet quia dum quisquam ægrotat raro appetit  
*waste: truly because whilst a person is sick he seldom desires*  
 cibum bene, adhuc rarius concoquit bene, et sæpe exhauritur  
*food well, still less frequently digests (it) well, and often is exhausted*  
 insolito dispendio, nimirum fluidis partibus corporis  
*by unusual loss, namely by the fluid parts of the body*  
 dissipatis ultra modum et solidis multum detritis  
*being dissipated beyond bounds, and the solid being much worn away*  
 vehementiore motu cui subjiciuntur; quod est imprimis  
*by the more violent motion to which they are subjected; which is especially*  
 notabile in omnibus febris. Neque profecto opinio videtur  
*remarkable in all fevers. Nor indeed does the opinion appear*  
 absurda, plurimos morbos, præsertim quos auctus impetus  
*absurd, that many diseases, especially (those) which an increased impetus*  
 sanguinis comitatur, ob stare nutrimento ipsi, appositione novarum  
*of blood accompanies, oppose nutrition itself, by the apposition of the new*  
 particularum impeditâ.  
*particles being impeded.*

853. Est non dubium maximam partem ponderis quod (sc.  
*It is not doubtful that the greatest part of the weight which*  
 pondus) ægroti amittunt esse adipem, qui consumitur facillime  
*the sick lose is fat, which is consumed very easily,*  
 et sæpe reparatur brevi. Vero quædam exempla ostenderunt  
*and often is repaired quickly. But some examples have proved*  
 omnes partes, pariter solidas ac fluidas, interdum consumi;  
*that all parts, alike solid and fluid, sometimes were consumed;*  
 nimirum, deteri et dissipari citius quam novæ particulæ  
*that is, were worn away and dissipated more quickly than the new particles*  
 apponerentur.  
*were deposited.*

nimus, nimirum quorum eadem moles et pondus plus minus materiæ nutritiæ continent. Multum quoque pendet a concoctione bonâ vel imperfectâ cibi qui sumptus fuerit.

852. Ut homo qui secundâ valetudine fere bene nutritur, dummodo sat habuerit cibi idonei: sic qui adversâ valetudine laborant plerumque male nutriuntur, et sæpe subito marcescunt: scilicet, quia dum ægrotat quisquam cibum raro bene appetit, rarius adhuc bene concoquit, et sæpe insolito dispendio exhauritur, dissipatis nimirum ultra modum fluidis corporis partibus, et solidis multum detritis vehementiore cui subjiciuntur motu;

quod in febris omnibus imprimis notabile est. Neque profecto absurda videtur opinio, plurimos morbos, præsertim quos auctus sanguinis impetus comitatur, ipsi nutrimento ob stare, impedita novarum particularum appositione.

853. Non dubium est maximam partem quod amittunt ægroti ponderis adipem esse (101, et seqq.), qui facillime consumitur, et brevi sæpe reparatur. Quædam vero exempla ostenderunt, omnes partes, solidas pariter ac fluidas, interdum consumi; deteri nimirum et dissipari citius quam novæ particulæ apponerentur.



854. Certâ ætate nutritur accurate sine incremento aut  
*At a certain age we are nourished accurately without increase or*  
 imminutione: scilicet, quotidiana jactura reparatur quotidiano  
*diminution: that is, the daily loss is repaired by the daily*  
 nutrimento. Autem primâ ætate crescimus multum et subito;  
*nutrition. But at the first age we grow much and suddenly;*  
 provectiore ætate non crescimus, sed pinguescimus; ultima  
*in more advanced age we do not increase, but we grow fat; in the last (age)*  
 decrescimus iterum et contrahimur, que ipsa ossa nostrorum  
*we decrease again and are contracted, and the very bones of our*  
 corporum videntur diminui.  
*bodies seem to be diminished.*

855. Neque profecto ratio harum rerum adeo difficilis aut obscura  
*Nor indeed (is) the reason of these things so difficult or obscure*  
 ac explicatio nutrimenti ipsius. Enim vi seu facultate existente  
*as the explanation of nutrition itself. For the power or faculty existing*  
 quæ apponat novam materiam corpori, que  
*(being admitted) which deposits new matter in the body, and*  
 deterat et ejiciat vetustam, potest intelligi quodammodo  
*wears away and ejects the old, it may be understood in some degree*  
 a statu corporis variis ætatibus, hoc (sc. corpus)  
*from the condition of the body at the various ages, that it*  
 aliquamdiu auctum iri, vero certo tempore desitutum crescere,  
*for sometime will be increased, but at a certain time (it) will cease to increase,*  
 que tandem inepturum decrescere, et indies minutum iri donec  
*and at length will begin to decrease, and daily will be diminished until*  
 vita ipsa deficiat, functionibus prorsus impeditis.  
*life itself fails, the functions being altogether impeded.*

856. Primâ ætate scilicet, (neque habet res se aliter  
*At the first age indeed, (nor has the thing itself otherwise*  
 dum homunculus latet in utero) corpus est  
*whilst the homunculus (little man) lies hid in the uterus) the body is*  
 mollissimum et aptum extendi, et magna  
*very soft and fit to be extended (capable of being extended), and a great*  
 vis adest incipiens fere a centro corporis, quæ distendat  
*force is present beginning almost from the centre of the body, which distends*  
 totum; scilicet, cor multo grandius pro rata parte quam in  
*the whole; that is, the heart much larger in proportion than in*  
 adulto viro, multo magis irritabile, que micans multo frequentius.  
*the adult man, much more irritable, and beating much more frequently.*  
 Vasa quoque quæ vehunt sanguinem adsunt numerosiora,  
*The vessels also which carry the blood are present more numerous,*

854. Certa ætate accurate nutritur sine incremento aut imminutione: quotidiana scilicet jactura quotidiano nutrimento reparatur. Prima autem ætate, multum et subito crescimus: provectiore non crescimus, sed pinguescimus: ultima decrescimus iterum et contrahimur, ipsaque corporum nostrorum ossa diminui videntur.

855. Neque profecto adeo difficilis aut obscura harum rerum ratio, ac nutrimenti ipsius explicatio. Existente enim vi seu facultate quæ novam materiam corpori apponat, vetustamque deterat et ejiciat, a statu corporis variis ætatibus quodammodo intelligi potest, hoc ali-

quamdiu auctum iri, certo vero tempore desitutum crescere, tandemque inepturum decrescere, et indies minutum iri, donec vita ipsa, impeditis prorsus functionibus, deficiat.

856. Prima scilicet ætate (neque aliter res se habet dum in utero latet homunculus), corpus mollissimum est et aptum extendi, et magna vis adest, fere a centro corporis incipiens quæ totum distendat; cor scilicet multo grandius pro rata parte quam in adulto viro, multo magis irritabile, multoque frequentius micans. Vasa quoque que sanguinem vehunt adsunt numerosiora, molliora, magisque irritabilia, quam provecta ætate.

molliora, que magis irritabilia quam provec̄tâ ætate.  
softer, and more irritable than at advanced age.

357. Hac vi omnes arteriæ et quotquot partes  
By this power all the arteries and whatever parts  
connectuntur cum iis, scilicet totum corpus, allquantum dis-  
are connected with them, that is the whole body, are somewhat dis-  
tenduntur centies et quinquagies millies quotidie, neque  
tended one hundred and fifty thousand times every day, nor  
est (pro hab) solidis partibus corporis adhuc mollis et teneri  
have the solid parts of the body as yet soft and tender  
tanta vis resiliendi ut recuperent statim pristinum  
so great a power of rebounding that they should recover immediately their former  
situm et molem: autem novâ materiâ appositâ dum  
position and bulk: but new matter being deposited whilst  
distenduntur, non modo extenduntur, sed usque crescunt,  
they are distended, they not only are extended, but continually grow,  
que induratæ perpetuâ compressione, fiunt firmiores et  
and hardened by the constant compression, they become firmer and  
validiores, et renituntur magis, in posterum extendendæ  
stronger, and resist more, for the future to be extended  
ægrius: præsertim quum vis ipsa quæ distendit  
with more difficulty: especially when the force itself which distends  
non æque augeatur: præterea ista vis impensa majori  
is not equally increased: besides that force expended upon the greater  
moli, quamvis firmitas ejûs fuisset eadem, valet eo minus,  
bulk, although the firmness of it should be the same, is available the less,  
quod omnis frictio et renixus a pondere partium  
because all the friction and resistance from the weight of the parts  
quæ debent moveri, augeantur simul cum mole corporis.  
which ought to be moved, are increased together with the bulk of the body.

358. Sic corpus crescit aliquamdiu sed fere indies lentius.  
Thus the body grows for some time but almost every day more slowly.

Novem mensibus quos homunculus transit in utero, acquirit,  
In the nine months which the homunculus passes in the womb, it acquires,  
staturam pedis cum semisse; spatio trium annorum,  
the stature of a foot with (and) a half; in the space of three years,  
scilicet, quadruplo istiûs temporis, infans adipiscitur alium  
that is, in the quadruple of that time, the infant acquires another  
pedem cum semisse; autem quindecim vel viginti annis mox sequentibus,  
foot and a half; but in the fifteen or twenty years next following,  
si creverit tamdiu, juvenis jam adeptus plenam staturam  
if it should grow so long, the youth having now attained its full stature

357. Hac vi omnes arteriæ, et quotquot cum iis connectuntur partes, totum scilicet corpus, centies et quinquagies millies quotidie aliquantum distenduntur, neque tanta solidis partibus corporis adhuc mollis et teneri vis resiliendi est, ut pristinum situm et molem statim recuperent: nova autem dum distenduntur apposita materia, non modo extenduntur, sed crescent usque, perpetuæque compressione induratæ, firmiores et validiores fiunt, et renituntur magis, ægrius in posterum extendendæ: præsertim quum vis ipsa quæ distendit non æque augeatur: præterea, ista vis majori

moli impensa, quamvis firmitas ejus eadem fuisset, eo minus valet, quod frictio omnis, et renixus a pondere partium quæ debent moveri, augeantur simul cum mole corporis.

358. Sic corpus aliquamdiu crescit, sed indies fere lentius. Novem mensibus quos in utero transit homunculus, staturam pedis cum semisse acquirit; trium annorum spatio, quadruplo scilicet istiûs temporis, infans alium pedem cum semisse adipiscitur; quindecim autem vel viginti annis mox sequentibus, si tamdiu creverit, juvenis plenam staturam jam adeptus vix ultra sex pedes habet.

vix habet ultra sex pedes.  
scarcely has beyond six feet.

859. Neque tamen omnes partes crescunt pariter; quædam formatae maturæ in fœtu, et jam adeptæ magnam molem quum infans prodit ex suis latebris, aut crescunt lentius in posterum aut plane minuuntur; dum bene multæ aliæ, thorax nimirum, et pulmones, et artus, præsertim inferiores, crescunt multum et subito et plus quam aliæ partes.

860. Sic variæ proportiones trunci corporis et artuum contingunt variis ætatibus; quod pictores et sculptores bene norunt; ita ut colossus centum pedes altus expresserit infantem trimestrem; et imago dimidium pollicem longa repræsentaverit adultum et procerum virum.

861. Caput imprimis in crudo fœtu tertia vel fortasse dimidia pars totius homunculi, in infante quinta vel sexta pars, in puero septima, in viro perfectissimæ formæ erit vix nona pars totius longitudinis. Vero quo citius quævis pars evolvitur per primam fabricationem corporis, et crescit in justam molem et formam, eo maturius adipiscitur tantam firmitatem et vim resiliendi ut recuset distendi amplius, et igitur dirigat cursum sanguinis versus alias partes renitentes minus, et

859. Neque tamen omnes partes crescunt pariter; quædam in fœtu mature formatae, et magnam, quum ex latebris suis prodit infans, molem jam adeptæ, aut lentius in posterum crescunt, aut plane minuuntur; dum aliæ bene multæ, thorax nimirum, et pulmones, et artus, præsertim inferiores, multum, et subito, et plus quam aliæ partes, crescunt.

860. Sic variæ trunci corporis et artuum proportionibus variis ætatibus contingunt; quod pictores et sculptores bene norunt, ita ut colossus centum pedes altus infantem trimestrem expresserit; et imago dimidium pollicem longa

virum adultum et procerum repræsentaverit.

861. Caput imprimis, in crudo fœtu tertia vel fortasse dimidia pars totius homunculi, in infante quinta vel sexta pars, in puero septima, in viro perfectissimæ formæ, vix nona pars totius longitudinis erit. Quo citius vero pars quævis per primam corporis fabricationem evolvitur, et crescit in justam molem et formam, eo maturius tantam firmitatem et vim resiliendi adipiscitur, ut amplius distendi recuset, et sanguinis cursum igitur dirigat alias partes versus minus renitentes, et aptiores dis-

aptiores distendi. Hinc, (ex aliquâ parte saltem,) (sup. sunt)  
*more suited to be distended. Hence, (in some part at least,)*  
 pubertas utriusque sexus, et aliquando mirum et subitum  
*the puberty of both sex, and sometimes the wonderful and sudden*  
 incrementum, imprimis artuum, eodem tempore quo superiores  
*increase, especially of the limbs, at the same time in which the upper*  
 partes, et præsertim caput, fere desinant crescere.  
*parts, and especially the head, almost cease to grow.*

862. Porro, corpus non statim crescit quoquoersum.  
*Moreover, the body does not immediately grow in every direction.*  
 Juvenis forsân adipiscitur justam et plenam staturam decimo octavo  
*The youth perhaps acquires a proper and complete height at the eighteenth*  
 vel vigesimo anno ætatis, sed adhuc gracilis, et dissimilis forma  
*or twentieth year of his age, but still slender, and unlike in shape*  
 adulto viro, et impar viribus. Vero paulatim adipiscitur  
*to the adult man, and unequal in strength. But gradually he attains*  
 aliud incrementum et aliam formam, et fit quadratus et  
*another growth and another shape, and becomes square and*  
 torosus, et habet ampliorem thoracem, et latiores humeros,  
*brawny, and has a more ample chest, and broader shoulders,*  
 grandiora ossa, et juncturas artuum validiores.  
*larger bones, and the joints of the limbs more powerful.*

863. Est verisimile singulas partes corporis crescere primo  
*It is probable that the individual parts of the body grow at first*  
 in longitudinem, quia distendens vis agit maxime secundum  
*in length, because the distending power acts chiefly according to*  
 axes vasorum, donec hæc, multum distenta et facta  
*the axes of the vessels, until they, greatly distended and rendered*  
 firmiora, renitantur magis que magis indies, neque patiantur  
*more firm, resist more and more every day, nor do they suffer*  
 se distendi amplius. Vero tum eadem distendens vis  
*themselves to be distended more. But then the same distending force*  
 diffunditur quoquoersum per ramos prodeuntes e magnis  
*is diffused in every direction through the branches proceeding from the great*  
 truncis, qui ipsi ideo extenduntur, que simul  
*trunks, which themselves therefore are extended, and at the same time*  
 extendunt partes cum quibus connectuntur.  
*extend the parts with which they are connected.*

864. Plurimæ aliæ res primâ ætate concurrunt, quæ multum  
*Very many other things at the first age concur, which greatly*  
 promovent incrementum corporis. Quædam abundantia sanguinis videtur  
*promote the growth of the body. A certain abundance of blood seems*

tendi. Hinc (aliqua saltem ex parte) pubertas utriusque sexus, et mirum aliquando et subitum incrementum, imprimis artuum, eodem tempore quo partes superiores, et caput præsertim, fere desinant crescere.

862. Porro, corpus non statim quoquoersum crescit. Justam et plenam staturam juvenis forsân adipiscitur decimo octavo vel vigesimo ætatis anno, sed gracilis adhuc, et forma adulto viro dissimilis, et viribus impar. Paulatim vero aliud incrementum, et aliam adipiscitur formam, et quadratus fit et torosus, et thoracem ampliorem, humeros latiores, ossa grandiora, juncturasque artuum validiores habet.

863. Verisimile est singulas partes corporis primo in longitudinem crescere, quia vis distendens secundum axes vasorum agit maxime, donec hæc multum distenta, et firmiora facta, magis magisque indies renitantur, neque amplius se patiantur distendi. Tum vero eadem vis distendens quoquoersum diffunditur per ramos e magnis truncis prodeuntes, qui ideo extenduntur ipsi, partesque quibuscum connectuntur extendunt simul.

864. Plurimæ aliæ res prima ætate concurrunt, quæ incrementum corporis multum promovent. Abundantia quædam sanguinis subesse videtur, minime profecto morbosa, quæ vasa

subesse, profecto minime morbosa, quæ probe impleat atque  
*to be present, indeed by no means morbid, which properly fills and*  
 distendat vasa vehentia sanguinem, præsertim arterias, quoniam  
*distends the vessels carrying blood, especially the arteries, since*  
 hac ætate venæ pollutæ multo majore vi quam arteriæ;  
*at this age the veins act with much greater power than the arteries;*  
 quin et, hæc abundantia sanguinis non modo distendit vasa, sed  
*moreover, this abundance of blood not only distends the vessels, but*  
 quoque suggerit plus nutrimenti quam, sine incremento, fuerit  
*also supplies more nourishment than, without growth, would be*  
 necessarium ad reparandum corpus; neque est dubium plerosque  
*necessary to repair the body; nor is it doubtful that most*  
 infantes fore plenissimos, nisi vel abundantia sanguinis  
*infants would be very full (plethoric), unless either the abundance of blood*  
 quam habent impenderetur huic usui, vel ipsi exercerent  
*which they have were applied to this use, or they themselves exercised*  
 semet plurimum; quippe qui sumant, pro ratâ parte, multo  
*themselves a great deal; as being who take, in proportion, much*  
 plus cibi quam adulti homines, et fere concoquant optime,  
*more food than adult persons, and generally digest excellently well,*  
 et dormiant multum, et existant laxi, et ideo proclives  
*and sleep much, and exist (are) lax, and on that account disposed*  
 ad plenitudinem.  
*to plethora.*

865. Et profecto quamvis ista plenitudo, dum pueri crescant,  
*And indeed although that plethora, while children are growing,*  
 minime noceat, dummodo fuerit non ingens, quamprimum desinunt  
*by no means hurts, provided it be not great, as soon as they cease*  
 crescere, sæpe prodit se manifestissimis signis, nec  
*to grow, it often shews itself by the most manifest symptoms, not*  
 raro, si adolescens fuerit debilioris constitutionis, inducit  
*unfrequently, if the young man should be of a weaker constitution, brings on*  
 gravissimos morbos.  
*very severe diseases.*

866. Aucta moles que aucta rigiditas universi corporis  
*The increased bulk and increased rigidity of the whole body*  
 imponunt finem incremento et imprimis arteriarum rigescentium  
*put an end to the increase, and first of all of the arteries becoming stiff*  
 perpetuâ actione et compressione, et firmitas ossium,  
*from the constant action and compression, and the firmness of the bones,*  
 et ut quidam clari auctores opinantur ingens renixus car-  
*and as some celebrated authors imagine the great resistance of the car-*

sanguinem vehentia probe impleat atque distendat, præsertim arterias, quoniam hac ætate venæ multo majore vi quam arteriæ pollutæ (454); quin et hæc abundantia sanguinis non modo vasa distendit, sed plus quoque nutrimenti suggerit, quam ad corpus sine incremento reparandum necessarium fuerit: neque dubium est plerosque infantes plenissimos fore, nisi vel huic usui impenderetur sanguinis abundantia quam habent, vel plurimum ipsi semet exercerent; quippe qui multo plus pro rata parte quam adulti homines cibi sumant, et optime fere concoquant, et multum dormiant, et laxi,

et ideo ad plenitudinem proclives, existant.

