

An Accompt of some Books.

- I. *MECHANICA, sive de MOTU Tractatus Geometricus.* Auth. Joh. Wallis SS. Th. D. & Geom. Profess. Saviliano; &c. Londini; Impensis Mosis Pit, in Vico vocato Little Britain, 1670. in Quarto.

THis Excellent Mathematician, having composed a Learned Treatise concerning the Doctrine of *Motion*, and what thereon depends, managing it in a manner altogether *Geometrical*, was pleased, upon the importunity of his Friends, to permit the *First Part* thereof to come abroad, whilst the others are still in the Printers hands; which is about One third part of what he did, near two years since, impart to the *R. Society*, and was by them desired to make it publick. In this First Part he delivers,

1. The *General Rules of Motion*, promising thereto, as becomes a strict Reasoner and good Geometrician, the *Definitions* belonging to that Subject; and then comprising the *Rules* themselves in Thirty Propositions: In which he takes occasion, among many other weighty particulars, to intimate, That it is principally the business of a *Mechanician*, to excogitate and make practicable such Engins, to be interposed between the *Strength* and the *Weight*, as may so moderate the *Celerity of Motion*, as to compensate the *Greatness of the Weight*, by the *Slowness of the Motion*,

Motion, or the want of strength, by the length of time.

2. Of the *Descent of Heavy Bodies, and the Declivity of Motion*, Thirty four Propositions. In which he doth not think fit to explicate the *Physical Cause of Gravity*, whether it proceed from an innate quality in the Heavy Body it self; or an Universal Tendency of Circum-ambient Bodies to the Center, or a Magnetical Power in the Earth, or the like; but contents himself (his purpose requiring no more) to understand by the word *Gravity*, that sensible force of moving downwards, or to a certain Point, both the Heavy Body it self, and the less powerful Impediments: Shewing in this Part also, in what proportion the different Declivities of Oblique or Sloping Plains, in which a Heavy Body is supposed to be moved, doth operate to the Helping or Hindering of such Motion. All which he delivers as generally applicable to Motions, produced by any other force, as well as that of *Gravity*; and directed any other way as well as downward.

3. The Doctrine of the *Libra, or Ballance* (containing the Fundamental Principles of all *Statics*;) in Twenty five Propositions; among which; he explains the Geometrical Considerations requisite in making both exact *Common Scales*, and the *Roman Statera*.

On this of the *Libra*, depends (that which is the subject of the next Part, almost finisht at the Press) the whole Doctrine of the *Center of Gravity*, and
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the Calculation thereof: Which (*Center of Gravity*) he does not onely demonstrate *to be* (which others have hitherto Postulated, but not any, that I know of, demonstrated;) but doth from General Principles shew, How by Calculation to assign the same, in infinite sorts of Lines, Surfaces, Solids, as well such as are bounded, or take their rise from Crooked Lines, as those that are bounded onely with Streight Lines and Plains.

And from the General Principles, here laid down, he doth, in his Third Part (which is to follow) derive the Doctrine of the *Vectis* or *Leaver*; the *Trochlea* or *Pulley*; the *Cochlea* or *Screw*; the *Axis* in *Peritrochio*, or several sorts of Wheel-work; and other such Mechanical Engines derived from these. As likewise the Doctrine of *Percussion* (on which depends that of the *Cuneus* or *Wedge*; with many other Speculations of a like kinde:) And that of *Resilition* or *Rebounding*; which (as appears by a short *Specimen* formerly Printed in *Numb. 43.* of these Tracts) he derives from a Repercussion, either of some other Body in Motion, which it meets with, or from the Elastick Force or Spring in one or both of the Meeting Bodies, which, being compressed by the Collision, doth endeavor to restore it self by casting off these Bodies, one or both ways. Consonant to his Principles here laid down in the Tenth, eleventh, and twelfth Propositions of his *First Chapter*; where the *Impedimentum* or *Obstacle* is made sufficient to retard or stop a Motion; but a *vis contraria* or contrary Force,

Force, necessary to give an opposite New Motion.

