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De ORIGINE FONTIUM Tentamen Philoſophicum, in Prælectione habita coram Societate Philoſophica *nuper* Oxoniæ *inſtituta ad* Scientiam Naturalem *promovendam, . Per* Rob. Plot *LL. D. Cuſtodiæ MUSÆI ASHMOLEANI* Oxoniæ *Præpoſitum. & REGIÆ SOCIETATIS Secretarium* Oxon. *in* 8°. 1685.

THE *Author* of this *Treatiſe*, de *Origine Fontium*, diſliking the old way of handling this *ſubject*, as too general and remote; has choſe rather to argue for both parts of the *Queſtion*, from the *Hiſtory* of *ſprings*; with intent more particularly to ſatisfy his *reader*, which *ſprings* they are, that wholy come from *rains*, *miſts*, *dews*, &c. which from the *ſeas*; and which from both. In order hereunto (after a ſhort *Proem,)* He gives us a *Scheme* of the ſeveral *ſpecies* of *ſprings*, to which he thinks all what ever may be reduced: and then preſently determines that ſuch *intermitting ſprings* as are profluent after *rains*, and then gradually ſlacken, and at laſt are wholy dryed up upon heats in the Summer, doe certainly owe their birth to *rains*. And not only ſuch intermitting ones, but ſome *perennial ſprings* too, ſuch as we many times find on the tops of Mountains, which we may rather term weeping, than flowing or running *ſprings*; which ſeem to have their Origin from the *miſts* we ſo frequently ſee hanging upon the tops of hills. Yet He cannot agree with ſeveral worthy *Authors* he there mentions, and whoſe Arguments he recites, that all *ſprings* owe their origin to *rains*, *dews*, &c. For he thinks not that *temporary irregular fountains* (whereof he enumerates many,) can poſſibly come from *rains*; much leſs the

the *temporary regular* ones, ſuch as the fountains of the *Loire* in *France*, of *Lambs-bourn* in *England*, of the *Zirchnitzer Sea* in *Carniola*, and divers others. Much leſs ſtill thinks he that ſuch vaſt *perennial ſprings*, as thoſe of *Willowbridg* in *Staffordſhire*, of the *Sorgue* in *France*, can come from *rains*; ſince he finds upon computation, that all the waters that fall near them for the ſpace of a year in *rains*, *dews*, &c. will not comparably amount to what iſſues from them. For the better Calculation whereof, he ſhews to what height *rain-water* will riſe in a year in a *Conſervatory* fitted for that purpoſe *communibus annis*; and how many *French* Muids, Hogſheads and Gallons *Engliſh*, will flow out of a cubick inch bore, in 24 hours, in a year, &c. And then ſhews that though it may be true (what an Anonymous *French* Author aſſerts,) that more water falls in *rains* near the fountan head of the River *Sein*, than is needfull for the yearly expence of that River, yet it is not ſo at *Willowbridg*, or likely to be ſo with the fountain head of the River *Sorgue*, which as *Gaſſendus* tells us is navigable to the *ſprings* which are its original. Yet much leſs ſtill can he imagin that all the *rains*, *miſts*, *dews*, *ſnows*, &c. that fall upon the ſurface of the whole *Earth* for the ſpace of a year, can ſupply the vaſt expence of all the *Rivers* in the *World* for the ſame time: when the *Volga* alone, according to the calculation of *Ricciolus*, pours forth as much water into the *Caſpian* Sea in a years time; as will ſuffice to cover or drown the whole *Earth*: and ſo the River *Canada*, or of *St. Laurence* in the *Weſt-Indies*. And if theſe either of them alone expend as much water in a year, as all the *rains*, *miſts*, &c. ſeem capable of ſupplying; much more ſure will the *Argyropotamus* or *Rio dela Plata* doe it, which ſays the ſame *Ricciolus* is bigger than the *Nile*, *Ganges*, and *Euphrates*, all put together; its *Mouth* being 90 miles broad, and running with that violence into the *Sea*, that it makes it freſh 200 miles forward. Or if