865. Et profecto, quamvis ista plenitudo, dum crescant pueri, minime noceat, dummodo non ingens fuerit, quamprimum desinunt crescere, manifestissimis signis sæpe se prodit, nec raro, si debilioris constitutionis adolescens fuerit, gravissimos morbos inducit.

866. Finem incremento imponunt aucta moles, auctaque rigiditas universi corporis, et imprimis arteriarum perpetua actione et compressione rigescentium, et firmitas ossium, et, ut clari quidam auctores opinantur, ingens renixus

tilaginum tegentium fines eorum, jam multum compressarum  
 tilages covering the extremities of them, now much compressed  
 (cartilaginum) ossibus, increscentibus neque tolerantium ulteriorem  
 by the bones, growing nor enduring farther  
 compressionem.  
 compression.

867. Demum, justo æquilibrio stabilito inter distendentem  
 At length, a proper equilibrium being established between the distending  
 vim et renixum, que inter arterias et venas, corpus  
 force and resistance, and - between the arteries and veins, the body  
 aliquamdiu neque crescit amplius, neque minuitur. Vero postea  
 for some time neither grows any more, nor is diminished. But afterwards  
 acquirit aliud minus verum nutrimentum, scilicet, plurimo  
 it acquires another less true (real) nourishment, namely, a great deal (of)  
 adipe secreto, et collecto sub cute, et in abdomine,  
 fat being secreted, and collected under the skin, and in the abdomen,  
 et inter musculos, ratio cuius jam est reddita  
 and between the muscles, the reason of which has already been given  
 suo loco.  
 in its proper place.

868. Vero corpus paulatim marcescit iterum, non modo adipe  
 But the body gradually emaciates again, not only by the fat  
 resumpto, sed fere omnibus partibus male  
 being taken up again (absorbed), but almost all the parts being badly  
 nutritis. Nimirum, omnes solidæ partes, et maximæ arteriæ, indies  
 nourished. Indeed, all the solid parts, and the large arteries, daily  
 rigescunt, et hæc quoque fiunt arctiores, et plurimæ  
 become rigid, and the latter also become more contracted, and many (of)  
 minores concluduntur penitus, et renixus ubique  
 the smaller ones are closed entirely, and the resistance every where (throughout)  
 corporis est major, et motus sanguinis languidior, et  
 of the body is greater, and the motion of the blood more languid, and  
 aliquatenus impeditus, et cor et arteriæ facta minus irritabilia,  
 somewhat impeded, and the heart and arteries become less irritable,  
 micant quoque lentius et debilius, et plus sanguinis æquo  
 pulsate also more slowly and weakly, and more of blood than proper  
 congeritur venis, minus in arteriis, et plurimæ functiones  
 is congested in the veins, less in the arteries, and most (of) the functions  
 impediuntur, et omnes vires deficient, et tota machina dilabatur  
 are impeded, and all the powers fail, and the whole machine decays  
 ab omni parte.  
 from every part.

cartilaginum fines eorum tegentium, jam multum crescentibus ossibus compressarum, neque ulteriorem compressionem tolerantium.

867. Justo demum inter vim distendentem et renixum, interque arterias et venas, æquilibrio stabilito, corpus aliquamdiu neque crescit amplius neque minuitur. Postea vero aliud minus verum nutrimentum acquirit, plurimo scilicet secreto et collecto adipe sub cute, et in abdomine, et inter musculos, cuius ratio suo loco jam reddita est (101, et seqq.)

868. Paulatim vero corpus marcescit iterum, non modo resumpto adipe, sed omnibus fere partibus male nutritis. Rigescunt indies nimirum omnes partes solidæ, et maximæ arteriæ, et hæc quoque arctiores fiunt, et plurimæ minores concluduntur, et renixus ubique corporis major est, et sanguinis motus languidior, et aliquatenus impeditus, et cor et arteriæ, minus irritabilia facta, lentius et debilius quoque micant, et plus æquo sanguinis in venis congeritur, minus in arteriis, et plurimæ functiones impediuntur, et vires omnes deficient, et tota machina ab omni parte dilabatur.

non modo resumpto adipe, sed omnibus fere partibus male nutritis. Rigescunt indies nimirum omnes partes solidæ, et maximæ arteriæ, et hæc quoque arctiores fiunt, et plurimæ minores concluduntur, et renixus ubique corporis major est, et sanguinis motus languidior, et aliquatenus impeditus, et cor et arteriæ, minus irritabilia facta, lentius et debilius quoque micant, et plus æquo sanguinis in venis congeritur, minus in arteriis, et plurimæ functiones impediuntur, et vires omnes deficient, et tota machina ab omni parte dilabatur.

869. Igitur, est non dubitandum quin vita ipsa, citius vel  
*Therefore, it is not to be doubted but that life itself, sooner or*  
 serius, foret causa mortis. Vero pauci absumuntur hac naturali  
*later, would be a cause of death. But few are taken off by this natural*  
 et inevitabili senili morte: enim innumeri morbi qui  
*and inevitable senile death: for the innumerable diseases which*  
 obsident semitam vitæ, semper rapuerunt maximam partem  
*beset the path of life, always have snatched away the greatest part*  
 humanæ gentis, ita ut vix quisque decimus compleverit  
*of the human race, so that scarcely every tenth person has completed*  
 septuaginta, vix quisque millesimus nonaginta annos; et longe  
*seventy, scarcely every thousandth ninety years; and by far*  
 maxima pars ex his qui attigerint senium fuerunt absumpti,  
*the greatest part of those who have reached old age have been taken away,*  
 non merâ senectute, sed variis morbis quibus illa ætas  
*not by mere old age, but by the various diseases to which that age*  
 facta est opportuna.  
*has been rendered liable.*

870. Motu sanguinis tandem languente, propter rigiditatem  
*The motion of the blood at length languishing, on account of the rigidity*  
 omnium solidarum partium, et torporem et debilitatem moventium  
*of all the solid parts, and the torpor and debility of the moving*  
 virium, que corde non amplius valente ad proprium munus,  
*powers, and the heart no longer availing for its proper function,*  
 motus sanguinis perit primo in extremis partibus corporis,  
*the motion of the blood ceases first in the extreme parts of the body,*  
 adhuc superstes in pectore, et trunco, et capite. Idem, jam  
*while yet remaining in the breast, and trunk, and head. The same, now*  
 deficiens in pulmone, inducit quandam anhelationem, et laboriosam  
*failing in the lungs, brings on a certain panting, and laborious*  
 respirationem, ad promovendum transitum sanguinis per pulmonem.  
*respiration, to promote the passage of the blood through the lungs.*  
 Hoc conatu tandem valente parum, que viribus penitus  
*This effort at length availing little, and the strength being entirely*  
 exhaustis, longa, plena exspiratio succedit, sua sponte, ultimæ  
*exhausted, a long, deep expiration succeeds, of its own accord, to the last*  
 inspirationi; que omnibus functionibus necessariis ad vitam simul  
*inspiration; and all the functions necessary to life at the same time*  
 cessantibus, hæc (sc. vita) facile, et sine convulsione, commutatur  
*ceasing, it easily, and without a struggle, is exchanged*  
 cum morte.  
*with (for) death.*

869. Non est igitur dubitandum, quin vita ipsa citius vel serius mortis causa foret. Pauci vero hæc naturali et inevitabili morte senili absumuntur: innumeri enim qui vitæ semitam obsident morbi, maximam gentis humanæ partem semper rapuerunt, ita ut vix decimus quisque septuaginta, vix millesimus quisque nonaginta annos compleverit; et ex his qui senium attigerint, longe maxima pars non mera senectute, sed variis, quibus ætas illa opportuna facta est, morbis absumpti fuerunt.

870. Languente tandem propter rigiditatem omnium partium solidarum, et torporem et debilitatem virium moventium, sanguinis motu,

cordeque non amplius ad proprium munus valente, sanguinis motus in partibus corporis extremis primo perit, in pectore, et trunco, et capite adhuc superstes. Idem in pulmone jam deficiens, anhelationem quandam, et respirationem laboriosam inducit (869), ad promovendum sanguinis transitum per pulmonem. Hoc tandem conatu parum valente, viribusque penitus exhaustis, ultimæ inspirationi, exspiratio longa, plena, sua sponte succedit; omnibusque functionibus ad vitam necessariis simul cessantibus, hæc facile et sine convulsione cum morte commutatur.

871. Autem varia genera mortis existunt, præter hanc senilem et  
*But various kinds of death exist, besides this senile and*  
 naturalem (sc. mortem), quæ est habenda fere rarissima omnium;  
*natural one, which is to be considered almost the rarest of all;*  
 nimirum causæ sunt variæ, et prope innumeræ, quæ possint  
*indeed the causes are various, and almost innumerable, which may*  
 corrumpere que tandem perducere ad finem machinam adeo delicatam  
*corrupt and at length bring to an end a machine so delicate*  
 atque compositam, et conservatam tot functionibus ac humanum  
*and complicated, and preserved by so many functions as the human*  
 corpus; præsertim quum variæ partes que functiones ejus ita  
*body; especially as the various parts and functions of it are so*  
 conjunguntur ut aliæ plane sustineantur ab aliis; et igitur  
*conjoined that some evidently are sustained by others; and therefore*  
 siquid mali acciderit cuivis earum, vires non solum ejus,  
*if any evil should happen to any of them, the powers not only of it,*  
 sed fortasse totius machinæ, collabuntur simul.  
*but perhaps of the whole machine, collapse at the same time.*

872. Vero neque res ipsa postulat, neque propositum hujus  
*But neither does the subject itself require, nor does the purpose of this*  
 operis sinit enumerare omnes causas istiusmodi. Fuerit sat  
*work permit to enumerate all the causes of this kind. It will be sufficient*  
 monuisse eas<sup>1</sup> esse numerosissimas, et instare ab omni parte;  
*to have advised that they are very numerous, and press on every side;*  
 plerumque, tamen, ( fortasse semper, nisi locus observandi  
*generally, however, ( perhaps always, unless an opportunity of observing*  
 plane desit, propter summam celeritatem mortis, )  
*be altogether wanting, on account of the very great quickness of death, )*  
 qualiscunque fuerit origo seu remotior causa mali,  
*whatever have been the origin or remoter cause of the disease,*  
 aliquam (sc. functionem) vitalium functionum, nempe, actionem  
*that some one of the vital functions, for instance, the action*  
 cerebri que nervorum, aut circuitum sanguinis, aut respirationem  
*of the brain and nerves, or the circulation of the blood, or the respiration*  
 impediri aut lædi, aut demum præter solitum affici aliquo  
*is impeded or injured, or indeed unusually affected in some*  
 modo, prius-quam vita penitus extinguatur. Vero quoniam artis  
*manner, before that life is entirely extinguished. But because a very*  
 simus nexus intercedit inter has functiones, ut jam exposi-  
*close connexion exists between those functions, as already has been*

871. Varia autem, præter hanc senilem et naturalem, quæ omnium fere rarissima habenda est (869), existunt mortis genera; variæ nimirum, et prope innumeræ causæ sunt, quæ machinam adeo delicatam atque compositam, totque functionibus conservatam ac corpus humanum; corrumpere possint, et tandem ad finem perducere; præsertim quum variæ ejus partes varietate functiones ita conjunguntur, ut aliæ ab aliis plane sustineantur; et igitur siquid cuivis earum acciderit mali, non ejus solum, sed totius fortasse machinæ vires simul collabuntur.

872. Omnes vero istiusmodi causas enumerare, neque res ipsa postulat, neque operis hujus propositum sinit. Sat fuerit monuisse eas numerosissimas esse, et ab omni parte instare; plerumque tamen (fortasse semper, nisi propter summam mortis celeritatem observandi locus plane desit), qualiscunque fuerit origo seu causa remotior mali, aliquam functionum vitalium, actionem nempe cerebri nervorumque, aut sanguinis circuitum, aut respirationem, prius impediri aut lædi, aut aliquo demum modo præter solitum affici, quam vita penitus extinguatur. Quoniam vero, ut jam expositum



tum est, unâ ve alterâ earum læsâ, omnes, plerumque,  
*explained, one or other of them being injured, all, for the most part,*  
 laborant simul.  
*suffer at the same time.*

873. Est quoque perspicuum, ex signis illarum functionum  
*It is also evident, from the signs of those functions*  
 deficientium, aut impeditarum, aut habentium se male  
*failing, or being impeded, or having themselves badly*  
 variis modis, medicum in plerisque morbis posse præscire  
*in various ways, that the physician in most diseases can foreknow*  
 periculum instans ægrotante, et vel prædicere  
*(foresee) the danger impending over the sick, and either predict*  
 mortem, si nulla spes superest, vel si læsio fuerit neque  
*death, if no hope remains, or if the lesion should be neither*  
 naturâ neque magnitudine prorsus insanabilis, tum, idoneis  
*in its nature nor extent utterly incurable, then, by suitable*  
 remediis adhibitis, revocare quasi miserum ex mortuis.  
*remedies being applied, recall as it were the wretched patient from the dead.*

874. Igitur, et decet et oportet medicum novisse signa  
*Therefore, it both becomes and behoves the physician to know the signs*  
 appropinquantis mortis; quæ quidem, licet variant haud parum  
*of approaching death; which indeed, although they may vary not a little*  
 in variis morbis, et sæpe sint incerta, non modo accidentia  
*in different diseases, and often are uncertain, not only (when) happening*  
 singula, sed plurima juncta simul, tamen, plerum-  
*single, but (when) many (are) joined together, nevertheless, for the most*  
 que, observantur in iisdem morbis, et satis constantia, et  
*part, they are observed in the same diseases, both sufficiently constant, and*  
 satis que super certa; præsertim si medicus attenderit  
*sufficiently and over certain; especially if the physician shall apply*  
 animum, non modo ad manifesta signa, sed  
*his mind (direct his attention), not only to the manifest signs, but*  
 simul, ad naturam et causam morbi, et conditionem  
*at the same time, to the nature and cause of the disease, and the condition*  
 ægri.  
*of the patient.*

875. Imprimis, igitur, ingens debilitas, tum subita tum  
*First of all, therefore, great debility, as well sudden as (that)*  
 usque augescens, ita ut æger possit neque movere neque  
*constantly increasing, so that the patient can neither move nor*  
 sustinere se in lecto ut solebat, neque demum loqui, neque  
*support himself in bed as he used, nor even speak, nor*

est, arctissimus has inter functiones intercedit  
 nexus (411, et seqq.), læsa una alterave earum,  
 omnes plerumque simul laborant.

873. Perspicuum quoque est ex signis illarum  
 functionum deficientium, aut impeditarum, aut  
 variis modis male se habentium, medicum in  
 plerisque morbis periculum ægrotanti instans  
 præscire posse, et vel mortem, si spes nulla  
 superest, prædicere, vel si læsio neque natura  
 neque magnitudine prorsus insanabilis fuerit,  
 tum idoneis adhibitis remediis miserum quasi  
 ex mortuis revocare.

874. Medicum igitur et decet et oportet signa

appropinquantis mortis novisse: quæ quidem  
 licet in variis morbis haud parum variant, et  
 non modo singula accidentia, sed plurima simul  
 juncta, sæpe incerta sint, tamen plerumque in  
 iisdem morbis et satis constantia observantur,  
 et satis superque certa; præsertim si non modo  
 ad signa manifesta, sed simul ad naturam et  
 causam morbi, et conditionem ægri, medicus  
 animum attenderit.

875. Imprimis igitur, ingens debilitas (380),  
 tum subita tum usque augescens, ita ut æger  
 neque se movere, neque sustinere ut solebat in  
 lecto, neque demum loqui, neque cibum sumere

sumere cibum, aut devorare, scilicet, maxillâ cadente, et propriâ  
*take food, or swallow, that is, from the jaw falling, and the proper*  
 vi gulæ pereunte; tremores, aut contractiones, aut convulsiones  
*power of the gullet perishing; tremors, or contractions, or convulsions*  
 musculorum aut artuum; defectus, vel amissio cuiusvis sensûs,  
*of the muscles or of the limbs; defect, or loss of any sense,*  
 sive externi sive interni, præsertim visûs vel tactûs; stupor,  
*whether external or internal, especially sight or touch; stupor,*  
 torpor, grave delirium, sunt mala signa in plerisque morbis, acutis  
*torpor, severe delirium, are bad signs in most diseases, acute*  
 pariter atque vetustis.  
*equally and chronic.*

876. Porro, pulsus arteriarum multum vitati, sive  
*Moreover, the pulsations of the arteries much vitiated, whether*  
 facti fuerint valde celeres sive tardi, sive præter modum validi, sive  
*they shall become very quick or slow, or unusually strong, or*  
 demum admodum debiles, et obscuri, et vix sentiendi, aut  
*indeed very weak, and obscure, and scarcely to be perceived, or*  
 abnormes et intermittentes, cum pallido et collapsio vultu,  
*irregular and intermitting, with a pallid and collapsed countenance,*  
 splendore oculorum extincto, artubus frigentibus, frigido et  
*the splendour of the eyes extinguished, the limbs becoming cold, cold and*  
 tenace sudore, spumâ circa os, et gravi anxietate,  
*tenacious (clammy) sweat, froth about the mouth, and great anxiety,*  
 plerumque ostendunt summum periculum, sæpe instantem mortem.  
*for the most part indicate the greatest danger, often impending death.*

877. Respiratio, quoque, imperfecta, difficilis, laboriosa, et  
*The respiration, also, (when) imperfect, difficult, laborious, and*  
 facta strepens, ubi organa respirationis non prius  
*become loud, when the organs of respiration had not previously*  
 laboraverant, est pessimum.  
*suffered, is very bad.*

878. Sæpe, etiam, in longis morbis, vero nonnunquam in acutis,  
*Often, also, in chronic diseases, but sometimes in acute,*  
 magna macies corporis, cadaverosus aspectus, et illa facies dicta  
*great emaciation of the body, a cadaverous aspect, and that face called*  
 Hippocratica, et in utroque genere morborum, insolitus fætor, et  
*Hippocratic, and in both kind of diseases, an unusual fetor, and*  
 tandem generalis putredo, observantur aliquamdiu ante mortem.  
*at length general putridity, are observed for some time before death.*

879. Hæc, quidem, et signa hujusmodi, accidunt in variis morbis,  
*These, indeed, and signs of this sort, happen in various diseases,*

aut devorare possit, cadente scilicet maxilla, et  
 vi propria gulæ pereunte; tremores, aut con-  
 tractiones, aut convulsiones musculorum aut  
 artuum; defectus vel amissio sensus cuiusvis,  
 sive externi sive interni, præsertim visus vel  
 tactus; stupor, torpor, delirium grave in ple-  
 risque morbis, acutis pariter atque vetustis,  
 mala signa sunt.