In this first Book, he illustrates all with Eighty Figures, contained in two compendiously contrived Plates: And doth, from their proper Principles, demonstrate many of these things, which Writers commonly Postulate, or take for granted; but which (to make a sure Foundation) ought to have been demonstrated.

II. NATHAN. HIGHMORI *de HYSTERICA & HYPOCHONDRIACA PASSIONE, Responsio Epistolaris ad Doct. Willis Med. Londinensem. Londini, 1670. in 4°.*

THe occasion of Writing this Epistle, was, That the Learned Dr. *Willis* in his *Pathologia Cerebri* undertakes to confute the Causes of the Hysterick and Hypochondriack Passions, as they are assigned by our Author in his *Exercitationes*, concerning these two Symptoms, published *An. 1660.* Who thereupon thought himself obliged to write this *Defence*, in behalf of what he had formerly delivered upon this Subject.

The Controversie, as to the former of these Passions, consists in this, Whether the cause of it is to be referred more immediately to the *Genus Nervosum*, and it be primarily a Convulsive Symptom, depending on the Brain, and the Nerves thereof; or whether it ought to be imputed to the Blood, rushing too impetuously into and stuffing up the Lungs? Hence

Dr.

Dr. *Willis* asserts the former, and objects against the latter, of which, the Vindication is undertaken in this *Epistle* ; wherein it is considered among divers other things. 1. That the Hysterick Passion is not always accompanied with Convulsions ; where also the existence of the *Succus nutritius* (on which Dr. *Willis* his Doctrine seems to depend) is called in question, and several Arguments alledged to the contrary. 2. That, if the *Succus nutritius* in the *Nerves*, be by a violent explosion dilated, and that by the means of *Fixed Salts* mixed in the *Nerves* with *Acid* ones (according to Dr. *Willis* ;) the same may happen upon the Concurrence and Conflict of the like Salts in the Blood.

Concerning the *Hypochondriack Passion*, the Question between these two Physicians, is, Whether the first and chief cause of that distemper, be the Weakness and Laxeness of the tone of the Stomach and its Fibres, whereby a vicious Chyle and Blood is generated, that causes such a Fermentation, upon which do ensue Trembling and Palpitations of the Heart, Swoundings, Fear, Sadness? &c. This is affirmed, and here further asserted by our Author, but denied by Dr. *Willis* ; concerning which, the *Reader* will finde the best satisfaction in perusing the Writings themselves of both parties.

In the mean time he may please to take notice here, that Dr. *Higmore* in this *Epistle*, intersperses some not inconsiderable Remarks concerning the *Use* of the *Spleen*, which part he endeavors to free from those

imputations it is commonly charged with, being of opinion, That the Blood is originally depraved not by the *Spleen*, but its matter by the *Stomack*.

III. NOUVELLES EXPERIENCES *sur la VILPERE*, par M. CHARAS. A Paris, 1669. in 8 .

THE Author of this Curious Book, having first taken notice therein of divers Observeables, he met with in the Dissection of *Vipers*, and among them, of the *salival Glands*, he discovered in them as well as in other Animals, and those accompanied with *Lymphatick Vessels*, passing into a greater Vessel running along and under the said Glands, and discharging itself into the *Vesicle* of the *Gingiva*, and carrying with it the *Salival liquor*, which he makes to be the same with that yellow water in the bag, hitherto esteem'd venomous, but by him reputed a meer harmeles *saliva*; having, I say, presented his Reader with these and many other Anatomical Observations upon this creature, he makes it his business,

1. To prove, that the biting of *Vipers*, at least of such as are in *France*, are indeed venomous, and proved actually mortal: Where he alleadges many Experiments, made by himself in the presence of many Physicians and others, evincing this Assertion; in the recitation of which, he observeth not a few remarkable *Phænomena*, seen in the Animals, bitten by *Vipers*, both without, and also within them when dead

and opened ; particularly , that he found all their Vitals and Viscera fresh and in a good state, but the Blood in all of them , that were opened , either coagulated already and blackish, or tending towards coagulation.