theſe ſingly will not doe it, certainly all three joyntly will, at leaſt theſe and a thouſand others muſt; which upon a modeſt conjecture, he computes muſt needs pour forth into the *Sea*, at leaſt 500 times as much water in a year as falls upon the whole ſurface of the Earth in *rain*, *miſts*, *ſnows*, *dews*, &c. in the ſame ſpace of time. And as he judges that all *freſh-water ſprings* cannot come from *rain*; neither can he beleive either that *hot ſprings*, or *ſalt ſprings* are maintain'd thence. Nor thinks he it likely that *ſprings*, where there falls little or no *rain*, or where the *Conſervatories* muſt needs be too ſmall, as in the Iſles of *Mago*, *Rotunda*, and the *Strophades*, the Rock whereon ſtands the *maiden Tower* in the *Thracic Boſphorus*, ſhould be ſupplyed from *rains*. Then he goes on to prove that there are ſubterraneal communications between the *Seas* and *fountains*, by which they are ſupplyed, and that there are *Charybdes* which ſwallow the *Sea*, which happening ſometimes to be ſtopt, the greateſt *Rivers* have ceaſed to run, as the *Thames*, *Trent*, *Medway*, in *England*; the *Elve*, *Motala*, and *Gulſpang* in *Sweden*; and ſometimes being too much open'd, *freſh-water ſprings* have turned *ſalt*, as *Pliny* ſays it once happend in *Caria* near *Neptunes* Temple. This ſubterraneal circulation of waters he further evinces from divers *ſprings* he there enumerates that *ebb* and *flow* with the *Sea*; and from divers *Lakes* that *have Salt water* and *ſea Fiſh* in them, yet have no ſuperterraneal communication with any *ſea*, ſuch as the Lake *Haguygabon* in *Hiſpaniola*, the *Caſpian* and *Mediterranean* ſeas, &c. He alſo ſays that 'tis further evident that there are ſuch paſſages, from divers *marine heterogeneous ſubſtances* that have been found in digging deep underground, ſuch as *ſhell fiſh*, &c. Where by the way he diſcourſes of divers ſuch *Indraughts* there are in the *ſea*, more particularly of the *fluxus Moſchonicus*, or *Maalſtroome* on the coaſt of *Norway*, and beleives there muſt be ſome ſuch vaſt *Charybdis* (beſide that on the coaſt

of

of *Sicily*,) in the *Mediterranean* which muſt ſwallow all the water which perpetually flows into it, otherwiſe it muſt need overflow the low land of *Ægypt*. For that an *undercurrent* (which ſome have beleived,) in the *ſtraights-mouth*, will not ſolve this difficulty, unleſs occaſioned by a vaſt *Gulf* that muſt be placed ſomewhere in the *Atlantic* near the *Mouth* of the *ſtraight*, which though overflown and hidden by that mighty ſea, yet may poſſibly abſorb the deeper waters, and ſo cauſe a contrary *undercurrent*. Thus having proved that the greateſt *perennial ſprings* derive themſelves from the *ſea* through ſubterraneal *ductus's*, from *Philoſophy* and profane *Hiſtory*, he next appeals to the *Teſtimony* of the *Scriptures*, where he gives a new *Interpretation* of *Eccl.* 1. v. 7. and ſhews how agreeable the doctrine of the *Ancient Philoſophers* is to the *ſcriptures*: And then proceeeds to anſwer the cheif Arguments of thoſe who hold, that all *ſprings* whatever come from *rains*, &c. Where by the way he ſhews, that there are *ſprings* upon the very *Tops* of Mountains, and that others riſe in plain *Champion* Countreys, of both which he gives many inſtances. Then he ſhews how many ways *water* will aſcend above its own *Level*, 1. by the help of *Hypogeal* heats. 2. by *Filtration*. 3. by the *unequal height* of divers *ſeas*. 4. by the diſtance of the *Center* of *Magnitude* from the *center* of *Gravity* in the Teraqueous Globe, where he indeavours to prove, that the *ſuperficies* of the *Pacific ſea*, is further from the *center* of *Gravity*, than the top of the higheſt Hill on the adverſe part of the Globe. 5. by the help of *ſtormes*. And 7. he ſhews that *ſea water* does aſcend above its own *Level* by comeing into *Wells*, whoſe bottoms ly higher than the ſurface of the *ſea* next them, at highwater mark. Next he gives the Method *Nature* uſes in making *ſea* water *freſh*, and whence it comes to paſs that the caverns through which the *ſea water* has percolated for ſo many ages, are not ſtopt; and proves that the *ſprings* are car-

ryed in the Earth after the manner of the *Blood* in the *Veins* of *Animals*, from their not being found in all places indifferently. Laſtly he ſhews how it comes to paſs that the *ſea water* after ſo many repeated *percolations*, for ſo many years, is not yet become *freſh*. That it has its *ſaltneſs*, from the Rocks of *Foſſile Salt* interſperſt in its bottome and ſhores, and how much inferiour it is in *ſaltneſs* to the *Mediterranean* brines. All which he has treated of with that modeſty, that he ſincerely profeſſes, he ſhall readily retract any thing that he has aſſerted, whenever better informed either by his own or the more nice obſervations of others.