876. Porro, pulsus arteriarum multum vitati,  
 sive valde celeres sive tardi facti fuerint, sive  
 præter modum validi, sive demum, admodum  
 debiles, et obscuri, et vix sentiendi, aut abnor-  
 mes et intermittentes, cum vultu pallido et  
 collapsio, oculorum splendore extincto, artubus

frigentibus, sudore frigido et tenace, spuma  
 circa os, et gravi anxietate, plerumque summum  
 periculum, sæpe instantem mortem ostendunt.

877. Respiratio quoque imperfecta, difficilis,  
 laboriosa, et strepens facta, ubi prius organa  
 respirationis non laboraverant, pessimum est.

878. Sæpe etiam in longis morbis, nonnun-  
 quam vero in acutis, magna corporis macies,  
 aspectus cadaverosus, et facies illa Hippocratica  
 dicta, et in utroque genere morborum, fætor  
 insolitus, et tandem putredo generalis, ali-  
 quamdiu ante mortem observantur.

879. Hæc quidem et hujusmodi signa in variis  
 morbis accidunt, eorumque magnitudinem

que probe declarant magnitudinem atque periculum eorum. Vero  
*and thoroughly declare the extent and danger of them. But*  
 plurima alia, et longe diversa, ostendunt se in  
*a great many other, and far different (ones), shew themselves in*  
 aliis atque aliis generibus morborum, secundum naturam horum  
*different kinds of diseases, according to the nature of them*  
 que partes corporis quibus maxime incumbunt, que commonstrant,  
*and the parts of the body over which they most hang, and demonstrate,*  
 ab ipso initio, periculum, interdum, fortasse, insanabilem  
*from the very beginning, the danger, sometimes, perhaps, the incurable*  
 naturam eorum.  
*nature of them.*

880. Autem signa ipsa quæ habentur maxime infausta,  
*But the signs themselves which are considered most unfavourable,*  
 et plerumque lethalia, sæpe carent periculo, scilicet, cum  
*and for the most part deadly, often are free from danger, namely, when*  
 oriuntur a levibus aut fugacibus vel saltem facili medicabilibus causis :  
*they arise from slight or transient or at least easily remediable causes :*  
 veluti in *hysteriâ, asthmate, scorbuto, quibusdam intermittentibus febribus,*  
*as in hysteria, asthma, scurvy, some intermitting fevers,*  
 que multis aliis morbis.  
*and many other diseases.*

881. Causa mortis, saltem plena et proxima causa ejûs,  
*The cause of death, at least the full and proximate cause of it,*  
 debet semper esse eadem, nimirum quæ consistit in amissione  
*ought always to be the same, as being that which consists in the loss*  
 illius ignoti statûs nervosi generis, qui videtur efficere  
*of that unknown state of the nervous system, which seems to produce*  
 vitam, quatenus est corporea. Vero quoniam ille status est adhuc  
*life, so far as it is corporeal. But because that state is still*  
 prorsus ignotus, plane oportet plenam et proximam causam  
*altogether unknown, it evidently behoves that the full and proximate cause*  
 mortis, quæ est nihil aliud quam extinctio ejûs (sc. statûs), esse  
*of death, which is nothing else than the extinction of that, be*  
 pariter ignotam.  
*alike unknown.*

882. Quin et remotiores causæ mortis, nimirum, quales inducunt  
*Moreover the remoter causes of death, namely, such as bring on*  
 istum ignotum statum nervosi generis, intelliguntur vix melius  
*that unknown state of the nervous system, are understood scarcely better*  
 in longe plerisque exemplis; neque sane possunt detegi inspec-  
*in by far the most examples; nor indeed can they be detected by the inspec-*

atque periculum probe declarant. Plurima vero alia, et longe diversa, in aliis atque aliis morborum generibus, secundum horum naturam, partesque corporis quibus maxime incumbunt, se ostendunt, eorumque periculum, interdum fortasse insanabilem naturam, ab ipso initio commonstrant.

880. Ipsa autem signa (874) quæ maxime infausta, et plerumque lethalia habentur, periculo sæpe carent, scilicet cum a causis levibus aut fugacibus, vel saltem facile medicabilibus, oriuntur; veluti in *hysteria, asthmate, scorbuto*, febribus quibusdam intermittentibus, multisque aliis morbis.

881. Causa mortis, saltem plena et proxima ejus causa, debet esse semper eadem, nimirum quæ consistit in amissione illius ignoti status generis nervosi, qui vitam, quatenus corporea est, efficere videtur. Quoniam vero status ille adhuc prorsus ignotus est plenam et proximam mortis causam, quæ nihil aliud est quam ejus extinctio, pariter ignotam esse plane oportet.

882. Quia et causæ mortis remotiores, quales nimirum ignotum istum statum generis nervosi inducunt, in longe plerisque exemplis vix melius intelliguntur; neque sane inspectione cadaverum detegi possunt. Sæpe enim, ut videtur, vis generis nervosi deficit, cum fabrica

tionē cadaverum. Enim vis nervosi generis, ut videtur, of dead bodies. For the power of the nervous system, as it appears, sæpe deficit, cum fabrica ejus, quatenus facultas explorandi often fails, when the structure of it, so far as the power of examining aut scalpello aut nostris sensibus, data sit, manet sana et either by the scalpel or our senses, has been given, remains sound and integra. Exempla hujusmodi observantur quotidie, in corporibus eorum entire. Examples of this kind are observed daily, in the bodies of those qui fuerint extincti quibusdam febribus, aut multis aliis similibus morbis, who have been cut off by certain fevers, or many other similar diseases, aut paralyti, aut convulsionibus, aut gangrænâ, aut variis venenis, or paralysis, or convulsions, or gangrene, or various poisons, receptis vel in ventriculum, vel in pulmones, vel in sanguinem, received either into the stomach, or into the lungs, or into the blood, aut fulmine, aut gravibus affectibus animi, aut subitâ or by thunder (lightning), or severe affections of the mind, or by sudden morte, aut interdum, demum, externâ vi illatâ vel death, or sometimes, in a word, by external violence done either capiti vel ventriculo. to the head or stomach.

883. Haud raro, tamen, insignes lesiones vel cerebri Not unfrequently, however, remarkable lesions either of the brain ipsius, vel saltem alicujus partis nervosi generis, deteguntur in itself, or at least of some parts of the nervous system, are detected in cadaveribus, quæ vulgo, quamvis parum accurate, habentur dead bodies, which commonly, although no way accurately, are considered pro plena et proxima causa mortis; veluti si cervix aut calvaria as the full and proximate cause of death; as if the neck or skull fuerint fractæ, aut cerebrum compressum, ve aliter læsum, sive should be broken, or the brain compressed, or otherwise injured, whether a aliquâ parte calvariæ depressa, sive a sanguine, aut from some part of the skull being depressed, or from blood, or sero, aut pure, aut aquâ effusis in eodem (sc. cerebro), sive serum, or pus, or water being effused in the same, or a vasis tantum plus turgentibus æquo sanguine, ut from the vessels only being more turgid than proper with blood, as nonnunquam accidit in epilepsiâ, apoplexiâ, paralyti, hydrope, quibusdam sometimes occurs in epilepsy, apoplexy, paralysis, dropsy, certain febribus.

fevers.

884. Sæpe, quoque, impedimenta aliarum vitalium functionum, et Often, also, impediments of the other vital functions, and

ejus, quatenus aut scalpello aut sensibus nostris explorandi facultas data sit, sana et integra manet. Hujusmodi exempla quotidie observantur, in corporibus eorum qui febribus quibusdam, aut multis similibus morbis, aut paralyti, aut convulsionibus, aut gangrænâ, aut variis venenis, vel in ventriculum, vel in pulmones, vel in sanguinem receptis, aut fulmine, aut gravibus animi affectibus, aut subita morte, aut demum interdum vi externa vel capiti vel ventriculo illata, extincti fuerint.

883. Haud raro tamen læsiones insignes, vel ipsius cerebri, vel alicujus saltem partis generis

nervosi, in cadaveribus deteguntur, quæ vulgo, quamvis parum accurate, pro plena et proxima causa mortis habentur; veluti si cervix aut calvaria fractæ fuerint, aut cerebrum compressum, aliterve læsum, sive a depressa aliqua parte calvariæ, sive a tumoribus intra caput, sive a sanguine, aut sero, aut pure, aut aqua in eodem effusis, sive tantum a vasis sanguine plus æquo turgentibus, ut in epilepsia, apoplexia, paralyti, hydrope, febribus quibusdam, nonnunquam accidit.

884. Sæpe quoque impedimenta aliarum functionum vitalium, et interdum etiam insignes

interdum etiam insignes læsiones fabricæ partium quæ  
*sometimes even remarkable lesions of the structure of the parts which*  
 inserviunt iis deteguntur, et merito habentur pro causâ,  
*subserve to them are detected, and justly are considered as the cause,*  
 quamvis, ut jam expositum est, non proximâ causâ, mortis;  
*although, as already has been explained, not the proximate cause, of death;*  
 veluti cor, vel aliquod magnum vas ruptum, vel erosum, vel  
*as the heart, or some great vessel broken, or eroded, or*  
 obstructum, vel pulmones inflammati, vel impleti sanguine, aut sero,  
*obstructed, or the lungs inflamed, or filled with blood, or serum,*  
 aut muco, aut pure, aut aquâ, vel impediti tumoribus vici-  
*or mucus, or pus, or water, or impeded by tumours of the neigh-*  
 narum partium, aut plurimâ aquâ collectâ in pectore; et  
*bouring parts, or by a great deal (of) water collected in the chest; and*  
 similia.  
*the like.*

885. Sæpe, tamen, nulla læsio, aut nervosi generis, aut  
*Often, however, no lesion, either of the nervous system, or*  
 partium quæ inserviunt circuitui sanguinis, aut respirationi,  
*of the parts which subserves to the circulation of the blood, or respiration,*  
 potest detegi, sed tantum aliquod vitium naturalium functionum  
*can be detected, but only some disorder of the natural functions*  
 organorum, vel demum quædam labes, aut generalis suâ  
*of the organs, or in fine some blemish, either general in its*  
 naturâ, aut primo inficiens aliquam partem corporis, quamvis  
*nature, or at first infecting some part of the body, although*  
 paulatim corrumpens totum corpus; unde quædam functiones neces-  
*by degrees corrupting the whole system; whence certain functions neces-*  
 sariæ ad vitam impeditæ, valetudo labefacta ab omni parte,  
*sary to life (are) impeded, health impaired from every side,*  
 infirmitas indies augecens, et tandem inevitabilis mors.  
*infirmitly daily increasing, and at length inevitable death.*

886. Provida Natura curavit ut hæc ultima linea rerum  
*Provident Nature has taken care that this ultimate boundary of things*  
 non careret suâ formidine; neque consilium obscurum cur  
*should not want its own terror; nor (is) the design obscure why*  
 ita effinxerit mortalia pectora, ut commutemus omnino  
*she should so have formed mortal breasts, that we exchange altogether*  
 repugnanter hanc vitam, utcunque gravem et ærumnosam, cum  
*repugnantly this life, however irksome and laborious, with (for)*  
 aliâ et ignotâ (sc. vitâ). Vero mortales multum erraverunt, et  
*another and unknown. But mortals have greatly erred, and*

læsiones fabricæ partium quæ iis inserviunt, deteguntur, et merito pro causa, quamvis, ut jam expositum est, non proxima causa, mortis habentur; veluti cor vel vas aliquod magnum ruptum, vel erosum, vel obstructum, vel pulmones inflammati, vel sanguine, aut sero, aut muco, aut pure, aut aqua impleti, vel tumoribus vicinarum partium, aut plurima aqua in pectore collecta, impediti; et similia.

885. Sæpe tamen nulla, aut generis nervosi, aut partium quæ sanguinis circuitui aut respirationi inserviunt, detegi potest læsio, sed tantum vitium aliquod organorum functionum natura-

lium, vel demum, labes quædam, aut sua natura generalis, aut partem aliquam corporis primo inficiens, quamvis paulatim totum corpus corrumpens; unde quædam functiones ad vitam necessariæ (8, 9) impeditæ, valetudo ab omni parte labefacta, infirmitas indies augecens, et tandem mors inevitabilis.

886. Hæc ultima linea rerum provida Natura curavit, ut sua formidine non careret: neque obscurum consilium cur ita mortalia pectora effinxerit, ut repugnanter omnino hanc vitam, utcunque gravem et ærumnosam, cum aliâ et ignota commutemus. Multum vero erraverunt

male consulerunt sibi, qui intendere terrorem mortis,  
*have badly consulted for themselves, who have augmented the terror of death,*  
 persuadentes sibimet semper ferre secum illum gravissimum  
*persuading themselves that it always carries along with that most severe*  
 angorem, nec cuiquam unquam esse moriendum sine summo  
*anguish, nor that any one ever is to die without the greatest*  
 cruciatu. Quod profecto visum est magis verisimile hominibus,  
*torture. Which truly has seemed the more probable to men,*  
 eo quod immanes dolores aliquando necant, et moribundi sæpe  
*because very cruel pains sometimes kill, and dying persons often*  
 agitantur multum, et anhelant, et gemunt, et convelluntur,  
*are agitated a great deal, and pant, and groan, and are convulsed,*  
 non secus ac miseri cruciati gravibus doloribus.  
*in like manner as wretches tortured by grievous pains.*

887. Vero nihilominus, et ratio et observatio satis  
*But nevertheless, both reason and observation have sufficiently*  
 demonstrarunt nullum sensum moriendi unquam esse, que causas  
*demonstrated that no feeling of dying ever was, and that the causes*  
 quæ extinguant vitam, sæpe esse tales quales neque possint  
*which extinguish life, often were such as neither can*  
 dare dolorem, neque ullum sensum, que demum, conditionem  
*produce pain, nor any feeling, and in fine, that the condition*  
 corporis, plerumque diu antequam moribundus exhalaverit  
*of the body, generally for a long time before that the dying person exhaled*  
 animam, esse istiusmodi quæ auferat pariter et dolorem et  
*his life, was of that sort which takes away alike both pain and*  
 omnem sensum.  
*all feeling.*

888. Mors est placida, imprimis, illis qui absumuntur  
*Death is placid, in the first place, to those who are carried off*  
 senili morte. quæ sola potest dici naturalis:  
*by senile death (death of old age), which alone can be called natural:*  
 scilicet qui, nullâ vi adhibitâ quæ raperet e  
*as being who, no violence being applied which could hurry them from*  
 vivis, tamen desinunt vivere, ut matura poma sponte cadunt  
*the living (life,) nevertheless cease to live, as ripe apples spontaneously fall*  
 ex arboribus. Quin et, tantus stupor solet adesse in  
*from the trees. Moreover, so great a stupor is accustomed to be present in*  
 his, ut omnis sensus videatur fuisse sopitus et extinctus,  
*these, that all feeling seems to have been lulled and extinct,*  
 longe prius quam vita. Neque profecto aut videtur ulla  
*long before (that) life. Nor truly either does there seem any*

mortales, et male sibi consulerunt, qui terrorem mortis intendere, sibimet persuadentes gravissimum illum semper secum angorem ferre, nec sine summo cruciatu cuiquam unquam esse moriendum. Quod profecto eo magis verisimile hominibus visum est, quod immanes dolores aliquando necant, et moribundi sæpe agitantur multum, et anhelant, et gemunt et convelluntur, non secus ac miseri cruciati doloribus cruciati.

887. Nihilominus vero et ratio et observatio satis demonstrarunt, nullum unquam esse moriendi sensum, causasque quæ vitam extin-

quant tales sæpe esse, quales neque dolorem neque sensum ullum dare possint, corporisque demum conditionem, diu plerumque antequam animam exhalaverit moribundus, istiusmodi esse, quæ et dolorem et omnem sensum pariter auferat.