2. To confute the opinion of those (and by name of the famous Italian Philosopher *Redi* , who , a few years since , publisht also a Book of *Vipers*) that assert , that the Venom of these Animals resides in the Jellow liquor contained in the Bagg about the Vipers teeth ; whereas this Author will have it to be in their vexed and enraged spirits : which he thinks , he hath sufficiently proved by wounding several Animals with some of the biggest teeth of Vipers , pulled out , and letting into wounds thus made, and rubbing with that reputed poisonous liquor of the bag ; whereupon no ill effects at all have followed. Which he confirms by another tryal, wherein, holding the Jaws of a Viper , and then thrusting its teeth into the flesh of a living Animal , and letting the Juyce of the bag into the wound , no ill consequence appeared , considering that the angred Spirits of the Viper , in that forced and restrained posture , were kept from passing abroad ; for the emission of which he suppoeth the freedom of the Animal is required.

3. To recommend , among divers other Antidotes for the bitings of Vipers , the *Volatile Salt* made of them ; the vertues of which he exceedingly praiseth , alledging the Example of a person , who being bitten by a Viper , could be saved by no other means ,
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but by several *doses* of this Volatil Salt; whose preparation he at larg describeth.

This Book is likely to be forthwith translated into English, to be printed for the Stationer, that taketh care of these Transactions.

IV. ATHANASII KIRCHERI ARS MAGNA SCIENDI *sive* COMBINATORIA. Amstelodami. 1669. *in fol.*

THIS Voluminous Work is divided into Eleven Books; in which the Author having taken some pains to show the Defects and Difficulties in the famous *Lullian Art*, pretends by a new and Universal Method, that is, by an Artificial Combination of the Subjects of knowledg, to enable men to discourse and dispute, innumerable ways, of every thing proposed, and to acquire a summary and general knowledge of all things. So that his *Combinatory Art*, as he calls it, consists chiefly in this, that any subjects being given or proposed, it shews, how often and how many ways they may be combined together, or exchanged, or transposed among themselves.

Of this *Art* he first shows the Theory, and the Rules, in the first 5 Books; and then in the other 6. he applies these Rules to Practice by Examples, relating to the several Arts and Sciences.

Of what Use this Doctrine may be for the attainment of knowledg with more ease or advantage, the sagacious Reader may Judge.

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V. LE SYSTEME GENERAL DELA PHILOSOPHIE , par Francois Bayle D. M.A Thoulouze , 1669. *in folio.*

THis smal Tract , consisting only of 4. Sheets , may serve to initiate those , that desire to be acquainted with the sum and import of the *Cartesian* Philosophy. It delivers , in 11. Chapters, these 11. Heads: The Metaphysicks of that famous Philosopher ; his Logick ; Principles of Natural Philosophy in general ; his Doctrine concerning the Productions made in the Bowels of the Earth ; concerning Meteors ; Sensible Qualities ; Plants ; Animals ; Man ; Humane Passions ; and Ethicks.

VI. THEODORI KERCKRINGII D. M. SPICILEGIUM ANATOMICUM , continens *Observationum Anatomicarum variorum Centuriam unam , nec non OSTEOGENIAM FÆTUM.* Amstelodami , A 1670. *in 4°.*

THis seems to be a very Curious Collection ; to which the Author premiseth in the *Preface* his opinion concerning the *Renes succenturiatos* , viz. That they seem to be Cases , wherein is elaborated a Bilious Juyce ; which afterward by the Emulgent veine , or often immediately , passeth to the *Cava* and thence conveyed to the Heart , raiseth there that Effervescence, which *Sylvius* contends to be in that part excited by the mixture of a saltish liquor with an Acid: for
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although Experiment do contradict the Conveyance of the Juyce out of the Liver, through the *Cava*, yet (*saieth he*) may that effervescence in the heart (on which the whole Systeme of *Sylvius* is grounded) still hold, if this opinion about the use of these Kidneys be true, especially since there needs but little *Leven* to ferment a great Mass; there being required but a very little Salt of *Tartar* to be mixt with a good quantity of Spirit of *Vitriol*, to cause a vehement and durable Fermentation, though a considerable plenty of the latter, mingled with a small quantity of the former, produceth but a languid and short Effervescence.