Medicina Septentrionalis Collatitia, *ſ. Rei medicæ nuperis annis à Medicis* Anglis, Germanis *&* Danis *emiſſæ ſylloge & ſyntaxis. Opera* Theophili Boneti. *D. M. cum Indicibus & figuris neceſſariis. Genevæ.* M. DC. LXXXV. *in* Fol.

THIS Author deſigning a body of the law of Nature, in imitation of that of the Civil Law, to his two former Volumes ſubjoyns this, the intent of which is to ſhew how much Phyſick owes as to its improvement to theſe Northern nations. The Inſtruments of which have been the *Royal Society of England*, afterwards copied by our neighbouring Nations; *Paracelſus* opened the way, and was followed by *Helmont, Harvey, Lower, Bartholin, Malpighius, Wharton, Willis, Betts, Schneider, Steno, Sylvius* and others, which are briefly ſummed up in the preface. The book is divided according to the uſual partition of the body of man, into three parts. The firſt contains the diſeaſes incident to the head, which is taken here intirely with all its parts, the hair not excepted, with obſervations about which he begins, for that even our hair is not without its diſeaſes and thoſe none of the leaſt troubleſome; the *Plica Polonica* is a ſure and a ſad inſtance, the Nature and the cure of which you have here diſcourſed of at large, as alſo its diviſion into *male* and *female*. He brings inſtances of Monſtrous births born without heads, one of which had its Eyes placed under its armes, on theſe *Schrockius* diſcourſes whether they ought to be Baptized or not, bringing Authoritie's and reaſons on both parts of the queſtion, it being difficult to determine whether they have a rational ſoul or no. Theſe are followed by Monſters in the other extream, ſuch as have many heads, where another queſtion ariſes *viz.* whether ſuch are many Animals, or only one, or whether the ſoul be multiplied

when the brain is, that being the reputed ſeat of it. Next come thoſe who have been Monſtrous as to the ſhape of the head, ſeveral inſtances are given of the *affectus cornutus*, of the defect or exceſs of the *Sutures*; of ſeveral wounds of the head, ſome mortal, others beyond all probability of eſcaping, particularly that of the *Hungarian Captain*, who though he had a Lance ſtruck through his head, yet lived many years after it, and fought often. In the diſeaſes of the head and Nerves is inſerted a diſcours of *Olaus Borrichius* concerning the uſe of *Volatile Salts* in the diſtempers of the head, in which he aſſerts the difference of volatile ſalts, and prefers that of *Mans Skull* as the moſt proper in ſuch caſes; And among ſeveral ſorts of pains of the head there is an account from *Joel Langelot*, of one which roſe and ſate with the Sun, obſerving exactly the ſame degrees of increaſe and decreaſe, as the Sun did in its motion to and from the Meridian, &c.

In the affections of the Eys, the place and manner of viſion is determined, together with the relation of the controverſy between *Pecquet* and *Mariotte*, concerning the termination of the ſpecies, and viſion the reſult of it, being performed rather in the *Choroeides*, than in the *Retina*. The famous experiment of reſtoring the humours of the Eys, was at laſt reſolved into their natural reſtitution, from the ſame humour's being repleniſht thoſe wayes they are conſtantly nouriſhed, and not from their being repaired by the injections of *Burrhus*, or any other pretender.

The ſecond book treats of the diſeaſes of the mouth and breaſt, where among other things we meet with a diſcourſe concerning an infallible way of preſerving a man from infection though he converſe conſtantly with all ſorts of thoſe who are infected, the way is no more than forbearing to ſwallow the *Saliva*, which at any ill ſmell is raiſed by nature, on purpoſe to be ejected, the ſuppoſitions that confirm this opinion are chiefly,

the

the fermenting nature of contagion. This contagion chiefly propagated by *effluvia* in the Air; Theſe *effluvia* are readily imbibed by the *Saliva*, which thus impregnated and ſwallowed, muſt needs communicate them to the body; to which may be annexed the obſervation of a Conſumption cur'd by a critical ſalivation. He treats very largely of the nature and cure of a *Peripneumonia*, and of its difference from a *Pleuriſy*; of all diſeaſes of the lungs, as *Gangrene*, *Schirrus*, *Vomica* and *Stones* frequently found in them, a caſe of which latter is ſubjoyned of one who expectorating many of different ſhapes and ſizes, was eaſed from a *dyſpnæa* under which he almoſt mortally laboured.