888. Illis imprimis qui morte senili, quæ sola naturalis dici potest, absumuntur, placida mors est: scilicet qui nullâ adhibitâ vi quæ e vivis raperet, tamen vivere desinunt, ut matura poma ex arboribus sponte cadunt. Quin et tantus in his stupor adesse solet, ut longe prius sensus omnis sopitus et extinctus fuisse vide-

causa doloris adesse in iis, aut ulla indicia doloris  
*cause of pain to be present in them, or are any indications of pain*

observantur inter moriendum.  
*observed while dying.*

889. Porro, causa lethi eorum quos varii morbi rapiunt  
*Moreover, the cause of the death of those whom various diseases hurry off*  
 ætate magis viridi, est fere eadem. Hi morbi,  
*at an age more green (earlier age), is almost the same. These diseases,*  
 puta febres que similes, sine dubio donec vires vitæ  
*for instance fevers and the like, without doubt while the powers of life*  
 et sensus supersunt integri, facessunt sat que super doloris  
*and the senses remain entire, cause sufficient and above of pain*  
 et molestiæ: sed quum jam est ventum ad extrema,  
*and trouble: but when now (once) it is come to the last (extremities),*  
 viribus fractis, et omni sensu fere deleto, neque  
*the strength being broken, and all feeling being almost destroyed, neither*  
 potest esse vehemens causa doloris, neque si fuerit, (potest)  
*can there be violent cause of pain, nor if there should be, (can it)*  
 excitare ullum dolorem, propter conditionem corporis.  
*excite any pain, on account of the condition of the body.*

890. Vero causa mortis sæpe est talis qualis non modo non  
*But the cause of death often is such as not only does not*  
 creet dolorem, sed plane sopiat que adimat omnem sensum.  
*cause pain, but altogether lulls and takes away all feeling.*  
 Sic sunt multi somniculosi morbi, in quibus ægri nunquam  
*But there are many drowsy diseases, in which the sick never*  
 conqueruntur de dolore, vix quidem de molestiâ. Syncope, quoque,  
*complain of pain, scarcely even of uneasiness. Syncope, also,*  
 est sæpe continuata morti, neque videtur adesse in alterutrâ  
*is often continued to death, nor does there seem to be in either*  
 aut dolor aut ullus sensus. Moriuntur quoque, interdum, somno  
*either pain or any sensibility. They die also, sometimes, the sleep*  
 non rupto, qui obdormiverant prorsus sani et vegeti.  
*not being broken, who had slept altogether sound and lively.*

891. Quin et, in iis exemplis in quibus mors est violentissima,  
*Moreover, in those examples in which death is most violent,*  
 sive causa ejus fuerit intus vel extrinsecus, summa  
*whether the cause of it be from within or without, the extreme*  
 celeritas mortis plane aufert omnem sensum moriendi.  
*rapidity of death altogether takes away all feeling of dying.*

892. Est satis perspicuum multos morbos, que alias causas  
*It is sufficiently evident that many diseases, and other causes*

atur quam vita. Neque profecto in iis aut  
 eansa ulla doloris adesse videtur, aut ulla ob-  
 servantur inter moriendum doloris iudicia.

889. Porro, eadem fere ratio est eorum lethi  
 quos magis viridi ætate varii morbi rapiunt.  
 Hi morbi, puta febres, similesque, sine dubio  
 donec vires vitæ et sensus integri supersunt,  
 sat superque doloris et molestiæ facessunt: sed  
 quum jam ad extrema ventum est, fractis viri-  
 bus, et deleto fere omni sensu, neque causa  
 doloris vehemens esse potest, neque si fuerit,  
 propter corporis conditionem, dolorem ullum  
 excitare.

890. Causa vero mortis sæpe talis est, qualis

non modo non creet dolorem, sed sensum om-  
 nem plane sopiat adimatque. Sic multi sunt  
 morbi somniculosi, in quibus ægri nunquam  
 de dolore, vix quidem de molestia, conquerun-  
 tur. Syncope quoque sæpe morti continuata  
 est, neque in alterutra aut dolor, aut sensus  
 nullus, adesse videtur. Moriuntur quoque in-  
 terdum non rupto somno, qui sani prorsus  
 et vegeti obdormiverant.

891. Quin et in iis exemplis in quibus mors  
 violentissima est, sive intus sive extrinsecus  
 ejus causa fuerit, summa mortis celeritas om-  
 nem moriendi sensum plane aufert.

892. Satis perspicuum est, multos morbos,

mortis, facessere insignem dolorem, et molestiam, et anxietatem :  
*of death, cause remarkable pain, and uneasiness, and anxiety :*  
 veluti si magnâ vis fuerit illata sentienti parti, aut  
*as when great violence has been done to a sentient part, or*  
 inflammatio oborta, vel denique, si aliquæ actiones necessaria  
*inflammation has arisen, or in fine, when some (of the) actions necessary*  
 ad vitam impeditæ fuerint, quod sæpe fit a merâ debilitate.  
*to life have been impeded, which often arises from mere debility.*

Neque profecto est negandum, multos hoc modo scivisse  
*Nor indeed is it to be denied, that many in this way have known (per-*  
 mortem instantem sibimet, et igitur comiter  
*ceived) death impending upon themselves, and therefore courteously*  
 valedixisse amicis et astantibus, in fere articulo  
*have bidden adieu to their friends and the bystanders, in almost the moment*  
 ipso mortis. Vero est semper tenendum memoriâ, talem  
*itself of death. But it is always to be kept in mind, that such*  
 molestum sensum adesse inter vivendum, non inter moriendum,  
*troublesome feeling was present while living, not during dying,*  
 que eundem fere desinere, et extingui, priusquam  
*and that the same generally ceased, and was extinguished, before that*  
 moribundus efflet animam. Igitur, ad summam ut videtur,  
*the dying person breathes out his life. Therefore, on the whole as it seems,*  
 morimur non secus ac linquimur animo, aut corripimur convulsionibus,  
*we die in like manner as we faint, or are seized with convulsions,*  
 sine dolore, aut sane ullo sensu, quamvis variæ causæ, quæ  
*without pain, or indeed any feeling, although various causes, which*  
 possint cruciare plurimum, sæpe perducant eo.  
*may torture a great deal, often may conduct (us) thither.*

893. Forsitan videbitur, primo aspectu, ridiculum provocare ad  
*Perhaps it will seem, at first sight, ridiculous to appeal to*  
 testimonium de tali re, sed multa exempla extiterunt  
*testimony upon such a subject, but many examples have existed*  
 hominum reducum in vitam, postquam fuissent pene tam  
*of persons brought back to life, after that they had been almost so*  
 exanimes, plurimis et admodum diversis generibus mortis, ut  
*lifeless, by many and very different kinds of death, that*  
 neque exhibent ulla indicia vitæ, neque esset credibile  
*neither did they exhibit any signs of life, nor was it credible (probable)*  
 ullum sensum fuisse superstitem. Vero nulla memoria gravis  
*that any feeling had been left. But no recollection of severe*  
 doloris, aut sensus molestiæ, solet esse talibus hominibus,  
*pain, or of sense of uneasiness, is accustomed to be in such persons,*

aliasque mortis causas, insignem dolorem, et molestiam, et anxietatem facessere; veluti si magna vis parti sentienti illata fuerit, aut inflammatio oborta, vel denique, si actiones aliquæ ad vitam necessariæ impeditæ fuerint, quod a mera debilitate sæpe fit. Neque profecto est negandum, multos hoc modo mortem sibimet instantem scivisse, et igitur amicis et astantibus in ipso fere mortis articulo comiter valedixisse. Semper vero memoria tenendum est, talem molestum sensum inter vivendum, non inter moriendum, adesse, eundemque fere prius desinere et extingui quam animam mori-

bundus efflet. Ad summam igitur, ut videtur morimur, non secus ac animo linquimur, aut convulsionibus corripimur, sine dolore, aut sane sensu ullo, quamvis eo sæpe perducant variæ causæ quæ plurimum cruciare possint.

893. Ridiculum forsitan primo aspectu videbitur, ad testimonium tali de re provocare; sed multa extiterunt exempla hominum in vitam reducum postquam tam pene exanimes fuissent, plurimis et admodum diversis mortis generibus, ut neque ulla vitæ indicia exhiberent, neque credibile esset sensum ullum superstitem fuisse. Talibus vero hominibus nulle



ne quidem cum fuissent agitati vehementissimis convulsionibus.  
*not even when they had been agitated by the most violent convulsions.*

Igitur, pulchra sententia clari et elegantis auctoris,  
*Therefore, the beautiful opinion of a celebrated and elegant author,*  
 rationem initium et finis vivendi, quod ad sensum, esse  
*that the manner of the beginning and end of living, as to feeling, is*  
 eandem, videtur minime absurda, neque, quantum recordamur,  
*the same, seems by no means absurd, nor, so far as we recollect,*  
 voluptatem necessario conjungi cum altero, neque, quantum novimus,  
*that pleasure is necessarily conjoined with the one, nor, so far as we know,*  
 aut possumus conjicere, dolorem cum altero.  
*or can conjecture, pain with the other.*

894. Animâ efflatâ, totum cadaver friget, riget,  
*The life being breathed out, the entire dead body grows cold, stiffens,*  
 putrescit, et brevi solvitur in pristina elementa.  
*putrefies, and quickly is resolved into its former elements.*

895. Homo, utcumque solcat conqueri de brevitate  
*Man, however he may be accustomed to complain of the shortness*  
 vitæ, comparatus cum aliis animalibus est habendus longævus.  
*of life, compared with other animals is to be considered long lived.*

Quamvis plurimum hic pendeat a primâ atque congenitâ fabricâ  
*Although a great deal here depends upon the first and congenital structure*  
 et constitutione corporis, nondum plene intellectis, mollior compago  
*and constitution of the body, not yet fully understood, a softer texture*  
 totiûs corporis rigescens tardius, crescens diu, et  
*of the whole system becomes rigid more slowly, growing for a long time, and*  
 perducta sero ad justam formam, quoque potest conferre multum.  
*brought late to the due shape, also may contribute much.*

896. Est verisimile molliores et laxiores homines, modo  
*It is probable that more soft and more lax persons, provided*  
 fuerint sani, vivere diutius, et senescere tardius quam firmiores  
*they be healthy, live longer, and grow old more slowly than firmer*  
 et validiores; cuius rei plurima exempla exstiterè.  
*and stronger (persons); of which thing a great many examples have existed*

Vero adhuc erit opus plurimis aliis, priusquam liceat  
*But still there will be need of a great many others, before that we can*  
 (sc. nobis) stabilire hanc sententiam. Autem satis constat,  
*establish this opinion. But it is sufficiently established,*  
 vetulas, si modo feliciter superaverint ætatem quâ  
*that old women, provided happily they should get over the age in which*  
 menses solent desinere, vivere diutius et sanius quam  
*the menses are accustomed to cease, live longer and more healthily than*

solet esse memoria gravis doloris aut molestiæ  
 sensus, ne quidem cum vehementissimis convulsionibus agitati fuissent. Minime igitur  
 absurda videtur pulchra clari et elegantis auctoris sententia, initii et finis vivendi eandem  
 quod ad sensum rationem esse neque cum altero voluptatem quantum recordamur, neque  
 cum altero dolorem quantum novimus, aut conjicere possumus, necessario conjungi.

894. Efflata anima, cadaver friget totum,  
 riget, putrescit, et brevi in pristina elementa solvitur.

895. Homo, utcumque de brevitate vitæ conqueri solet, cum aliis animalibus comparatus,

longævus habendus est. Quamvis plurimum  
 hic pendeat a primâ atque congenita corporis  
 fabrica et constitutione, nondum plene intellectis,  
 multum quoque conferre potest mollior  
 totius corporis compago, tardius rigescens,  
 diu crescens, et sero ad justam formam perducta.

896. Verisimile est, molliores et laxiores  
 homines, modo sani fuerint, quam firmiores  
 et validiores diutius vivere, et tardius senescere;  
 cuius rei plurima exempla exstiterè. Plurimis  
 vero aliis adhuc opus erit, priusquam hanc  
 sententiam stabilire liceat. Satis autem constat,  
 vetulas, si modo ætatem qua menses so-

senes, et frui viribus mentis minus imminutis; eum  
*old men, and enjoy the powers of the mind less impaired; for*  
 videtur probabile rationem senilis desipientiæ et mortis  
*it seems probable that the explanation of senile dotage and death*  
 esse fere eandem.  
*is nearly the same.*

897. Etiam constat, satis que super, durum et perpetuum  
*Also it is established, sufficiently and above, that hard and constant*  
 laborem, quall magna pars hominum quærent victum  
*labour, by such as a great proportion of persons seek food*  
 sibi que suis, quamvis tueatur a multis  
*for themselves and their (families), although it may protect from many*  
 morbis, festinare senectutem, et ideo inducere præmaturam  
*diseases, hastens old age, and consequently brings on premature*  
 mortem. Enim optimates et divites, quamvis debilitati luxu  
*death. For the nobility and the rich, although debilitated by luxury*  
 et ignaviâ, et sæpe fracti multis morbis, tamen  
*and idleness, and often broken down by many diseases, notwithstanding*  
 senescunt tardius, et igitur vivunt diutius quam inopes artifices  
*grow old more slowly, and therefore live longer than needy artificers*  
 atque agricolæ, quibus angustæ res domi satis per-  
*and peasants, to whom their straitened circumstances had sufficiently per-*  
 suaserant temperantiam et laborem.  
*sueded temperance and labour.*

898. Spatium vitæ hominis, post diluvium Noachi, videtur  
*The duration of the life of man, after the deluge of Noah, appears*  
 fuisse fere idem ubique orbis terrarum. Exempla  
*to have been nearly the same every where on the globe of the earth. Instances*  
 hominum qui compleverint centum annos, (sunt) rarissima; et  
*of persons who have completed a hundred years, are very rare; and*  
 humana memoria potest vix recordari unum ve alterum  
*human memory can scarcely remember one or another (two)*  
 exemplum vitæ protractæ ad centum et quinquaginta annos.  
*example(s) of life prolonged to a hundred and fifty years.*

899. Nonnulli habent prærogativam diuturnitatis vitæ ab naturâ  
*Some have the prerogative of length of life from nature*  
 ipsâ, et primâ et congenitâ fabricatione corporis; scilicet  
*itself, and the original and congenital construction of the body; as being that*  
 quæ sæpe est hæreditaria, et in quibusdam familiis fere constans.  
*which often is hereditary, and in certain families almost constant.*  
 Alii, naturâ debiles et morbosi, vel fracti intemperantiâ,  
*Others, by nature weak and diseased, or broken down by intemperance,*

lent desinere feliciter superaverint, diutius et  
 sanius vivere quam senes, et mentis viribus  
 minus imminutis frui: probabile enim videtur,  
 desipientiæ et mortis senilis eandem fere rationem  
 esse (303).

897. Satis superque etiam constat, durum et  
 perpetuum laborem, quali magna pars homi-  
 num sibi suisque victum quærent, quamvis a  
 multis morbis tueatur, senectutem festinare,  
 et ideo mortem præmaturam inducere. Opti-  
 mates enim et divites, quamvis luxu et ignavia  
 debilitati, et multis sæpe morbis fracti, tamen  
 tardius senescunt, et igitur diutius vivunt,  
 quam inopes artifices atque agricolæ, quibus

res angustæ domi temperantiam et laborem  
 satis persuaserant.

898. Vitæ hominis spatium, post diluvium  
 Noachi, idem fere videtur fuisse ubique terra-  
 rum orbis. Rarissima hominum exempla qui  
 centum annos compleverint: et vix unum al-  
 terumve exemplum humana potest memoria re-  
 cordari vitæ ad centum et quinquaginta annos  
 protractæ.

899. Nonnulli diuturnitatis vitæ præroga-  
 tivam ab ipsa natura, et primâ et congenita  
 corporis fabricatione, habent; scilicet quæ  
 sæpe hæreditaria est, et in quibusdam familiis  
 fere constans. Alii, natura debiles et morbosi,  
 6

et parum idoneo genere vitæ, sæpe compararunt sibi  
*and no way suitable mode of life, often have acquired for themselves*  
 novam et meliorem constitutionem corporis, et interdum protraxerunt  
*a new and better constitution of body, and sometimes have protracted*  
 vitam ultra solitos limites, perpetuâ curâ, solitudine, et tem-  
*life beyond the usual limits, by incessant care, solicitude, and tem-*  
 perantiâ: cujus rei Cornaro exstat eximium exemplum et  
*perance: of which thing Cornaro is a signal instance and*  
 documentum.  
*document.*

900. Mens quoque læta, et bene recta, et leniter excitata,  
*The mind also cheerful, and well governed, and gently excited,*  
 modicis et gratis affectibus, lacerata neque intensioribus  
*by moderate and agreeable affections, distracted neither by the more intense*  
 studiis, neque gravibus curis, neque miseris tumultibus, videtur  
*studies, nor oppressive cares, nor wretched tumults, seems*  
 conferre haud parum ad diuturnitatem vitæ.  
*to conduce not a little to length of life.*

901. Quamvis sit non credibile remedium unquam repertum iri  
*Although it be not credible that a remedy ever will be found out*  
 quod revocaverit juventutem præteritam, tamen videtur satis  
*which will recall youth (when) passed by, notwithstanding it seems very*  
 verisimile, quædam remedia posse afferre moram senectuti, que  
*probable, that some remedies may bring delay (to) old age, and*  
 sublevare mala ejus, et reddere vitam suaviorem, et forsan  
*relieve the disorders of it, and render life more agreeable, and perhaps*  
 protrahere nonnihil; scilicet, victum satis nutrientem, et facilem  
*prolong (it) somewhat; that is, food tolerably nutritious, and easy*  
 concoctu, modicam exercitationem, aliquantum generosi potus, et  
*to be digested, moderate exercise, some little of generous drink, and*  
 nonnulla remedia quæ laxant corpus, imprimis calidum aëra, et aliquando  
*some remedies which relax the body, especially warm air, and sometimes*  
 balneum. Victus et genus vitæ hujusmodi, nutrit corpus, et  
*the bath. A diet and mode of life of this sort, nourishes the body, and*  
 non onerat, grate excitat que alit nervosum genus, juvat  
*does not burthen it, gratefully excites and supports the nervous system, assists*  
 motum sanguinis jam languentem, promovet secretiones, et reddit  
*the motion of the blood when languid, promotes the secretions, and renders*  
 omnes solidas partes molliores et mobiliiores et magis sentientes.  
*all the solid parts softer both more mobile and more sentient.*

902. Statura quoque hominum, non secus ac diuturnitas vitæ  
*The stature also of men, in like manner as the length of life*

vel intemperantia, et vitæ genere parum idoneo, fracti, perpetua cura, et solitudine, et temperantia, sæpe novam et meliorem constitutionem corporis sibi compararunt, et vitam ultra solitos limites interdum protraxerunt: cujus rei eximium Cornaro exemplum et documentum exstat.

900. Mens quoque læta, et bene recta, et modicis et gratis affectibus leniter excitata, neque studiis intensioribus, neque gravibus curis, neque miseris tumultibus, lacerata, ad vitæ diuturnitatem haud parum conferre videtur.

