

# PHILOSOPHICAL TRANSACTIONS.

Monday, March II. 1666.

## The Contents.

*A Preface to the Third Year of these Transactions, which is begun with this. An Account of the Enlargements of Philosophical Correspondencies; together with an Invitation to contribute Inquiries and Directions. Inquiries for several parts of the World, as Suratte, and the East-Indies in general; for Persia, the West-Indies, and there particularly, for Virginia, Bermudas, Guaiana, Brasil. Those for other Countries referred to another opportunity. Of a considerable Load-stone, digged in Devon-shire, weighing 60. pounds. Some Observables about Load-stones, and Sea-Compasses. Proposals to try the effects of the Rarifying Engine exhausted, on Plants, Seeds, Eggs of Silk-worms. An Experiment proposed of Grafting Pears upon Spina Cervina (Buck-thorn.) Observations concerning Emmets; their Eggs, Production, Progress, Comming to Maturity, and Use. Account of a Book in French; intituled HISTOIRE DES JOYAUX.*

## A P R E F A C E

To the Third Year of these Tracts.

**H**AVING, by Gods Assistance, finish'd my solicitations for the *Philosophical Transactions* of the two last years, I crave leave to reflect a little upon what hath past.

I think, I may safely assume, that in these *Fragments*, something hath been contributed to sowe such seeds, as may somewhat conduce to the illustration and improvement of Philosophy; and of all Laudable and Useful Arts and Practices. And

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I hope, our Ingenious Correspondents have examin'd all circumstances of their communicated Relations, with all the care and diligence necessary to be used in such Collections; not taking up old Fame, or flying Reports, upon too easie trust; nor straining for other Kinds of Wonders, than the most wise Author of Nature hath allowed, but attending closely to the strict measures of *Natural Truth*, and to the useful Contrivances of *Art*. For some evidence whereof, I refer the *Reader* to the particulars, indicated in the *Tables* annexed to the *Traect* of *February*, lately past.

And because well advised Histories of *Natural Productions*, and of *Artificial Contrivances*, are necessary to beget sound knowledge, and to *excite* profitable Inventions, some have furnisht us with accurate Instructions, under the *modest* Title of *Inquiries* and *Proposals*: And further Disquisitions are by the hands of many Accomplisht Persons severally, and often with joynt endeavours in a manner universally profecuted.

Neither have we discouraged or refused the Essays of some famous Philosophers, learned Philologers and *Antiquaries*; whose Disquisitions, Readings, and Reasonings, have extended farther than their Experiences; since by such bold Excursions and Sallies many valuable Truths may be started out of their recesses. *Architects* do require some variety and store of Materials for the further satisfaction of their Judgment in the Choice: And the *Sculptor* must pare off somewhat of his richest Marbles, Onixes, Diamonds, &c. before he can perfect the Portraicture. Such liberty an exact Philosopher must claim in his Extracts from Men of much Learning.

In *Medicinals* we have now and then occasionally inquired after some rarities, medical applications and experiences; what the uses and performances are by *Plebotomy*, *Frictions*, *Simples* or *Compounds* not ordinary, by *Diet* or *Chymical Operations* in some of the remotest parts of the World, particularly in the famous *China*. Neither have we altogether omitted to commemorate those obvious reliefs, which the Divine Bounty has offered freely and in common, for distressed Mortals, by *Springs*, *Baths*, *Bolus's*, *Dedicated Earths*, &c. And we have had a due

See N. 3. p. 44. *Damps*.

N. 8. p. 133. *Poysonous Springs*  
or waters.

N. 8. p. 133. *Swarms of Insects*.  
*Ibid.* p. 138. *Strange*  
*Constitutions of Bats*.

*Baths*, *Bolus's*, *Dedicated Earths*, &c.

due care to erect a *Pharos* for a Caution against undiscern'd dangers.

By *Anatomy*, we have sometimes enter'd into the Chambers and Cabinets of *Animal Functions*, to find many Meanders and changeable Varieties, and the immediate Organs and Conduits of Life and Sensation.

As for the Growth of *Arts* and *Inventions*, I think, it may justly be said, That these our Entries sometimes assist and promote their Improvements. And the same will hereafter remain faithful Records to shew, By what steps and degrees, and by what Effays, Emulations, and Encouragements these Noble Arts advanced to perfection. And a punctual information of these Gradual Processes, may be instructive to promote other Inventions. And the Wise will consider it, at what easie rates they obtained *Monthly Advices* of the Designs and Successes of Industrious and Eminent Persons, and by the same means came to know as much, as was purchased at *their* great charges and assiduous labour. Of which Arts as they are now improved, and still improving, I presume I need not spare to say, That they would have obliged an *Alexander*, or a *Solomon*, and I must avouch with confidence, That they would have raised Acclamations, Applauses, and Admiration of most, and have provoked them to refund full Rivers of Treasures in Just-Rewards, and extraordinary Atchievements.