As to the *Collection* it self, it consists of divers uncommon, and very considerable Remarks, delivered by the Authors own Observation; *E. G. A Dutch Stuyzer* swallowed down, and by closing the *Pylorus* of the Stomach, killing the Patient in ten days; on the contrary, a small *Brass-coyn* being swallowed, was after a Month's time voided by Purges, and the Patient saved, the *Coyn* being so worn in the Stomach, that the same hardly appeared: *Item*, Of a Tumor on the Back, resembling a Sack filled with Corn, formed there by the force of Imagination: Examples of Superfoetation, and Ambiguous Births; of Animals bred in the Ear, and Worms come out of the Nose; of two Nipples in one Brest; of divers very odd Monsters; of Infants born with Teeth; of a periodical spitting of Blood; of Stones growing upon the Wind-pipe, in the Brain, and the Heart, and killing the Patients; of a double *Vena Cava*, of a treble *Ductus Thoraci-*

cus ; of four Spermatick Arteries found without Spermatick Veins ; of a portion of a *Secundine* , voided uncorrupted and innoxiously, four Moneths after the production of the Childe ; of a Woman, frightened by the prediction, made by a Beggar, of the day of her death, and dying on that very day ; of a very stooping and crooked Man, not above forty years of age, made streight again by purging away tough humors, besiedging the Muscles ; of a Boy, and of several Sheep destitute of Brains ; of many Observables in one and the same Body ; of various complicated and odd Diseases in one Patient ; of a Woman gone about seven Moneths, who being exceedingly frightened at the hearing of her Daughters falling down Stairs upon her Head, and breaking the hind part of the Skull, was a few days after delivered of a dead childe, wanting the whole Bone of the same part ; of the *Catamenia* flowing thorow the Crown of the Head ; others, thorow the right hand ; others, from the very time of a Childes Nativity ; of a Childe inclosed in a *Mola* ; of a means of restoring the Sight, deprived of its Chrystalline, and the other Humors.

The other part of this Book treats of the gradual and successive Growth of the Bones in a *Fetus* ; for the better observation of which, the Author affirms to have by him *Sceletons* from the second Moneth after the Conception, to the very Ninth Moneth, assuring the Reader, that he delivers nothing, but what he knows by his own clear inspection ; which he

he performs in such a manner, that he onely relates the more rare particulars, wherein the *Fætufs* do differ from *adult* Bodies, or he in the Doctrine of the Bones of *Fætufs* from other Authors, or which being un-observed of others, he hath observed more accurately; now and then also confirming, what others, by reason of the odness of the thing, yet doubted of. In short, he deduces the increase of the Bones through their several intervals of Times, and gives an accompt, How they are constituted in the first two Moneths, in which there hardly appeareth any thing of Bones distinguishable; then what of them, about the Third, fourth, and the rest of the Moneths, is ordinarily changed, added, or taken away, at least in the *Fætufs* of these Climats. The sum is, That there is a Transmigration of Membranous parts into Cartilagineous, and from them into Bony ones; performed by Nature with such silent steps, that the most quick-sighted, and the most patient Eye shall never see it doing, though it may evidently see it done.

E R R A T A in Numb. 53.

P Ag. 1062. l. 1. r. *Durtwich*, p. 1064. l. 4. r. *two pounds four ounces and an half*,
 ibid. l. ult. r. *or chiefly*, p. 1066. l. 26. r. *with a lower hole*, p. 1067. in Fig. 3.
 r. *The Bone with*, p. 1074. l. 17. r. *thoroughly inured*.

E R R A T A in this Numb. 54.

P. 1076. l. 17. r. *Denys's Advocat very*, p. 1088. l. 26. r. *ways; consonant*.

Printed by T. N. for *John Martin*, Printer to the
Royal Society, and are to be sold at the Bell
 a little without *Temple-Bar*. 1669.