Among *pleuriſys* there is an account of a periodical one returning once in ſeven weeks. Of another cauſed by laughing, &c. Among the celebrated remedies for it, you find *Antimonium Diaphoreticum*; as alſo a bark in India very powerful, if not a ſpecifick in this caſe. It is called *Pavo de portada*, of a yellowiſh colour, bitter taſt, and a friable conſiſtence; half an ounce in a glaſſe of Wine is the doſe. In his Hiſtories of conſumptions he relates an example of the great contagion of it, which was the infection of a ſenators ſecond Wife, only by wearing the Muff of his firſt Wife who died of one, though after the diſtance of above a twelvemonth. He gives a particular account of the famous *Cæffelius*'s remedies in this as he has done in other caſes: Inſtances how *Opium* has been very unſuccesfully applied in it, death inſuing the ſtoppage of the ſpitting, and the coagulation of the matter there cauſed by it.

In the Section de *Reſpiratione læſa*, there is a large diſſertation *de halitu humano*, of its difference, cauſes, manner, quantity, uſe, diſeaſes, &c. written by *Georgius Traneus*. Which diſcourſe is followed by an account of a monſter which breathed through an hole in the pole; as alſo the diſcourſe of *Dr. Lower*, how a dog may be made

made to breath as an Horſe does when broken winded, taken out of the Engliſh *Philoſophical Tranſactions*.

In his third book are containd what concern the *Abdomen* and its parts, of which the *Oeſophagus* being looked upon as the beginning, the preternatural caſes of that are firſt handled; ſuch as its being turned to a *Cartilage*; being obſtructed by different cauſes, and the like; and after the account of ſeveral ways *deglutition* has been hindred by, the famous Hiſtoryes of men ſwallowing odde ſubſtances come in, as mony, frogs, knives, fire, &c. But becauſe twould be endleſſe to enumerate particulars, you have comprized in the whole volume, whatſoever this age and theſe Climates have produced curious in Medicine. And what are ſcatter'd and lye confuſed in *Ephemerides*, and other tracts, (which the learned now publiſh their particular obſervations in,) are here collected into one book, digeſted into heads, and the Authors name annexed to each relation, to ſecure the propriety to the firſt inventor. And though little ſeems to be wanting in this volume, yet the Author not thinking he can doe too much good, promiſes a ſecond then in the preſſe, when this was firſt publiſhed.

Johannis Nico-

Johannis Nicolai Pechlini *Med. D. P. ſereniſſimi* Cimbriæ Principis *Reg. Archiatri*, Theophilus Bibaculus, *ſive de* Potu Theæ *Dialogus. Francofurti*; Quarto, 1684.

THIS tract, written by the way of Dialogue, gives us an account that *Thee*, or *Tſia*, is a ſhrub growing in moſt parts of *China* and *Japan*; it ariſes generally to the height and bigneſs of our Garden Roſe and Currant Trees; the Roots are fibrous, and ſpread into many little filaments, near the ſurface of the Earth; the flowers are like thoſe of *Roſa Sylveſtris*; the Seeds round, and black; which being ſow'd come to perfection inthree years time, and then yield an yearly crop; but theſe are paſſed by, as not much material; the great and only Vertue of this plant being ſuppoſed to conſiſt cheifly in the Leaves; of which there are five ſorts, both as to bigneſs, and Value; for the largeſt at bottom are ſold for about penny halfe penny the pound; the ſmalleſt at the top for 50, ſometimes 150 Crowns.

As to their figure, they are thin, narrow, ſharp pointed, and indented on each ſide, which ſome have compared to the *Conſolida*, the *Bellis*; Others to the *Paliurus*, and ſome again to the *Myrtus Brabantica*, or *Chamæleagnus Dodonæi*; But our Author not liking the compariſons, nor much ſollicitous about them, comes preſently to the Vertue of *Thee*, and endeavours to ſhew how far it agrees with ſome plants of our own growth, as to the effects it produceth.

Thee then is hot and dry; of a bitter adſtringent

Quality; the Infuſion of it gives a green Colour; but upon the mixture of the ſolution of Vitriol, it turns black; whereas *Chamædrys* tho' bitter, is not aſtringent; and upon ſuch mixture grows green, rather then black. *Cardiaca*, and *Marrhubium* give a very deep Tincture, but grow not black with Vitriol.