Neither is it much amiss, that there are yet some, who do prefer the darkness of old Heathenisme before this Noon-light. Otherwise, the next Age might hardly believe, that Men pretending to Wit, Prudence, and Learning, would ever make such strange Oppositions against their own great Emolument and Accommodations: And so the Vertuous might be deprived of a *fair beam* of the future Glory, due to their Memories for their unchangeable Resolutions, as unconcern'd in scoffing Discourses, and standing firm as Rocks against the dashes of foaming Disputants. And truly, they do much oblige us, in that they are pleased by their frets, and eager contentions, and by their fruitless and obstreperous Verbosity, to make themselves a foil, to set off the Serene Lustre of the real and obliging performances of the Experimental Philosophers,

And yet (in short to convince and reclaim as many as are hopeful) I dare, *without leave*, but with sincere affections, in behalf of the Learned *Virtuosi*, undertake to joyn issue with them, and to offer fair proof, That, whereas they pretend to *Aristotle* as their *Grand Oracle*, we have a true and higher esteem for his true worth, than these Pretenders do effectually manifest.

We say, his *Logicks* and *Rhetoricks* are very valuable. His *Ethicks* and *Politicks*, for the most part, sound. His *Metaphysicks* in many Notions acute. But all these are generally overwhelmed and degraded by the swarms of Infertile Systemes and dilute Commentaries.

And as for the other more useful Volumes of *Aristotle*, his *Traacts of Animals* (which did cost *Great Alexander* so many *Talents* for the furniture, and an ample Salary for encouragements) his *Mathematical Discourses*, and *Mechanicks*, these they never salute. They weed out his onely defects and animosities, his Vellitations with his Elders and Competers about Atomes and darker Principles; a *Matter*, which is *neque quid, neque quantum, neque quale*, a *Formal* and *Substantial* *εὐτελέχεια* (a word too hard for *Cicero* to translate) and *Privation*, a *Principle* as good as the rest; his Definitions of Causes and Affections; his *Quaternion* of grosse *Elements* and grosser *Mixtures*, and insipid *Compositions* and *Qualities*, lesse significant than the popular Air: All of them much fitter to beget *Eternal* Controversies, than to administer any satisfaction to a reasonable Understanding. These they gather up for the sweetest Posies and fairest Garlands, wherewith to adorn their Brows and Temples; and so they take their leave of *Aristotle* at the very Threshold.

Thus they reject the Harmony, and waste all their time in tuning the Instrument, and are best pleased, even ravish'd, with those strokes which glance below the Bridge, by which they sharpen and turn their Spirits habitually, and set the teeth of their disciples on edge; and then

*Quo semel est imbuta recens, servabit, &c.*

We take leave to ask, Whether *Aristotle* did not illustrate his best Conceptions in his Works, with *Mathematical* Demonstrations? In this, *Blancanus* will initiate their Observations with sufficient indu'gence. We ask further, Which of the *Philosophers*

of note, for any thing else but honest Moralities, did neglect the *Mathematicks*? What *free-born Child*, or yet what *Slave*, of any promising hopes, was not entered into these Disciplines, before they could number ten years of their Age. If these men would addict their palats to the pure fountains, and not wander after every polluted stream, then they would find more leasure for better things, to do some good for themselves and others: Then they would taste the pleasure, and reap the profit of their old Rule,

*Dulcius ex ipse fonte, &c.*

And withal they would have better understood their best friends.

Certainly; If *Aristotle* had been so happy, as to have enjoyed our *Opticks*, and other Instruments of Arts, and such *Engins* as we now employ, He would have been quite of another spirit than these are; and would have acknowledged a greater variety and more curious contexture, and more brisk *Mechanicks* in the *Insectiles*, which were in those dayes *invisible*, than in all the Animals, that were then known, or than are yet to be found in a far wider circumference; and would have confest the productions of our *Pyrotechnical Furnaces* to excell all, that could be reasonably expected from his own vast *Fiery Region*.

We say heartily, Read *Aristotle*, read him in his own Stile; read him entirely and fully; not feeding onely on his Ulcers and Excrecencies; nor taking up your rest in his *Un-intelligible Heavens*, at their *Adamantine Gates*, or about their *Flaming Walls*: Embrace his calm rayes, and his dis-interested Reasonings: chuse his best Vertues, examine and weigh all his Mathematical Illustrations, descend to his particulars: And then hasten to our *Christian* Philosophers, and they will forth-with acquaint you with the true Works and wonderful Contrivances of the Supreme Author, and with the Discoveries, which by his indulgent Providence and his benigne Inspirations have been in former and later Ages afforded, for the benefit, and the sincerely grateful acknowledgements of humane race.

