An Account of ſome Books

I. *Experiments, Notes, &c. about the* MECHANICAL *Origin of divers particular* QUALITIES: *Among which is inſerted a diſcourſe of the Imperfection of the Chymiſts Doctrine of Qualities; together with ſome Reflections upon the Hypotheſis of* ALCALI *and* ACIDUM: *By the Honorable* Robert Boyle *Eſq*; *Fellow of the* Royal Society. London, 1675. *in* 8°.

THeſe Tracts are a freſh proof both of the Noble Authors conſtancy in his kindneſs to Experimental Philoſophy, *and* of his ſagacity in giving a more intelligible account of Philoſophical ſubjects, than is commonly received in Schools. The Matters here preſented, by way of *Specimen*, do comprehend in a ſmall Number a great Variety; there being ſcarſe any one ſort of *Qualities*, of which there is not an Inſtance given in this ſmall Volume; Since therein Experiments and Conſiderations are delivered about HEAT and COLD, which are the chief of the four *Firſt Qualities*; about TASTS and ODORS, which are of thoſe, that being immediate Objects of Senſe, are uſually called *Senſible Qualities*; about VOLATILITY and FIXITY, CORROSIVENESS and CORROSIBILITY, which, as they are found in Bodies purely natural, are referrable to thoſe Qualities, that many Phyſical Writers call *Second Qualities*, and which yet, as they may be produced and deſtroyed by the Chymiſts Art, may be ſtyled *Chymical Qualities*, and the Spagyrical ways of introducing or expelling them may be referred to *Chymical Operations*; of which here is given a more ample *Specimen* in the Mechanical account of CHYMICAL PRECIPITATIONS. To all which are added ſome Notes about MAGNETISM and ELECTRICITY, which are known to belong to the Tribe called *Occult Qualities*, by dark Philoſophers.

Concerning theſe particular Qualities, the preſent deſign of the Excellent Author is chiefly, to give an Intelligent and Hiſtorical Account of the Poſſible *Mechanical Origination*, not of the *Various Phænomena* of them; though his *Secondary* end is to become a Benefactor to the *Hiſtory of Qualities*, by providing Materials for himſelf or others: And this hath made him not ſcruple to add to theſe, that tend more directly to diſcover the *Nature* or Eſſence of the Quality treated of, by deriving it from *Mechanical* princi-

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ples, ſome others, coming in his way, that acquaint us with ſome luciferous *phænomena.*

And that the Reader may the leſs miſtake what is driven at in many of the Experiments and Reaſonings deliver'd and propoſed in theſe Notes about *Particular Qualities*, he acquaints him, that he hath taken upon him to demonſtrate, that the Qualities of Bodies *Cannot* proceed from any other Cauſes but *Mechanical*, but pretends only to prove, that they *may* be explicated by them, ſince what he needs to evince, is, not that the *Mechanical* Principles are the neceſſary and only things whereby *Qualities* may be explained, but that probably they will be found ſufficient for their explication; The making out of which, as ſhews the inſufficiency of the *Peripatetic* and *Chymical* Theories of Qualities, ſo it recommends the *Corpuſcularian* Doctrine of them.

Now, as to the Experiments and inſtances here imployed in treating of the *Origin* of Qualities, they are of *three* diſtinct ſorts. Some are brought to ſhew, that the propoſed Quality may be Mechanically *introduced* into a portion of matter where it was not before; Others, that by the ſame means the Quality may be notably *Varied* as to Degrees, or other not Eſſential attributes: Others laſtly, that the Quality is Mechanically *Expelled* from, or *aboliſh'd* in a portion of matter that was endow'd with it before; and a new one produced by the ſame operation. That the *firſt* ſort of Kinds of Inſtances may be uſefully employed in this Subject, hath no difficulty. As to the *Second*, Since the permanent *Degrees* as well as other Attributes of Qualities are ſaid to flow from, and do indeed depend upon, the ſame Principles that the Quality itſelf does, if eſpecially in Bodies Inanimat a change barely Mechanical does notably and permanently alter the *degree* or other conſiderable attribute; it will afford, though not a clear proof, yet a probable preſumption that the Principles whereon the Quality itſelf depends, are Mechanical, *Again*, if by a bare Mechanical change of the Internal diſpoſition and Structure of a Body, a permenent Quality, confeſſed to flow from its *Subſtantial Form* or Inward principle, be *aboliſhed*, and perhaps alſo immediately ſucceeded by a new Quality *Mechanically* producible; if, I ſay, this come to paſs in a Body Inanimat, eſpecially if it be alſo, as to ſenſe, Similar, ſuch a *Phænomenon* will not a little favour that *Hypotheſis*, which teaches, that theſe Qualities depend upon certain Contextures and other Mechanical affections of the ſmall parts of the Bodies that are indow'd with them; and conſequently

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that may be obſerved when that neceſſary Modification is deſtroyed.