901. Quamvis non sit credibile remedium unquam repertum iri quod juventutem præteritam

revocaverit, tamen satis verisimile videtur, quædam remedia senectuti moram afferre posse, ejusque mala sublevare, et vitam suaviorem reddere, et nonnihil forsan protrahere; victum scilicet satis nutrientem et concoctu facilem, exercitationem modicam, aliquantum potus generosi, et remedia nonnulla quæ laxant corpus, aëra imprimis calidum, et balneum aliquando. Hujusmodi victus et vitæ genus nutrit corpus, et non onerat, genus nervosum grate excitat alitque, sanguinis motum jam languentem juvat, secretiones promovet, et omnes solidas partes molliores, et mobiliiores, et magis sentientes, reddit.

videtur semper et ubique fuisse fere eadem, nisi in nonnullis  
*seems always and every where to have been nearly the same, except in some*  
 frigidissimis regionibus quas aliud et brevius genus  
*very cold climates which another (different) and shorter race*  
 hominum habitat. Adhuc parum constat de gigantibus Patagoniæ;  
*of men inhabits. As yet it is not determined concerning the giants of Patagonia;*  
 vero est non dubium, quosdam (homines) tantum excedere solitam  
*but it is not doubtful, that some individuals so far exceed the ordinary*  
 magnitudinem hominum, ut appellentur non immerito gigantes;  
*size of men, that they may be called not undeservedly giants;*  
 vero hi raro observantur bene formati, et sæpe debiles et  
*but these seldom are observed well formed, and often weak and*  
 hebetes et parum apti ad varias exercitationes corporis et  
*dull and no way fitted for the various exercises of the body and*  
 labores. Quin et potest demonstrari ex mathematicis principiis  
*labours. Moreover it may be demonstrated from mathematical principles*  
 gigantem, qui multum excederet solitam staturam hominum,  
*that a giant, who greatly exceeded the ordinary stature of men,*  
 dummodo esset factus ex eadem materiâ ac alii homines,  
*provided he were made of the same matter as other men,*  
 fore penitus inhabilem, que tracturum (esse) ægre  
*would be wholly unwieldy, and would drag with difficulty*  
 proprium corpus.  
*his own body.*

903. Nani quoque spectantur aliquando, qui attigerint vix  
*Dwarfs also are seen sometimes, who have reached scarcely*  
 dimidiam vel sane tertiam partem justæ magnitudinis. Autem  
*the half or indeed the third part of the due size. But*  
 hi fere sunt deformes, sæpe gibbosi, aut instructi ingente  
*these mostly are deformed, often humped, or furnished with a large*  
 capite, raro fœcundi, nunquam daturi (sint) gentem nanorum.  
*head, rarely fruitful, never would produce a nation of dwarfs.*  
 Aliquis morbus videtur plerumque fuisse causa, cur tales  
*Some disease seems for the most part to have been the cause, why such*  
 nani vel non crescerent solito more, vel forsitan decrescerent  
*dwarfs either did not grow in the usual way, or perhaps decreased*  
 postquam crevissent aliquantum.  
*after that they had grown a little.*

904. Tamen statura variat nonnihil apud diversas gentes, et  
*However the stature varies somewhat among different nations, and*  
 adhuc magis in singulis hominibus; ita ut differentia pedis et  
*still more in individual men; so that a difference of a foot and*

902. Statura quoque hominum, non secus ac vitæ diuturnitas, eadem fere videtur semper et ubique fuisse, nisi in regionibus nonnullis frigidissimis, quas aliud et brevius genus hominum habitat. Parum adhuc constat de gigantibus Patagoniæ; non dubium vero est, quosdam solitam hominum magnitudinem tantum excedere, ut non immerito Gigantes appellentur; hi vero raro bene formati observantur, et sæpe debiles, et hebetes, et ad varias corporis exercitationes et labores parum apti. Quin et ex principiis mathematicis demonstrari potest, gigantem, qui solitam hominum staturam multum excederet, dummodo ex eadem factus

esset materia ac alii homines, penitus inhabilem fore, propriumque corpus ægre tracturum.

903. Nani quoque aliquando spectantur, qui vix dimidiam, vel sane tertiam partem, justæ magnitudinis attigerint. Hi autem deformes fere sunt, gibbosi sæpe, aut ingente capite instructi, raro fœcundi, nunquam gentem nanorum daturi. Morbus aliquis plerumque causa fuisse videtur, cur tales nani vel non crescerent more solito, vel forsitan decrescerent, postquam aliquantum crevissent.

904. Variat tamen nonnihil statura apud diversas gentes, et magis adhuc in singulis hominibus; ita ut differentia pedis et amplius

amplius observetur inter bene formatos homines; neque sane  
*more may be observed between well formed men; nor indeed*  
 vis et robur corporis pendent multum a magnitudine ejus.  
*do power and strength of body depend much upon the size of it.*  
 Proceritas observatur fere perpetua in quibusdam familiis; igitur  
*Tallness is observed almost constant in certain families; therefore*  
 oportet sæpe pendere a primâ et hæreditariâ  
*it behoves (must) often (that it) depend upon the first and hereditary*  
 fabricâ et constitutione corporis. Viri in universum sunt haud  
*structure and constitution of the body. Men in general are not*  
 parum proceriores quam fœminæ et habent longe diversam  
*a little (much) taller than women and have a far different*  
 formam. Cætera animalia crescunt vel minuuntur multum  
*shape. Other animals increase or are diminished a great deal*  
 paucis generationibus, prout cibus abundaverit vel defecerit.  
*in a few generations, according as the food shall abound or be deficient.*  
 Homo quoque experitur nonnihil hujusmodi, quamvis haud tantum  
*Man also experiences something of this sort, although not so much*  
 ac belluæ.  
*as brutes.*

905. Opinio fortasse primo aspectu videbitur absurda, istas  
*The opinion perhaps at first sight will appear absurd, that those*

mutationes, quas corpus subit variis ætatibus, esse causas  
*changes, which the body undergoes at different ages, are the causes*  
 morborum, præsertim quum fere omnia animalia, et etiam multi  
*of diseases, especially as almost all animals, and even many*  
 homines vivant sani omni tempore, et alia sanitas  
*men live healthy the whole time, and a different health*  
 non secus ac alia facies debeat esse infanti, alia  
*in like manner as a different face ought to be to the infant, different*  
 viro, alia seni.  
*to the man, different to the old man.*

906. Verum enimvero est non eo minus certum plurimos  
*But truly it is not the less certain that very many*

morbos infestare certa tempora vitæ, que eos pendere a  
*diseases infest certain periods of life, and that they depend upon*  
 statu corporis, tum deflectentis nonnihil a perfectissimâ sanitate,  
*the state of the body, then deviating somewhat from the most perfect health,*  
 et facti proclivis ad quosdam morbos; ita ut, dum anni  
*and become prone to certain diseases; so that, while the years*  
 labuntur et corpus mutatur aliâ atque aliâ ratione, proclivitate ad  
*glide on and the body is changed in different ways, the tendency to*

inter bene formatos homines observetur: neque sane vis et robur corporis a magnitudine ejus multum pendent. Proceritas in quibusdam familiis fere perpetua observatur; sæpe igitur pendere oportet a prima et hæreditaria corporis fabrica et constitutione. Viri in universum quam fœminæ haud parum proceriores sunt, et longe diversam formam dabant. Cætera animalia paucis generationibus crescunt vel minuuntur multum, prout cibus abundaverit vel defecerit. Homo quoque nonnihil hujusmodi experitur, quamvis haud tantum ac belluæ.

bitur opinio, mutationes istas, quas variis ætatibus corpus subit, morborum causas esse, præsertim quum animalia fere omnia, et multi etiam homines, sani omni tempore vivant, et alia sanitas infanti, non secus ac alia facies, alia viro, alia seni, esse debeat. 906. Verum enimvero non eo minus certum est, plurimos morbos certa tantum vitæ tempora infestare (51), eosque a statu corporis, tum nonnihil a perfectissima sanitate deflectentis, et ad quosdam morbos proclivis facti, pendere: ita ut, dum anni labuntur, et corpus alia atque alia ratione mutatur, proclivitate ad quosdam morbos correctæ vel penitus deletæ

905. Primo fortasse aspectu absurda vide-

quosdam morbos correctâ, vel penitus deletâ, aut vivatur  
*certain diseases being corrected, or entirely destroyed, either it is lived*  
 sane (impersonal) aut novi morbi et contrarii prioribus accedant.  
*healthily or new diseases and contrary to the former come on.*

907. Foret difficillimum indicare omnes res quæ  
*It would be very difficult to point out all the things which*  
 reddant corpus opportunum tot diversis morbis variis  
*render the body liable to so many different diseases at the various*  
 temporibus vitæ. Fuerit sat memorasse istas mutationes,  
*periods of life. It will be sufficient to have related that those changes,*  
 que morbos igitur qui profluunt ex iis (sc. mutationibus) referri non  
*and diseases therefore which proceed from them were referred not*  
 inepte ad certa capita; scilicet ad statum universæ  
*improperly to certain heads; that is to the condition of the whole*  
 compagis solidarum partium mollioris, aut firmioris justo,  
*frame of the solid parts (being) softer, or firmer than proper,*  
 ad statum nervosi generis sentientis nimis, vel nimis parum, aut  
*to the state of the nervous system feeling too much, or too little, or*  
 mobilis, debilis aut validi, ad statum circuitûs sanguinis liberi  
*mobile, weak or strong, to the state of the circulation of the blood free*  
 aut impediti, languidi, aut vehementis, æquabilis, aut abnormis, ad  
*or impeded, languid, or vehement, equable, or irregular, to*  
 statum secretionum et excretionum copiosarum, vel deficientium  
*the state of the secretions and excretions (being) more copious, or deficient*  
 et impeditarum, et denique ad statum quarundam partium quæ  
*and impeded, and lastly to the state of certain parts, which*  
 evolvuntur certo tempore, et agunt aliquamdiu et tandem  
*are evolved at a certain time, and act for some time and at length*  
 desinunt agere. Conditio humorum quoque videtur conferre  
*cease to act. The condition of the fluids also seems to contribute*  
 nonnihil ad varios morbos singularum ætatum, qui (humores)  
*something to the various diseases of the individual ages, which*  
 variant multum copiâ, crassitudine, acrimoniâ.  
*vary greatly in quantity, thickness, acrimony.*

908. Sic infantes, quibus sunt (pro habent) omnes solidæ partes mollissimæ  
*Thus infants, who have all the solid parts very soft,*  
 et debiles, et nervosum genus valde irritabile, et distributio  
*and weak, and the nervous system very irritable, and the distribution*  
 sanguinis liberrima, et secretiones et excretiones copiosissimæ, sæpe fiunt  
*of the blood being free, and the secretions and excretions very copious, often become*  
 deformes, sæpe plectuntur herniâ varii generis, aut prolapsu,  
*deformed, often are attacked with hernia of various kinds, or prolapsus,*

aut sane vivatur, aut novi accedant, et prioribus contrarii, morbi.

907. Difficillimum foret indicare res omnes quæ variis vitæ temporibus corpus tot diversis morbis opportunum reddant. Sat fuerit memorasse, istas mutationes, morbosque igitur qui ex iis profluunt, ad certa capita non inepte referri: scilicet ad statum universæ compagis (75, 91) partium solidarum, mollioris, aut firmioris justo, ad statum generis nervosi (109, et seqq.) nimis, vel nimis parum sentientis aut mobilis, debilis aut validi (370, et seqq.), ad statum circuitûs sanguinis, liberi aut impediti, languidi aut vehementis, æqua-

bilis aut abnormis (443, et seqq.), ad statum secretionum et excretionum, copiosarum, vel deficientium et impeditarum (707, et seqq.), et denique ad statum quarundam partium quæ certo tempore evolvuntur, et agunt aliquamdiu, et tandem desinunt agere (757, et seqq.) Nonnihil quoque ad varios singularum ætatum morbos conferre videtur conditio humorum, qui multum variant copia, crassitudine, acrimonia (62, et seqq.)

908. Sic infantes, quibus omnes solidæ partes mollissimæ et debiles sunt, et genus nervosum valde irritabile, et liberrima sanguinis distributio, et secretiones et excretiones copio-

et strumis, et rachitide, et sæpe afficiuntur convulsionibus aut  
*and scrofula, and rickets, and often are affected with convulsions or*  
 febriculis a levissimis causis. Vero iidem raro laborant  
*light fevers from the slightest causes. But the same seldom suffer*  
 gravi febre, aut valida inflammatione, aut profluviis sanguinis, aut  
*from severe fever, or strong inflammation, or profluvia of blood, or*  
 phthisi, aut paralyti, aut podagrâ, aut rheumatismo, aut hydrope, nisi  
*phthisis, or paralysis, or gout, or rheumatism, or dropsy, except*  
 capitis, qui sæpe pendet vel a strumosa constitutione  
*of the head, which often depends either upon a strumous constitution*  
 corporis vel a nimio fluxu sanguinis versus caput.  
*of body or upon an excessive flow of blood towards the head.*

909. Infantes quoque ferunt jacturam sanguinis male, tenuiorum  
*Infants also bear the loss of blood badly, of the thinner*  
 humorum bene; etiam tolerant inediam male; subito marcescunt  
*fluids well; also they bear fasting badly; they suddenly grow lean*  
 dum ægrotant, sed cito convalescunt, et iterum pinguescunt.  
*whilst they are sick, but quickly become convalescent, and again grow fat.*

Facile afficiuntur, sopiuntur, excitantur, purgantur, plerisque,  
*They easily are affected, are lulled, are excited, are purged, by most,*  
 vel levissimis medicamentis. Autem renixus teneris corporibus  
*even the slightest medicines. But the resistance by the tender bodies*  
 eorum, contra morbos, (est) mirus, ita ut sæpe convalescant  
*of them, against diseases, (is) wonderful, so that often they become convalescent*  
 præter omnem spem, multo tenaciores vitæ quam adulti homines.  
*beyond all hope, much more tenacious of life than adult persons.*

910. Adolescentes aut juvenes, aut viri firmiores et validiores quam  
*Young men or youths, or men firmer and stronger than*  
 Infantes, et minus irritabiles, plerumque facti immunes a  
*infants, and less irritable, generally become free from*  
 infantilibus morbis, sæpe fiunt opportuni aliis. Scilicet quum  
*infantile diseases, often become liable to others. Because when*  
 desinunt crescere, fiunt nimis pleni sanguine qui fere congeritur,  
*they cease to grow, they become too full of blood which generally is congested,*  
 pro rata parte magis in arteriis quam in venis, et sæpe  
*in proportion more in the arteries than in the veins, and often*  
 sponte erumpit e partibus quæ recusant distendi  
*spontaneously breaks forth from parts which refuse to be distended*  
 amplius, et primo e naribus, postea e pulmone, sæpe non  
*farther, and first from the nostrils, afterwards from the lungs, often not*  
 sine magno periculo phthiseos. Juvenes quoque, partim ob  
*without great danger of phthisis. Youths also, partly because of*

assissimæ, sæpe deformes fiunt, sæpe hernia varii  
 generis, aut prolapsu, et strumis, et rachitide,  
 plectuntur, et sæpe convulsionibus aut febriculis  
 a levissimis causis afficiuntur. Iidem vero, gravi febre,  
 aut valida inflammatione, aut sanguinis profluviis,  
 aut phthisi, aut paralyti, aut podagrâ, aut rheumatismo,  
 aut hydrope, nisi capitis, qui sæpe vel a strumosa  
 corporis constitutione vel a nimio sanguinis caput  
 versus fluxu pendet, raro laborant.  
 909. Infantes quoque sanguinis jacturam male ferunt,  
 tenuiorum humorum bene; male etiam inediam tolerant;  
 marcescunt subito dum ægrotant, sed cito convalescunt, et pin-

guescunt iterum. Medicamentis plerisque, vel  
 levissimis, facile afficiuntur, sopiuntur, excitantur,  
 purgantur. Mirus autem teneris eorum corporibus  
 contra morbos renixus, ita ut sæpe præter omnem  
 spem convalescant, vitæ quam adulti homines multo  
 tenaciores.

910. Adolescentes, aut juvenes, aut viri, firmiores  
 et validiores quam infantes, et minus irritabiles,  
 a morbis infantilibus plerumque immunes facti,  
 aliis sæpe opportuni fiunt. Scilicet quum desinunt  
 crescere, sanguine nimis pleni fiunt, qui fere in  
 arteriis (444, 445) pro rata parte magis quam in venis  
 congeritur, et sæpe e partibus quæ amplius dis-

hanc nimiam abundantiam sanguinis, partim ob auctum vigorem  
*this excessive abundance of blood, partly because of the increased vigour*  
 universi corporis, fiunt obnoxii gravissimis febribus et  
*of the whole body, become subject to very severe fevers and*  
 inflammationibus. Præterea puellæ acquirunt singularem mobilitatem  
*inflammations. Besides girls acquire a peculiar mobility*  
 constitutionis, prius vix observandam, et fortasse pendentem  
*of constitution, at first scarcely to be observed, and perhaps depending*  
 quodammodo a statu genitalium organorum quâ fiunt  
*in some degree upon the condition of the genital organs by which they become*  
 proclives ad hysteriam.  
*disposed to hysteria.*

911. Optima et firmissima valetudo plerumque contingit virili  
*The best and firmest health for the most part belongs to virile*  
 ætati: nimirum quum omnes partes corporis jam adeptæ sint  
*age: namely when all the parts of the body now have acquired*  
 (verb. deponens) justam proportionem et formam et vigorem, neque  
*their due proportion and form and vigour, nor*  
 nimia rigiditas vel universæ compaginis vel quarundam  
*has excessive rigidity either of the whole frame or of some*  
 ( sc. partium ) præ aliis partibus accesserit, neque nervosa  
*( parts ) before other parts come on, nor does the nervous*  
 vis deficiat, neque motus humorum languescat; et sic viri  
*power fail, nor the motion of the fluids grow languid; and thus men*  
 fere immunes a morbis infantiaæ aut juventutis nondum  
*mostly free from the diseases of infancy or of youth have not yet*  
 facti sint obnoxii morbis senli.  
*become liable to the diseases of old age.*

912. Autem nullus status humani corporis, strictius sic dictus,  
*But no status of the human body, more strictly so called,*  
 profecto existit; enim quamprimum attigerit suam perfectionem,  
*truly exists; for as soon as it has reached its perfection,*  
 statim, quamvis sæpe lente, dilabitur, et sane per easdem  
*it immediately, although often slowly, decays, and truly through the same*  
 causas, quæ prius perduxerant id (sc. corpus) ad suam perfectionem.  
*causes, which first had brought it to its perfection.*

913. Partibus quæ comprimuntur maxime primo rigescentibus,  
*The parts which are compressed most of all first growing rigid,*  
 arteriæ brevi fiunt nimis duræ et validæ, et paulatim  
*the arteries soon become too hard and strong, and by degrees*  
 coarctantur, et tandem æquant vel superant vim et firmitatem  
*are constricted, and at length equal or exceed the power and the strength*

tendi recusant (861) sponte erumpit, et primo e naribus, postea e pulmone, non sine magno sæpe phthiseos periculo. Juvenes quoque, partim ob hanc nimiam sanguinis abundantiam, partim ob auctum universi corporis vigorem, gravissimis febribus et inflammationibus obnoxii fiunt. Puellæ præterea, singularem constitutionis mobilitatem, prius vix observandam, et fortasse a statu genitalium organorum quodammodo pendentem, acquirunt, qua ad hysteriam proclives fiunt.