'Tis our main busines, as well to retrieve all *valuable Antiquities*, as to supply *fresh Discoveries*: to recover good *Old Helps*, as well as to devise *New*. All our Artificers are designed, and appropriated, to unlock all the Repositories of Nature, To draw out her most concealed Operations and Rarities, To produce them  
with

with their best Advantages, and in their fairest Ornaments, for all good occasions: And whatever we find excellent in old *Greece*, or *Rome*, or in more ancient *Monarchies*, or in any one more happy part of the World, *That* in due season to communicate all over the World, to as many, as have the Ingenuity to give them a hearty Entertainment.

After thus much of *Preface* (which the *Candid Reader* will interpret with the same affection, it was written) I return to my task. Where I think it not amiss,

*First* of all, to take notice of the late Enlargements of our *Philosophical Correspondencies* in both remote and neerer parts of the World; concerning which we are singularly obliged to several of the Generous and Intelligent Citizens of this Famous *Metropolis of England*, especially the Eminent Governours of the *East-India* and *Turky* Companies, beside those of the same City, that travelling into the *West-Indies*, have been very ready to receive, (and to promise good Accounts upon) such *Philosophical Instructions*, as were presented to them concerning many particulars, thought worthy to be further inquired into, in our *American Colonies*. To which we shall add, what we have procured, for this our purpose, by our Commerce with *Spain*, *Portugal*, and *Barbary*; as well as by our Navigations into *Greenland* and *Iceland*: And also what occasions we have before us, to enter into a confociation with *Germany*, *Bohemia*, *Hungary*, *Transilvania*, *Carinthia*, *Tyroll*, and with all the principal Cities of *Italy*: it appearing already by our former Papers, what interest we have, before now, establishd in *France*, and, by the assistance of the Eminent *Hevelius*, in all the Countries upon the *Baltick Sea*, and in *Poland*; which is therefore related here, that we may thence take occasion to invite all Ingenious Men, and such as consider the importance of Cementing Philosophical Spirits, and of assembling together Ingenuities, Observations, Experiments and Inventions, scattered up and down in the World; that they would be pleased *partly* to recommend themselves, as they have occasion, these Kinds of Inquiries to their Ingenious Acquaintance, either living upon, or travelling into such places, as are concerned; *partly* to joyn their *Symbol's*, and to send in their *Proposals*, and whatever shall occur to them worthy to desire information about, in those Countries

tries above-mention'd; and rest perswaded, that all possible endeavours shall be employed on our parts, to recommend all, what shall thus be propos'd by them, to *our* Correspondents, with the same earnestness we do our own Directions, suggested by several of our Curious Friends.

## *Inquiries for Suratte,*

*and other parts of the East-Indies.*

**T**hough these *Queries* have been already dispatcht for India, and some of them even received an *Answer*, yet, because 'tis altogether necessary, to have confirmations of the truth of these things from several hands, before they be relyed on, it was thought fit, rather to publish the *Inquiries* alone, for a more certain and full Information, than now to joyn such *Answers* thereunto.

The *Inquiries* are these; as the Relations publisht by *Purchas*, *Linschoten*, and others, concerning those parts, have given occasion to propose them.

1. Whether it be true, that *Diamonds* and other *Pretious Stones*, do grow again after three or four years, in the same places where they have been digg'd out?

2. Whether the *Quarries* of *Stone* near *Fettipore*, not far from *Agra*, in the *Mogol's* Dominions, may be cleft like *Loggs*, and sawn like *Planks*, to ceel *Chambers* and cover *Houses* therewith? Likewise, Whether about *Sadrapatan*, on the Coast of *Coromandel*, there be a *Stone* of the like nature, so as, setting a *Wedge* upon it, one may cleave it with a *Mallet* as thick and as thin, as one pleaseth?

3. Whether upon the same Coast of *Coromandel*, about *Tutusorin*; and upon that of *Ceylon*, at *Manar*, and *Fasanapatan*, they fish *Pearls*, as good as those about *Ormuz*? Whether those *Pearls* are the better, the deeper they lie? What is the greatest depth, they are known to have been taken at? And whether it be true, that some of the *Natives* there, can stay under *Water* half an hour, without any *Art*?

4. Whether the *Iron* in *Pegu* and *Japan*, be far better than ours; and if so, what is to be observed in the melting, forging, and tempering of it?

5 Whether