Sanguiſorba well enough reſembles the Colour, but the taſt is by no means, ſo ſmart, and brisk.

The *Myrtus Brabantica* gives a lively yellow Colour, but changes very little with Vitriol.

Veronica comes neareſt to it, for it gives a good tolerable Tincture; and tho' the taſt be not bitter, yet 'tis extreamly aſtringent; and not only ſoe but it turns black alſoe, like *Thee*, when mixt with the ſolution of Vitriol; neither doe it's effects come far ſhort, ſince it cleanſes the Kidnies, and very much ſtrengthen's the head, and ſtomack. This Plant abounds with a brisk Volatile ſalt, which he adjudges very agreeable to our Northern Conſtitutions, whoſe blood is naturally very heavy, and ſluggiſh; it carries alſoe with it a fine thinner ſort of Oyl; but ſoe admirably well temper'd, that as this hinders the ſpirit from Evaporating, ſoe that corrects the Inflammabily of this; from whence reſults the very agreable bitter aſtringent: All which together, as they rectifie the ferment of the blood, and at the ſame time ſtrengthen, and confirm the tone of the parts, contribute ſo much to the aſſiſting of Nature in her Operations, as to prevent, if not to Cure, moſt Chronical Diſtempers. But becauſe the diſcreet choice of a proper Vehicle or Menſtruum, for this great *Panacea*, may be very material, he thinks good to ſhew his diſlike of Broath, and Milk; in that they obtund, and obſtruct it's more lively and quicker parts; but the latter more eſpecially; as all ways leaving behind it much acidity, which how prejudicial to *Hypochondriacal*

driacal perſons, is left to the Learned to determine.

He diſlikes the cuſtom they uſe in *Japan*, of drinking the leaves powdred, ſuppoſing that it may dry the body too much, &c.

He concludes warm water to be the moſt natural, and effectual Vehicle, as being pure, and void of all ſaline or otherways pernicious particles, and being more ready to abſorb, and be impregnated with the Vertue hereof; which when armed with this powerfull Vegetable, Nature eaſily admits into its obſcure channels, and dark receſſes; and by this means it is, that it ſubdues thoſe ſtubborn Humours, which are never more effectually rooted out, then (as they came in,) by degrees, by Cuſtom, and Habit.

He approves well enough of the uſe of Sugar; as it ſerves not only to qualifie the bitter taſt, by its ſweetneſſe which at the ſame time is Corrected by the Heat; but as being good alſoe for the Kidnyes, and Lungs. He thinks the difference of conſtitutions too great to be inſiſted on, and therefore only ſays this *viz.* that thoſe of a dryer Habit may take it more diluted, becauſe their ſalts may more eaſily be carried off: and for the Moiſter and Hydropical temper He ſuppoſes this Water, if more ſtrongly impregnated may make way for the Evacuation of the other.

As to the times of taking it, the more empty the Stomack, the paſſage will be the more eaſy, and therefore in ſuch the more effectual: He condemns the uſe of it after meals; becauſe the Volatile part flyes off, before the meat is any ways digeſted; after which the Concoction is difficultly performed; becauſe the ferment, as well as the Volatility of the Chyle, is ſuppreſſed by the Aſtringent Quality; which in thoſe Circumſtances oft proves

a thing of very ill conſequence. To conclude, our Author notwithſtanding all his Encomium's of this Exotic, can be content to think, we might receive as much Benefit from ſome plants of our own growth; were People Induſtrious to ſearch after them; ſome of which are *Veronica, Lingua Cervina, Marrhubium, Hepatica, Cichoreum,* &c.

FINIS

Errata in the Tranſaction of December laſt.

PAg. 814, line 8, within the Parentheſis read thus (*which, with the other ſmall Guts, and Stomac, was very much diſtended with the matterof the laſt meal:*) pag. 815, lin 14, for *muſculoſe Veins*, read *muſculoſe and membranoſe Tunis.* pag. 816 line 21, for *Meat* read *Meal.* Pag. 817. line 21 read *Muſculoſe and membranoſe Tunics.*

Errata in the Tranſaction of January.

PAg. 840, line 5, for *pommand*, read *command.* pag 841, line 2, for *Dſigned*, read *Deſigned* line 10, read thus *1684, they.* pag 145 line 6, for g g g g there ought to be *G G G G*; line 9, for *h h h h* there ſhould be *H H H H.* pag 848, line 1, read *utpote*: line 3 read *AA Fig. 6th.* pag 855, lines 3 and 4, for *oever*, read *over*: line 4 read *driven*: line 22 dele *after.*

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