911. Virili ætati optima plerumque et firmissima valetudo contingit: nimirum quum omnes corporis partes justam proportionem, et formam, et vigorem, jam adeptæ sint, neque

nimia vel universæ compaginis vel quarundam præ aliis partibus rigiditas accesserit, neque vis nervosa deficiat, neque motus humorum languescat; et sic viri a morbis infantiaæ aut juventutis fere immunes, senii morbis nondum facti sint obnoxii.

912. Status autem corporis humani, strictius sic dictus, nullus profecto existit: quamprimum enim suam perfectionem attigerit, statim, quamvis sæpe lente, dilabitur, et sane per easdem causas, quæ id prius ad suam perfectionem perduxerant (12, 19).

913. Rigescunt primo partibus quæ maxime comprimuntur, arteriæ brevi nimis duræ et validæ fiunt, et coarctantur paulatim, et vim



venarum quo fit ut plus sanguinis justo conge-  
*of the veins whence it has been made that more blood than proper is con-*  
 ratur in venis, præsertim in iis partibus in quibus movetur  
*gested in the veins, especially in those parts in which it is moved*  
 languidius, et venæ quarum carent valvis, et habent parum  
*more languidly, and the veins of which want valves, and have little*  
 auxilii a motu musculorum. Sic provento ætate plurimus  
*assistance from the motion of the muscles. Thus in advanced age a great deal (of)*  
 sanguis sæpe congeritur in abdomine et in capite, unde  
*blood often is accumulated in the abdomen and in the head, whence*  
 hæmorrhœis, et obstructiones viscerum, et aliquando hydrops, et  
*hæmorrhoids, and obstructions of the viscera, and sometimes dropsy, and*  
 paralysis, et apoplexia.  
*paralysis, and apoplexy.*

914. Mala hujusmodi, pendentia a statu venarum et  
*Diseases of this sort, depending upon the state of the veins and*  
 arteriarum accidunt frequentius eo quod multi senes fiunt plus  
*arteries happen the more frequently because many old men become more*  
 pleni sanguine justo, scilicet qui sæpe bene valent, et conco-  
*full of blood than proper, that is who often are in very good health and di-*  
 quunt bene, et indulgent lautioribus epulis, et exercent  
*gest well, and indulge in more luxurious fare, and exercise*  
 corpora parum, et habent parcam exhalationem per cutem;  
*their bodies little, and have a scanty exhalation by the skin;*  
 plurima vasa et foramina cujus nimirum fere concluduntur.  
*a great part of the vessels and pores of which doubled nearly closed up.*

915. Vero citra nimiam abundantiam sanguinis ve abnormes  
*But besides an excessive abundance of blood or irregular*  
 congestiones aut distributiones ejus senes fiunt obnoxii paralyti,  
*congestions or distributions of it old men become liable to palsy,*  
 et hydropi varii generis, et obstructionibus, et carcinomati,  
*and dropsy of various kinds, and obstructions, and cancer,*  
 nervosa vi deficiente, et motu sanguinis languente:  
*from the nervous power failing, and the motion of the blood becoming languid:*  
 ob easdem causas quoque visus obtunditur, auditus  
*on account of the same causes also vision is blunted, the hearing*  
 hebescit, et demum omnes sensus fatiscunt.  
*grows dull, and finally all the senses wear out.*

916. Porro plerique senes plectuntur innumeris vitis organorum  
*Moreover most old people are affected with innumerable disorders of the organs*  
 quæ inserviunt urinæ diu forsan sine gravi periculo  
*which (are) subservient to the urine a long time perhaps without great danger*

et firmitatem venarum tandem æquant vel superant (444, 445), quo fit ut plus justo sanguinis in veis congeratur, præsertim in iis partibus in quibus languidius movetur, et quarum vevæ valvis carent, et parum auxilii habent a motu musculorum. Sic in abdomine (420) et in capite (421), provento ætate, plurimus sanguis sæpe congeritur, unde hæmorrhœis, et viscerum obstructiones, et hydrops aliquando, et paralysis, et apoplexia.

914. Hujusmodi mala, a statu venarum et arteriarum pendentia, eo frequentius accidunt, quod multi senes sanguine plus justo pleni fiunt, scilicet qui sæpe bene valent, et bene

concoquunt, et epulis lautioribus indulgent, et corpora parum exercent, et parcam per cutem exhalationem habent; nimirum ejus plurima vasa et foramina fere concluduntur.

915. Citra vero nimiam sanguinis abundantiam ejusve congestiones aut distributiones abnormes, deficiente vi nervosa, et languente sanguinis motu, paralyti, et hydropi varii generis, et obstructionibus, et carcinomati (751, et seqq.) senes obnoxii fiunt: ob easdem quoque causas, visus obtunditur, auditus hebescit, et omnes demum sensus fatiscunt.

916. Porro, innumeris vitis plerique senes plectuntur organorum quæ urinæ inserviunt

aut incommodo; vero lidem morbi indies ingravescentes, et  
 or inconvenience; but the same diseases daily increasing, and  
 fere immedicabiles, tandem non carebunt suo periculo.  
 almost irremediable, at length will not want their own danger.

917. Demum senes sunt magis opportuni aliis morbis quam  
 Again old people are more liable to other diseases than  
 juvenes, veluti podagræ, calculo, &c. ratio quorum est magis  
 young persons, as to gout, calculus, &c. the reason of which is more  
 obscura: quippe qui (sc. morbi) sint non proprii senibus qui  
 obscure: as being what are not peculiar to old persons which  
 (sc. morbi) pendent multum a primâ et congenitâ fabricatione  
 depend much upon the first and congenital conformation  
 corporis, et qui sæpe jungantur cum aliis morbis, præsertim  
 of the body, and which often are joined with other diseases, especially  
 ventriculi.  
 of the stomach.

918. Denique est satis verisimile quodvis vitium latens  
 Lastly it is sufficiently probable that some fault lying hid  
 diu, neque fortasse suspectum, tum demum proditurum (esse)  
 a long time, nor perhaps suspected, then at length will betray  
 se manifeste quum, omnibus viribus deficientibus, omnes functiones  
 itself openly when, all the powers failing, all the functions  
 impediuntur, et malum præcipue incumbat in partes jam debiles  
 are impeded, and the disorder especially presses upon the parts now weak  
 et morbosas. Hæc videtur esse ratio cur multi hæreditarii  
 and diseased. This seems to be the reason why many hereditary  
 morbi, raro observandæ, primâ vel etiam consistente ætate,  
 diseases, seldom to be observed, at the first or even advanced age,  
 demum erumpant senectute.  
 at length break out in old age.

## CAP. XXIII.

## CHAP. XXIII.

De Varietatibus Constitutionum.  
 Of the Varieties of Constitutions.

919. Sanitas est non prorsus eadem omnibus; enim sua constitutio  
 Health is not exactly the same to all; for their own constitution  
 non secus ac sua facies aut forma corporis constat  
 in like manner as their peculiar face or form of body belongs

(737, et seqq.), diu forsân sine gravi periculo aut incommodo: iidem vero morbi indies ingravescentes, et fere immedicabiles, suo tandem periculo non carebunt.

917. Aliis demum morbis senes magis quam juvenes opportuni sunt, veluti podagræ, calculo, &c. quorum ratio magis obscura est: quippe qui non senibus proprii sicut, qui multum pendent a prima et congenita corporis fabricatione, et qui sæpe jungantur cum aliis morbis, præsertim ventriculi.

918. Denique, satis verisimile est vitium quodvis diu latens, neque fortasse suspectum

(49), tum demum se manifeste proditurum, quum, viribus omnibus deficientibus, omnes functiones impediuntur, et malum in partes jam debiles et morbosas præcipue incumbat (263). Hæc videtur esse ratio cur multi morbi hæreditarii, prima ætate, vel etiam consistente, raro observandæ, senectute demum erumpant.

CAP. XXIII.—De Constitutionum Varietatibus.

919. SANITAS non omnibus prorsus eadem est; sua enim singulis hominibus constitutio constat, non secus ac sua facies, aut forma corporis. Hujusmodi varietates medici atten-

singulis hominibus. Varietates hujusmodi jure vindicant  
*to individual persons. Varieties of this sort properly claim*  
 sibi attentionem medici, quippe quæ sæpe observentur  
*to themselves the attention of the physician, as being what often are observed*  
 tantæ et tales inter homines ejusdem ætatis et regionis,  
*so great and such between men of the same age and country,*  
 utentes eodem cibo et genere vitæ, ut alii plectantur aliis  
*using the same food and kind of life, that some are attacked by other*  
 morbis, et quod prosit aliis, valde noceat aliis, neque  
*(dissimilar) diseases, and what benefits some, greatly hurts others, nor*  
 sane eadem remedia, aut diæta, aut genus vitæ convenient  
*truly (do) the same remedies, or diet, or kind of life agree with (suit)*  
 omnibus. Igitur erit res haud levis momenti novisse  
*all. Therefore it will be a thing of no small moment to know*  
 penitus constitutionem corporis uniuscujusque ægroti.  
*thoroughly the constitution of the body of each individual patient.*

920. Vero experientia sola docet notitiam hujusmodi, quædam  
*But experience alone teaches a knowledge of this sort, certain*  
 differentiæ vero, quales frequentius occurrunt, observatæ sunt etiam  
*differences truly, such as more frequently occur, have been observed even*  
 ab antiquissimis temporibus, et insignitæ certis nominibus.  
*from the most ancient periods, and designated by certain names.*  
 Hæ varietates dicuntur temperamenta, (tanquam ducerent originem  
*These varieties are called temperaments, (as if they drew their origin*  
 a mixturâ et quasi temperatione variorum elementorum quæ  
*from the mixture and as it were tempering of the various elements which*  
 insunt in humano corpore;) que quatuor eorum vulgo  
*exist in the human body;) and four of them commonly*  
 numerantur primaria temperamenta; scilicet sanguineum, melancholicum,  
*are reckoned primary temperaments; that is, the sanguineous, the melancholic,*  
 cholericum, et phlegmaticum. Parum constat de ratione  
*the choleric, and the phlegmatic. It is not very clear concerning the reason*  
 nominum; nec multum refert quo vocabulo utamur ad  
*of the names; nor does it much signify what word we use to*  
 exprimendam quamlibet rem, dummodo id vocabulum definiatur  
*express any thing, provided that word be defined*  
 bene; et certe foret nefas mutare nomina quæ sunt  
*well; and certainly it would be wrong to change names which are*  
 omnibus in ore et bene intellecta.  
*to all in the mouth (in the mouths of all) and clearly understood.*

921. Revera medici omni tempore hallucinati sunt plurimum  
*Truly physicians at every period have mistaken very much*

tionem jure sibi vindicant, quippe quæ tantæ et tales sæpe observentur inter homines ejusdem ætatis, et regionis, eodem cibo et vitæ genere utentes, ut alii aliis plectantur morbis, et quod aliis prosit, aliis valde noceat, neque sane eadem remedia, aut diæta, aut vitæ genus, omnibus conveniant. Res igitur haud levis momenti erit uniuscujusque ægroti constitutionem corporis penitus novisse.

tur (tanquam a mixtura, et quasi temperatione, variorum quæ in humano corpore insunt elementorum, originem ducerent); eorumque quatuor primaria temperamenta vulgo numerantur; sanguineum, scilicet, melancholicum, cholericum, et phlegmaticum. De ratione nominum parum constat; nec multum refert quo vocabulo utamur ad rem quamlibet exprimendam, dummodo id vocabulum bene definiatur; et nefas certe foret nomina mutare, quæ omnibus in ore sunt, et bene intellecta.

921. Plurimum revera hallucinati sunt medici omni tempore, qui temperamentorum varietatum conati sunt rationem reddere; et unum-

qui conati sunt reddere rationem varietatum  
*who have endeavoured to render an account (to account for) of the varieties*  
*temperamentorum; et (qui) retulerunt unumquodque ad certum*  
*of temperaments; and referred every one to a certain*  
*humorem vel elementum abundans plus justo in corpore veluti*  
*humour or element abounding more than proper in the body as*  
*aquam, sanguinem, bilem, atram bilem, gluten, terram. Neque*  
*water, blood, bile, black bile, (atrabile), gluten, earth. Nor*  
*veteres soli observarunt bene, et descripserunt fideliter,*  
*have the ancients alone observed well, and described faithfully,*  
*quamvis ratiocinati sint male de iisdem rebus. Erit quoddam*  
*although they have reasoned badly from the same things. It will be something*  
*saltem novisse istas descriptiones et observationes, quatenus*  
*at least to know those descriptions and observations, so far as*  
*spectent ad medicum usum, utcumque obscura ratio earum*  
*they look (serve) to medical practice, however obscure the reason of them*  
*videatur.*  
*may seem.*

922. Sanguineum temperamentum dignoscitur pleniore constitutione  
*The sanguineous temperament is distinguished by a fuller constitution*  
*corporis, molliore compagine, delicata, tenui, molli calidâ cute,*  
*of body, a softer frame, a delicate, thin, soft, warm skin,*  
*magnis, conspicuis, cæruleis venis, eximio colore vultus, capillis*  
*large, conspicuous, blue veins, an excellent colour of countenance, by the hair*  
*sæpe rufis aut flavis, aliquando nonnihil fuscis. Homines præditi*  
*being often red or yellow, sometimes somewhat brown. Persons endowed*  
*tali constitutione, observantur præter solitum sentientes et irritabiles,*  
*with such a constitution, are observed unusually sentient and irritable,*  
*et habent pulsus frequentiores solito, et motum sanguinis*  
*and have the pulse more frequent than ordinary, and the motion of the blood*  
*liberrimum, et secretiones et excretiones fere copiosas, raro*  
*very free, and the secretions and excretions generally copious, seldom*  
*obstructas, et animum plerumque lætum et hilarem, aliquando*  
*obstructed, and the mind for the most part joyful and cheerful, sometimes*  
*levem; nam animi non secus ac varietates corporis sæpe pendent*  
*light; even the spirits in like manner as the changes of the body often depend*  
*a temperamento.*  
*upon the temperament.*

923. Hoc temperamentum, præ aliis, est obnoxium nimie  
*This temperament, more than the others, is liable to too great*  
*abundantiæ et vehementi motui sanguinis, febribus, que morbis*  
*abundance and vehement motion of the blood, to fevers, and diseases*

quodque retulerunt ad certum humorem vel elementum plus justo in corpore abundans, veluti aquam, sanguinem, bilem, atram bilem, gluten, terram. Neque soli veteres observarunt bene, et descripserunt fideliter, quamvis male de iisdem rebus ratiocinati sint. Erit quoddam saltem, descriptives et observationes istas novisse, quatenus ad usum medicum spectent, utcumque obscura ratio earum videatur.

922. Temperamentum sanguineum dignoscitur constitutione corporis pleniore, compagine molliore, cute delicata, tenui, molli, calida, venis magnis, conspicuis, cæruleis, eximio

vultus colore, capillis sæpe rufis aut flavis, aliquando nonnihil fuscis. Homines tali constitutione præditi, præter solitum sentientes et irritabiles observantur, et pulsus habent solito frequentiores, et sanguinis motum liberrimum, et secretiones et excretiones fere copiosas, raro obstructas, et animum plerumque lætum et hilarem, aliquando levem: nam animi non secus ac corporis varietates a temperamento sæpe pendent.

923. Hoc temperamentum, præ aliis, sanguinis nimie abundantie et vehementi motui, febribus, morbisque inflammationem habentibus,

habentibus inflammationem, *rheumatismo*, anginae, &c. et morbis *nervosi*  
*having inflammation, to rheumatism, angina, &c. and diseases of the nervous*  
*generis imprimis hysteriæ. Igitur temperantia in victu et potu,*  
*system especially hysteria. Therefore temperance in food and drink,*  
 et crebra exercitatio conveniunt huic, aliquando et exinanitiones  
*and frequent exercise suit it, sometimes also evacuations*  
 quas solet tolerare bene.  
*which it is accustomed to bear well.*

924. Melancholicum temperamentum videtur fere contrarium huic  
*The melancholic temperament seems almost the opposite to this*  
 notatum compagine firmiore, sæpe macrâ; cute crassâ, fuscâ,  
*denoted by the frame being firmer, often lean; the skin thick, dark,*  
 hirsuta, venis magnis, crinibus, et supercillis et oculis nigris;  
*hairy, the veins large, the hair, and eyebrows and eyes black;*  
 colore vultûs atro. Præditi hoc temperamento fere  
*the colour of the countenance black. Those endowed with this temperament generally*  
 habent pulsus tardos, et motum sanguinis languidiorem,  
*have the pulse slow, and the motion of the blood more languid,*  
 sanguinem ipsum, ut fertur, crassiorem solito, et secretiones  
*the blood itself, as it is said, thicker than usual, and the secretions*  
 et excretiones parcas, aliquando deficientes, que nervosum genus  
*and excretions scanty, sometimes deficient, and the nervous system*  
 parum sentiens aut mobile, et animum gravem, sæpe tristem,  
*little sentient or irritable, and the mind serious, often sad,*  
 meditabundum, haud commovendum facile, quo semel commotus est  
*meditative, not to be disturbed easily, when once it has been roused*  
 tenacissimum affectûs, indefessum in negotiis, acutissimum in studiis,  
*very tenacious of passion, unwearied in business, very acute in studies,*  
 ferventissimum, fidelissimum in amore, sæpe aptum ad poësin,  
*very fervent, very faithful in love, often fitted for poetry,*  
 aliquando proclivem in melancholiam et insaniam. Idem patiuntur  
*sometimes prone to melancholy and insanity. The same suffer*  
 multum a otiosâ et sedentariâ vitâ, et stimulantibus et  
*much from an idle and sedentary life, and by stimulating and*  
 calefacientibus remediis: sæpe concoquunt male et laborant a  
*heating remedies: often they digest badly and suffer from*  
 ventriculo, et sunt obnoxii *hypochondriasi* quæ rarius observatur  
*the stomach, and are liable to hypochondriasis which more rarely is observed*  
 in aliis constitutionibus. Dicuntur esse præ aliis hominibus  
*in other constitutions. They are said to be more than other persons*  
 obnoxii obstructionibus viscerum abdominis.  
*liable to obstructions of the viscera of the abdomen.*

*rheumatismo, anginae, &c. et morbis nervosi generis, hysteriæ* imprimis, obnoxii est. Huic igitur temperantia in victu et potu, et exercitatio crebra conveniunt, et aliquando exinanitiones, quas bene tolerare solet.

924. *Temperamentum melancholicum* huic fere contrarium videtur, compagine firmiore, sæpe macra; cute crassa, fusca, hirsuta; magnis venis, crinibus, et supercillis, et oculis nigris; atro vultus colore, notatum. Hoc temperamento præditi pulsus fere habent tardos, et sanguinis motum languidiorem, sanguinem ipsum, ut fertur, crassiorem solito, et secretiones et excretiones parcas, aliquando deficientes, *genusque nervosum* parum sentiens aut mobile, et

animum gravem, sæpe tristem, meditabundum, haud facie commovendum, quo semel commotus est affectus tenacissimum, in negotiis indefessum, in studiis acutissimum, in amore ferventissimum, fidelissimum, ad poësin aptum, in melancholiam et insaniam aliquando proclivem (292, et seqq.) Idem patiuntur multum a vita otiosa et sedentaria, et stimulantibus et calefacientibus remediis: sæpe male concoquunt, et a ventriculo laborant, et *hypochondriasi* obnoxii sunt, quæ in aliis constitutionibus rarius observatur. Dicuntur præ aliis hominibus obstructionibus viscerum abdominis obnoxii esse.

925. Cholericum temperamentum occupat fere medium locum inter hæc: nimirum, quod denotatur molliore, mobiliore corpore, cute these: namely, which is denoted by a softer, more mobile body, by a skin minus fuscâ et hirsutâ, magis vivido colore vultûs fre- less brown and hairy, a more vivid colour of countenance, a more frequent and stronger pulse, secretionibus liberioribus, et animo irritabiliore, et, ut fertur, observantur magis proclivi præsertim ad iram, quam in melancholico temperamento. the secretions more free, and the mind more irritable, and, as it is said, they are observed more prone especially to anger, than in melancholic temperament.

926. Phlegmaticum temperamentum insignitur, laxâ et debili compage corporis, sæpe cum obesitate, pallido vultu, levi cute of body, often with fatness, a pale countenance, a smooth skin sine pilis, capillis albis, pulsu tardo, debili, vasis without hairs, the hair white, the pulse slow, weak, the vessels vehentibus sanguinem parvis, humoribus, ut fertur, magis aquosis et blandioribus solito, que motu eorum languido, concoctione, secretione, excretionem, tardis, interdum impeditis, animo hebetate, torpido, aliquando somniculoso, haud commovendo facile, maxime proclivi ad metum et avaritiam. Exercitatio et stimulantia remedia aliquando conveniunt præditis tali constitutione; neque nocet multum interdum caluisse mero. (occasionally) to have heated (indulged) with wine.

927. Hæc, primaria et pura temperamenta, sæpe miscentur variis modis et proportionibus: veluti sanguineum cum phlegmatico aut melancholico; conjunctiones cujusmodi spectamus quotidie. These, the primary and pure temperaments, often are mixed in various ways and proportions: as the sanguineous with the phlegmatic or melancholic; combinations of which kind we see every day.

928. Nonnulli, demum, describunt aliud temperamentum, quod vocant nervosum; nec immerito, (secundum sensum hujus vocabuli, nervous; nor improperly, according to the signification of this word,

925. Medium fere hæc inter locum occupat cholericum temperamentum: nimirum, quod denotatur corpore molliore, mobiliore, cute minus fusca et hirsuta, colore vultus magis vivido, pulsu frequentiore et validiore, secretionibus liberioribus, et anima irritabiliore, et, ut fertur, ad iram præsertim magis proclivi, quam in melancholico temperamento observantur.

926. Phlegmaticum temperamentum insignitur, laxa et debili corporis compage, sæpe cum obesitate, vultu pallido, cute levi sine pilis, capillis albis, pulsu tardo, debili, vasis sanguinem vehentibus parvis, humoribus, ut fertur, aquosis magis et blandioribus solito, eorumque

motu languido, concoctione, secretionem, excretionem, tardis, interdum impeditis, animo hebetate, torpido, aliquando somniculoso, haud facile commovendo, ad metum et avaritiam maxime proclivi. Tali constitutione præditis, exercitatio, et stimulantia remedia aliquando conveniunt; neque multum nocet interdum caluisse mero.

927. Primaria et pura hæc temperamenta variis modis et proportionibus sæpe miscentur: veluti sanguineum cum phlegmatico aut melancholico; cujusmodi conjunctiones quotidie spectamus.

928. Aliud demum temperamentum nonnulli describunt, quod nervosum vocant; nec imme-

nunc receptum apud medicos, et sane vulgum quoque,) (as) now received among physicians, and indeed the public also,)

quippe cui insignis debilitas et mobilitas nervosi generis contingant. Talis conditio nervosi generis potest effici in omnibus temperamentis, vero facilius in sanguineo, vel in puro vel mixto cum phlegmatico, scilicet, otioso et sedentario genere vitæ, nimia abundantia sanguinis, calore, que aliis causis jam recensitis: hinc frequentissima apud divites et ignavos et luxuriosos: fere ignota veteribus, saltem multo rarius observata inter eos, jam satis cognita recentibus fere per centum annos que super.

929. Hoc temperamentum est opportunum multis morbis nervosi generis, veluti hysteriæ, dyspepsiæ, &c. male fert fere omnes exinanitiones, præsertim jacturam sanguinis, et pleraque fortiora medicamenta: et sæpe postulat roborantia remedia.

930. Alia constitutio fere datur viris, alia fœminis. One constitution generally is given to men, a different to women.

Hæ, nimirum, habent plus sanguinei, vel aliquando phlegmatici temperamenti, scilicet quæ sunt molliores et delicatioris, et debiliores quam viri; et habent animos pariter ac corpora mobillora, et humores blandiores; et sunt magis opportuna morbis nervosi generis, vero minus morbis qui habent inflammationem. Igitur, fœminæ pari ratione differunt a

to (secundum hujus vocabuli sensum nunc apud medicos et sane vulgum quoque receptum), quippe cui insignis generis nervosi debilitas et mobilitas contingant. Talis generis nervosi conditio in omnibus temperamentis, facilius vero in sanguineo, vel puro vel cum phlegmatico mixto, effici potest, vitæ genere scilicet otioso et sedentario, nimia sanguinis abundantia, calore, aliisque causis jam (370, et seqq.), recensitis: hinc apud divites, et ignavos, et luxuriosos, frequentissima: veteribus fere ignota, saltem multo rarius inter eos observata, recentibus jam fere per centum annos satis superque cognita.

929. Hoc temperamentum, multis morbis generis nervosi, veluti hysteriæ, dyspepsiæ, &c. opportunum est: exinanitiones fere omnes, præsertim jacturam sanguinis, et medicamenta pleraque fortiora, male fert; et roborantia remedia sæpe postulat.

930. Alia fere viris, alia fœminis, constitutio datur. Hæ nimirum plus habent sanguinei, vel aliquando phlegmatici temperamenti; scilicet quæ molliores, et delicatioris, et debiliores sunt quam viri; et animos pariter ac corpora mobillora habent, et humores blandiores; et magis opportuna sunt morbis nervosi generis, minus vero morbis qui inflammationem habent.

viris, quod ad constitutionem corporis, quamvis haud tantum ac  
*men, as to constitution of body, although not so much as*  
 infans differt ab adulto.  
*the infant differs from the adult.*

931. Neque temperamentum constat idem cuiquam, va-  
*Nor does the temperament continue the same to each person, at the va-*  
 riis ætatibus. Enim omnia mutantur tempore, que aliud interdum  
*rious ages. For all things are changed by time, and one sometimes*  
 transit fere in aliud. Sic, primâ ætate, sanguineum  
*passes almost into another. Thus, at the first age, the sanguineous*  
 observatur purissimum, vero idem, mediâ ætate, appropinquat  
*is observed most pure, but the same, at the middle age, approaches*  
 ad cholericum, in ultimâ ad melancholicum; et melancholicum,  
*to the choleric, in the last to the melancholic; and the melancholic,*  
 contrâ, primâ ætate fere participat sanguineum.  
*on the other hand, at the first age mostly participates (of) the sanguineous.*

932. Præterea, a naturâ cœli sub quo vivimus, que  
*Besides, from the nature of the climate under which we live, and*  
 genere victûs et vitæ quo utimur, corpus afficitur haud  
*the kind of diet and life which we use, the body is affected not*  
 parum, que homines sic fiunt obnoxii aliis morbis, vivunt  
*a little, and men thus become liable to some diseases, live*  
 immunes ab aliis.  
*free from others.*

933. Quamvis nulla regio, fortasse, fuerit prorsus inhabitabilis  
*Although no country, perhaps, would be wholly uninhabitable*  
 humano generi, tamen est verisimile, quasdam præstare reliquis, que  
*to the human race, still it is probable, that some excel the rest, and*  
 producere homines perfectissimos animo et corpore. Temperatæ,  
*produce men the most perfect in mind and body. The temperate,*  
 mediæ inter nimium calorem et frigus, videntur habere  
*middle (mean) between excessive heat and cold, seem to possess*  
 hanc excellentiam. Autem plurima vetant tribuere varietates  
*this excellence. But very many things forbid (us) to attribute the varieties*  
 gentium effectibus solis cœli; quippe quæ afficiantur  
*of nations to the effects alone of climate; as being what may be affected*  
 multum ab aliis causis, tum naturalibus tum moralibus. Autem  
*much by other causes, as well natural as moral. But*  
 haud exiguæ varietates gentium manifestissime pendent a cœlo.  
*no few varieties of nations most evidently depend upon climate.*

934. Sic corpus solvitur et debilitatur in calidis regionibus,  
*Thus the body is relaxed and debilitated in hot countries,*

Pari igitur ratione fœminæ a viris differunt quod ad corporis constitutionem, quamvis haud tantum, ac infans differt ab adulto (908, et seqq.)

931. Neque variis ætatibus idem cuiquam temperamentum constat. Omnia enim mutantur tempore, aliudque interdum fere in aliud transit. Sic prima ætate sanguineum purissimum observatur; idem vero media ætate ad cholericum, ultima ad melancholicum, appropinquat; et melancholicum contra, prima ætate sanguineum fere participat.

932. Præterea, a natura sub cœli quo vivimus, victusque et vitæ genere quo utimur, corpus haud parum afficitur, hominesque sic

aliis morbis obnoxii fiunt, ab aliis immunes vivunt.

933. Quamvis nulla fortasse regio fuerit generi humano prorsus inhabitabilis, tamen verisimile est quasdam reliquis præstare, hominesque producere animo et corpore perfectissimos. Temperatæ, mediæ inter nimium calorem et frigus hanc videntur excellentiam habere. Plurima autem vetant gentium varietates solis cœli effectibus tribuere; quippe quæ multum afficiantur ab aliis causis, tum naturalibus tum moralibus. Varietates autem gentium haud exiguæ a cœlo manifestissime pendent.



*nervosum genus fit valde mobile, motus sanguinis est the nervous system becomes very irritable, the motion of the blood is liberrimus, et secretiones copiosæ, præsertim exhalatio per cutem, very free, and the secretions copious, especially the exhalation by the skin, que humores fere tenuiores, et, ut est receptum apud fere omnes and the fluid mostly thinner, and, as is admitted by almost all medicos, magis proclives in putredinem, quam in temperatis aut physicians, more prone to putridity, than in the temperate or frigidis regionibus. Igitur incolæ calidarum regionum plerumque cold regions. Therefore the inhabitants of hot regions generally observantur ( nam hæc res est minime constans, ) ignavi, are observed ( for this thing is by no means constant, ) idle, imbelles, inhabiles ad omnes labores, plerumque dediti weak, unfit for all (kinds of) labours, for the most part addicted voluptatibus, præsertim veneri; proni in omnes affectus animi, to pleasures, especially to venery; prone to all (kinds of) affections of the mind, vividi sed leves, habentes parum vis animi; vivid but light (trifling), possessing little strength of mind (resolution); maxime utuntur tenui victu, conflato ex frugibus, neque fere they mostly use a thin diet, prepared from vegetables, nor commonly abutuntur generosis liquoribus, quippe quibus parum egent. do they abuse generous liquors, as being what they little want.*

935. Sunt opportuni morbis nervosi generis, que putridis *They are liable to diseases of the nervous system, and putrid et biliosis morbis, maxime intermittentibus febribus; afficiuntur and bilious diseases, especially intermitting fevers; they are affected rarius inflammationibus; que ideo dum ægrotant egent more rarely by inflammations; and therefore whilst they are sick they require multum remediis quæ corrigant putredinem et bilem, et tolerant much remedies which correct putridity and bile, and they bear ægre exinanitiones, imprimis detractionem sanguinis. badly evacuations, especially detraction of blood.*

936. Contra, incolæ frigidarum regionum habent cor- *On the other hand, the inhabitants of cold regions have their pora firmiora et validiora, nervosum genus minus irritabile, humores bodies firmer and stronger, the nervous system less irritable, the fluids crassiores, que motum eorum languidiorem, et exhalationem per thicker, and the motion of them more languid, and the exhalation by cutem parcam; et sæpe fiunt obesi: multum utuntur validissimo the skin scanty; and often become fat: abundantly use very strong victu, præsertim constante ex carnibus, et vino, que aliis generosis diet, especially consisting of meat, and wine, and other generous*

934. Sic in calidis regionibus corpus solvitur et debilitatur, *genus nervosum* valde mobile fit, motus sanguinis liberrimus est, et secretiones copiosæ, præsertim exhalatio per cutem, humorum fere tenuiores, et, ut apud omnes fere medicos receptum est, in putredinem magis proclives, quam in regionibus temperatis aut frigidis. Incolæ igitur calidarum regionum plerumque (nam hæc res minime constans est) ignavi, imbelles, ad omnes labores iuabiles observantur, voluptatibus plerumque dediti, præsertim Veneri; in omnes animi affectus proni, vividi, sed leves, parum vis animi habentes; victu tenui, ex frugibus conflato,

maxime utuntur, neque fere abutuntur liquoribus generosis, quippe quibus parum egent.

935. Morbis *nervosi generis*, morbisque putridis et biliosis, maxime febribus intermittentibus, opportuni sunt; inflammationibus rarius afficiuntur: ideoque, dum ægrotant, remediis quæ putredinem et bilem corrigant multum egent, et exinanitiones, sanguinis imprimis detractionem, ægre tolerant.

936. Frigidarum contra regionum incolæ corpora habent firmiora et validiora, *genus nervosum* minus irritabile, humores crassiores, eorumque motum languidiorem, et parcam per cutem exhalationem; et sæpe obesi fiunt:

liquoribus. Observantur robustiores quam incolæ calidarum  
 liquors. They are observed more robust than the inhabitants of warm  
 regionum, et animosiores, et magis apti ad omnes labores  
 countries, and more courageous, and more fit for all (kinds of) labours  
 et militiam, præditi minore hilaritate, autem majore vi  
 and warfare, endowed with less hilarity, but with greater strength  
 animi; etiam minus mulierosi, sed non eo minus fœcundi.  
 of mind; also less addicted to women, but not therefore less prolific.

937. Sunt obnoxii continuis febribus et inflammationibus: haud  
 They are liable to continued fevers and inflammations: not  
 tantum morbis nervosi generis, nisi fregerint nativam  
 so much to diseases, of the nervous system, unless they have broken their native  
 vim malo genere vitæ, neque putridis neque biliosis morbis.  
 vigour by a bad kind of life, nor to putrid nor bilious diseases.  
 Dum ægrotant, fere egent validioribus medicamentis, et  
 Whilst they are sick, they mostly want stronger medicines, and  
 plerumque tolerant jacturam sanguinis bene.  
 generally bear loss of blood well.

938. Porro, similes varietates, quamvis haud tantæ, observantur  
 Moreover, similar varieties, although not so great, are observed  
 diversis tempestatibus anni; quo fit ut alii  
 at the different seasons of the year; whence it happens that some  
 morbi grassentur aliis temporibus, que fere alia  
 diseases prevail at some (particular) times, and generally one  
 ratio medendi conveniat iisdem morbis vere, alia autumno.  
 mode of healing suits the same diseases in spring, another in autumn.

939. A genere victûs non leves varietates oriuntur. Sic, qui  
 From the kind of diet no slight varieties arise. Thus, who  
 utuntur victu ex carnibus pro maximâ parte cibi, et  
 use a diet of meat for the greatest part of their food, and  
 indulgent lautioribus epulis et generosis liquoribus, fere  
 indulge in more sumptuous fare and generous liquors, commonly  
 sunt robustiores potoribus aquæ, que iis qui vescuntur  
 are more robust than the drinkers of water, and those who feed  
 frugibus solis; sed sæpe minus sani, procliviores ad nimiam  
 on vegetables alone; but often less healthy, more disposed to excessive  
 abundantiam sanguinis, et inflammationes, et putredinem.  
 abundance of blood, and inflammation, and putridity.

940. Genus vitæ, præsertim quod ad exercitationem aut  
 The kind of life, especially with respect to exercise or  
 ignaviam, facit multum, que præstat homines incolumes ab aliis  
 idleness, does much, and keeps men safe from some

victu multum utuntur validissimo, ex carnibus præsertim constante, et vino, aliisque liquoribus generosis. Robustiores quam calidarum regionum incolæ observantur, et animosiores, et ad omnes labores et militiam magis apti, minore hilaritate, majore autem vi animi præditi; minus etiam mulierosi, sed non eo minus fœcundi.

937. Febribus continuis, et inflammationibus, obnoxii sunt; haud tantum morbis nervosi generis, nisi malo vitæ genere vim nativam fregerint, neque putridis neque biliosis morbis. Dum ægrotant, validioribus fere medicamentis egent, et sanguinis jacturam plerumque bene tolerant.

938. Similes porro varietates, quamvis haud tantæ, diversis anni tempestatibus observantur; quo fit ut alii aliis temporibus grassentur morbi, iisdemque fere morbis alia vere, alia autumno, medendi ratio conveniat.

939. A victus genere, varietates non leves oriuntur. Sic qui victu ex carnibus pro maxima cibi parte utuntur, et epulis lautioribus et liquoribus generosis indulgent, robustiores fere sunt aquæ potoribus, iisque qui frugibus solis vescuntur; sed sæpe minus sani, ad nimiam sanguinis abundantiam, et inflammationes, et putredinem, procliviores.

940. Vitæ genus, præsertim quod ad exercitationem aut ignaviam, multum facit, homi-

morbis, reddit proclives ad alios. Sic exercitatio, modo fuerit  
*diseases, renders them prone to others. Thus' exercise, provided it be*  
 non nimia, roborat corpus, opitulatur concoctioni, promovet se-  
*not excessive, strengthens the body, assists concoction, promotes the se-*  
 cretiones et excretiones, intendit motum sanguinis, neque sinit  
*cretions and excretions, increases the motion of the blood, nor suffers*  
 plus sanguinis justo congeri; que ideo vel arcet  
*more blood than proper to be accumulated; and therefore either wards off*  
 multos morbos, vel depellit jam inductos atque urgentes.  
*many diseases, or drives away those already induced and urgent.*

941. Vero ignavia solvit, debilitat, reddit corpus mobile,  
*But idleness relaxes, weakens, renders the body irritable,*  
 facit languidum motum sanguinis, fere minuit secre-  
*causes a languid motion of the blood, for the most part diminishes the secre-*  
 tiones et excretiones, et efficit plenitudinem et obesitatem; et  
*tions and excretions, and causes fulness and obesity; and*  
 igitur sternit viam plurimis morbis, hysteriæ, dyspepsiæ,  
*therefore strews the way for very many diseases, (as) hysteria, dyspepsia,*  
 podagræ, profluvii sanguinis, apoplexiæ, paralyti, obstructionibus, hydropi.  
*gout, fluxes of blood, apoplexy, paralysis, obstructions, dropsy.*

942. Autem vehemens exercitatio, quamvis sæpe firmet,  
*But violent exercise, although often it may invigorate,*  
 roboret, et excitet corpus, tamen facit opportunius nonnullis  
*strengthen, and excite the body, yet renders it more liable to some*  
 morbis; partim, fortasse, ob majorem densitatem aut  
*diseases; partly, perhaps, on account of the greater density or*  
 acrimoniam humorum, vero magis propter insignem vim et  
*acrimony of the fluids, but more on account of the great power and*  
 robur solidarum partium, que ideo auctum impetum  
*strength of the solid parts, and consequently the increased impetus*  
 humorum; quo fit ut quædam febres et inflammationes  
*of the fluids; whence it happens that certain fevers and inflammations*  
 incumbant facilius et vehementius. Vero durus et perpetuus  
*attack more easily and more violently. But severe and constant*  
 labor, prorsus alia ratione, exhaurit, debilitat, indurat corpus,  
*labour, in altogether a different way, exhausts, debilitates, hardens the body,*  
 et ideo inducit præmaturam senectutem.  
*and therefore brings on premature old age.*

943. Regimen, quoque, mentis, conducit non minus ad sanitatem,  
*The regulation, also, of the mind, conduces not less to health,*  
 quam ad diurnitatem vitæ. Vehementes affectus animi, sive  
*than to length of life. Violent affections of the mind, whether*

nesque ab aliis morbis incolumes præstat, ad alios proclives reddit. Sic exercitatio, modo non nimia fuerit, corpus roborat, concoctioni opitulatur, secretiones et excretiones promovet, sanguinis motum intendit, neque sinit plus justo sanguinis congeri; ideoque multos morbos vel arcet, vel jam inductos atque urgentes depellit.

941. Ignavia vero corpus solvit, debilitat, mobile reddit, motum sanguinis languidum facit, secretiones et excretiones fere minuit, et plenitudinem et obesitatem efficit; et igitur plurimis morbis hysteriæ, dyspepsiæ, podagræ, sanguinis profluvii, apoplexiæ, paralyti, obstructionibus, hydropi, viam sternit.

942. Exercitatio autem vehemens, quamvis corpus sæpe firmet, et roboret, et excitet, nonnullis tamen morbis opportunius facit; partim fortasse ob majorem densitatem aut acrimoniam humorum, magis vero propter insignem solidarum partium vim et robur, auctamque ideo humorum impetum; quo fit ut febres quædam, et inflammationes, facilius et vehementius incumbant. Durus vero et perpetuus labor, alia prorsus ratione, corpus exhaurit, debilitat, indurat, et ideo senectutem præmaturam (897) inducit.

943. Regimen quoque mentis ad sanitatem non minus quam ad vitæ diurnitatem (900) conducit. Vehementes animi affectus, sive ex-

excitantes sive deprimentes, et graves curæ, efficiunt valetudini  
*exciting or depressing, and weighty cares, injure the health*  
 variâ ratione: quoque nimis intensa studia, neque intermissa ut  
*in various ways: also too intense study, nor intermitted as*  
 decet, nocent et animo et corpori: imprimis nervoso generi,  
*it ought, hurt both the mind and body: especially the nervous system,*  
 et ventriculo, et capiti. Autem damnum quod vulgo existimatur  
*and stomach, and head. But the injury which commonly is thought*  
 oriri a studiis, plerumque tribuitur melius generi vitæ,  
*to arise from study, generally is attributed better to the mode of life,*  
 parum idoneo, quod multi cupidi literarum solent degere;  
*no way suitable, which many fond of literature are accustomed to lead;*  
 scilicet, qui fere negligunt exercitationem corporis, neque sane est  
*that is, who mostly neglect exercise of the body, nor truly is*  
 ratio obscura quâ sedentaria vita nocet.  
*the manner obscure in which a sedentary life hurts.*

944. Cæterum quamvis multi consenuerint in armis, multi in negotiis,  
*But although many have grown old in arms, many in business,*  
 que multi, demum, in otio, et luxu, et voluptatibus, que  
*and many, in fine, in idleness, and luxury, and pleasures, and*  
 vixerint sani omni tempore, tamen exempla plurimorum  
*have lived healthy(ily) the whole period, yet the examples of the most (part)*  
 philosophorum demonstrant quietam, temperatam, contemplativam  
*of philosophers demonstrate that a quiet, temperate, contemplative*  
 vitam, conducere maxime ad sanitatem, et ideo ad diuturnitatem  
*life, conduces most to health, and consequently to length*  
 vitæ, quippe quæ careat haud paucis periculis et  
*of life, as being that which wants (is free from) the no few dangers and*  
 causis morborum quibus actiosa vita est obnoxia.  
*causes of diseases to which an active life is exposed.*

945. Postremo, oportet semper tenere in memoria, hominem existere  
*Lastly, it behoves always to keep in mind, that man exists*  
 adeo versatilem, ut unus, omnium animalium, accomodet  
*so versatile, that (he) alone, of all animals, can accommodate*  
 sese ad omnes cœlos, utcunque diversos, et ad genera vitæ  
*himself to all climates, however different, and to modes of life*  
 maxime contraria, et sane videatur esse natus ad omnia. Fere pari  
*the most opposite, and truly seems to be born for all. In almost a like*  
 ratione accomodat sese ad diversissima genera cibi, et  
*way he accommodates himself to the most different kinds of food, and*  
 demum ita assuescit gravissimis causis morborum, que  
*at length so accustoms himself to the most powerful causes of diseases, and*

citantes sive deprimentes, et graves curæ, varia ratione (345, 346) efficiunt valetudini: studia quoque nimis intensa, neque ut decet intermissa, et animo et corpori nocent: generi nervoso imprimis, et ventriculo, et capiti. Damnum autem quod a studiis vulgo oriri existimatur, melius plerumque tribuitur vitæ generi parum idoneo, quod multi literarum cupidi degere solent, scilicet qui corporis exercitationem fere negligunt: neque sane obscura ratio qua vita sedentaria (941) nocet.

944. Cæterum, quamvis multi in armis, multi in negotiis, multique demum in otio, et luxu,

et voluptatibus, consenuerint, tamen plurimorum philosophorum exempla demonstrant, vitam quietam, temperatam, contemplativam, ad sanitatem, et ideo ad vitæ diuturnitatem, maxime conducere, quippe quæ haud paucis careat periculis et morborum causis, quibus vita actiosa obnoxia est.

945. Postremo, memoria semper tenere oportet, hominem adeo versatilem existere, ut ad omnes cœlos, utcunque diversos, et ad vitæ genera maxime contraria, unus omnium animalium se accomodet, et sane ad omnia

rebus quæ non immerito habentur venena, ut non modo  
*to things which not undeservedly are considered poisons, that not only*  
 capiat parum detrimenti ex iis, sed sæpe, sive sanus, sive  
*he takes little detriment from them, but often, whether healthy, or*  
 ægotans, sive convalescens, possit carere iisdem ægre, nec  
*sick, or convalescent, can want the same with difficulty, nor*  
 sine periculo.  
*without danger.*

videatur esse natus. Pari fere ratione, ad ita ut non modo parum ex iis detrimenti  
 diversissima cibi genera se accommodat, et capiat, sed iisdem sæpe, sive sanus, sive ægro-  
 demum gravissimis morborum causis, rebusque tans, sive convalescens, ægre, nec sine periculo,  
 quæ non immerito venena habentur, assuescit, carere possit.

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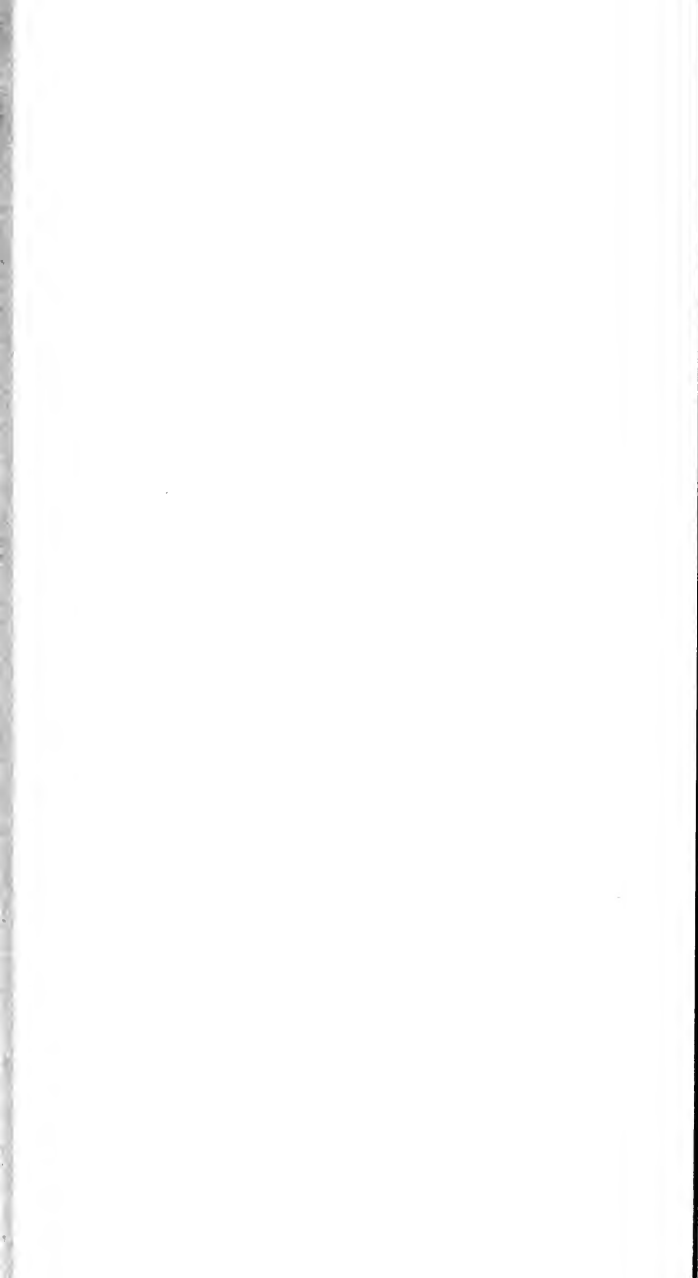
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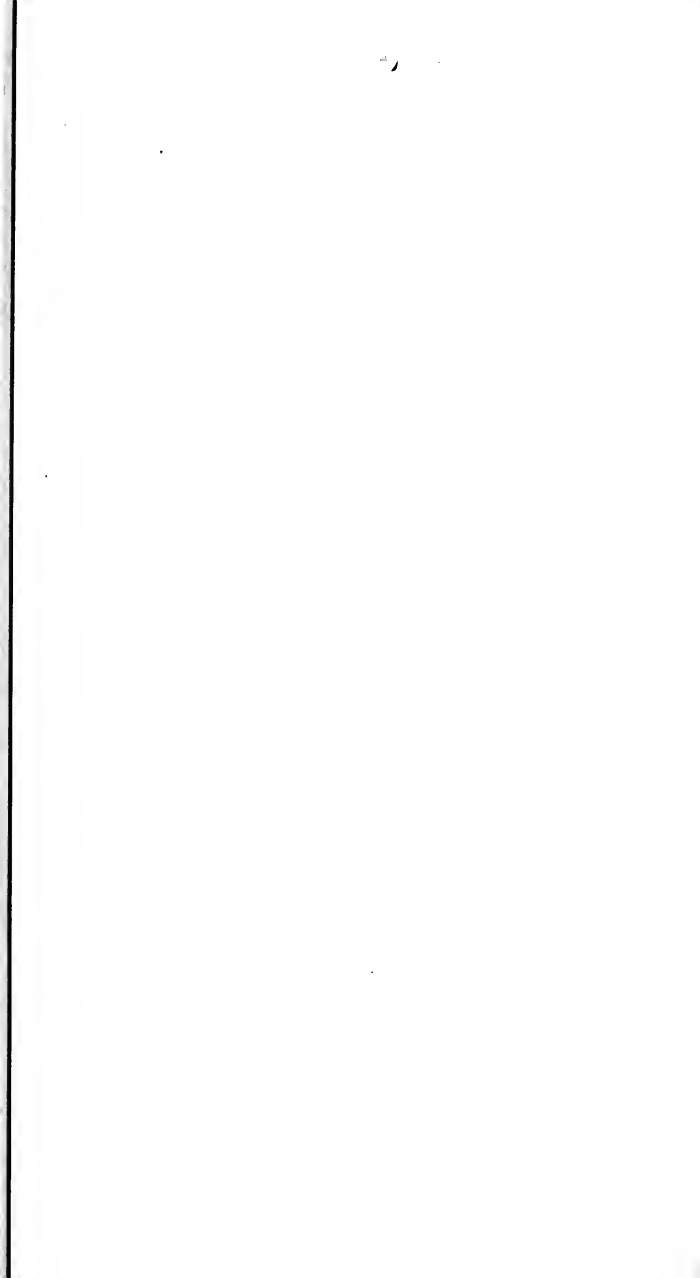
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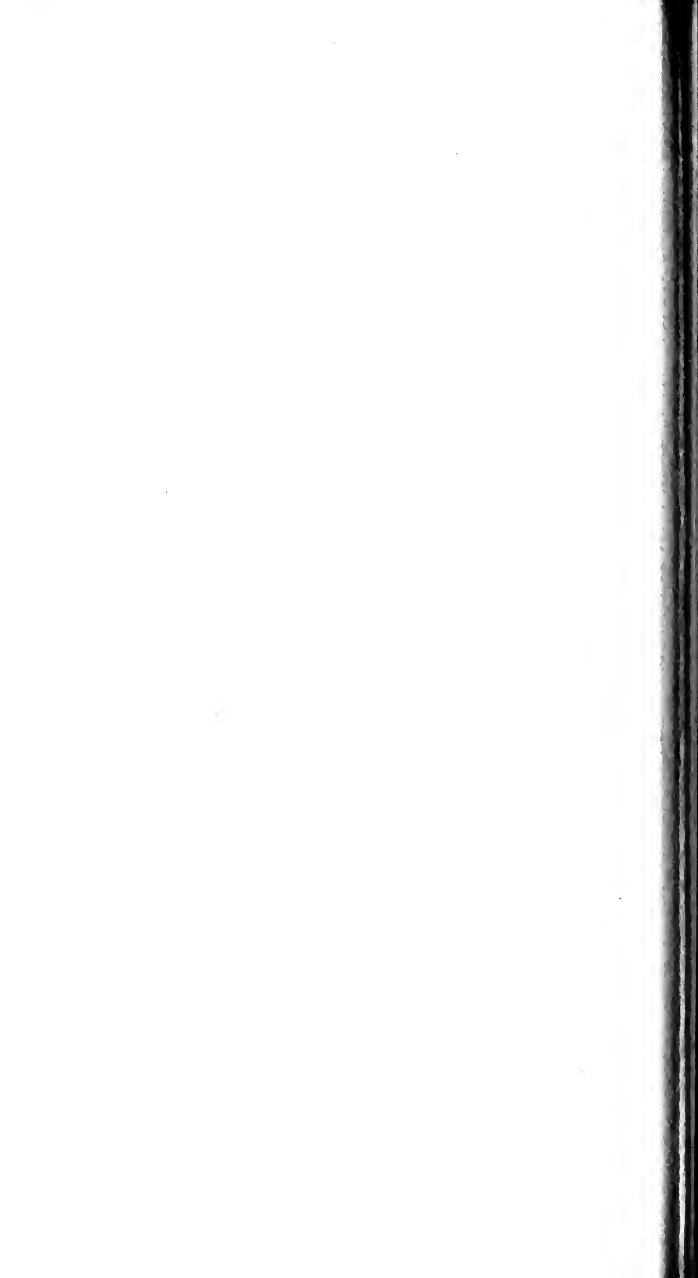
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