But having thus briefly ſhewed from the Author the pertinency of alledging differing kinds of Experiments and Phænomena in favour of the Corpuſcular *Hypotheſis* about the Qualities, we muſt refer for the *Particular* Subjects and Experiments to the Tracts themſelves not daring to engage upon them here, becauſe of their great number and choice, which neither theſe papers have room for, nor the Publiſher leiſureenough to contract them.

II. Th. Bartholinus *de PEREGRINATIONE MEDICA &c.* Hafniæ, 1674. *in fol.*

THis famous Author makes it his buſineſs in this Diſcourſe to counſel and inſtruct ſome of his learned Relations, what to do and obſerve in their Travels in reference both to Health and Philoſophy. In order to which he premiſes a conſiderable number of Examples of Ancient Travellers, who by their Converſation with knowing and wiſe men abroad, have exceedingly improved their underſtanding, and acquired very beneficial Experience; ſuch as were *Apollonius Tyanæus*, *Anacharſis*, *Pythagoras*, *Democritus*, *Plato*, *Hippocrates*, *Galen*, *&c.* To which he adds the advantage that may be gained by modern Travellers in ſuch Countreys that abound with Learned and Knowing men, in which he tells us he travelled himſelf, *viz. Italy*, *England*, *France*, *Germany*, *Holland*, *Denmark*, *Sueden*. In theſe Countries he directs young Phyſicians what to obſerve both as to Things, and Men; of both which he diſcourſes promiſcuouſly. So that he would have them take notice of the conſtitution of the Air; the nature of the Soyl; the qualities of Medical Waters; the vertues of Herbs; the Diet, Diſeaſes, and methods of Curing them; together with the Chyrurgical operations, Pharmaceutical compoſitions and Chymical diſcoveries. Particularly commends *England* for Experimental Philoſophy; and ſubjoyns ſome of the Obſervations, formerly made by himſelf in his Travels in *Italy* and *Sicily*, naming alſo the Naturaliſts & Phyſicians he converſed with, the Repoſitories and Hoſpitals he viſited, the Libraries he frequented, the Books he ſelected, *&c.* and taking particular notice of the *Manna* they gather in the Kingdom of *Naples* from the Aſh-trees; * of the *Vulva bubalina* dried, having a Musk-ſent; of Wine-Veſſels

*See Mr *Ray* in his *Catal. Plant. Angliæ*, in *Fraxinus*, p. 118.

made of Cherry-Wood, wherein the conteined Wine and Water have the ſcent of Cherries; of the Sulpherous Bath at *Puteoli*, and the *Sulfatara*, where the ground you goe upon is Sulphur, which in great quantity is carried away from thence; of the haſty ripening of all ſorts of Fruit about *Puteoli*, and their quick corruption; of the effect of Nitrous Waters of the Iſle *Iſchias* in ripening Flax in three days, and rendring it perfectly White. Being at *Meſſina*, and converſing there, amongſt other learned Men, with the famous *Pet. Caſtellus*, he got his celebrated Electuary for Hypochondriacal diſtempers, which he inſerts here *pag.* 41, together with its change into a grateful Julep; as alſo his uſual medicine for the *Squinancy* (*p.* 82.) frequent there among Children, and invading their parents by converſation. He takes alſo notice of the way the *Sicilians* uſe in making their Sugar; as alſo of the culture of the Sugar-canes in that Iſland; and likewiſe of the Excellent Wine, Saffron and Hony, with which that Country abounds; not paſſing by the Coral, Amber, Salt, Azur-Stone, to be found there, nor the Mineral Bezoar, and its medical uſes.

In the City *Panormus* he obſerved eſpecially a certain Fountain call'd *Bughuto*, particularly recommended by *Faſelus*, yielding a tepid Salt-water, which being drunk preſently laxes the belly, and cures many infirmities.

In ſhort, he gives an Example to young Travellers, how in their peregrinations they are to purchaſe the friendſhip of Worthy and Learn'd men, to obſerve Nature and her productions, and to neglect nothing that may be uſefull ſome way or other.

He concludes the whole with preſcribing ſome precepts for the conſervation of the Health of Travellers; for which he collects certain heads out of *Bernhardus Gordonius* his *Lilium Medicinæ* and his Book *de Conſerv. Vitæ hum*; which preſcripts have reſpect to Sea and Land, Winter and Summer-voyages, and that both in hot and cold Climats. Among many things he obſerves, that the cuſtom of the Seamen of *Denmark* is, for the prevention of Sea-ſickneſs to drink one draught of Sea-water, as ſoon as they come on board.

But in no Voyage he would have Men to be ſo fond of forrain Countries, as to forget to return to their own; putting them in mind of *Hormiſdas*, who being asked what he thought of the ſtatelineſs of *Rome*, anſwer'd, he had found men Die there as well as at home.

III. *Georgii Hieronymi Velſchii Hecatoſteæ* II. *Obſervationum PHYSICO-MEDICARUM* Auguſtæ Vindelicorum, 1675.

OF theſe Two Centuries of Obſervations we ſhall here touch ſome of the chief, *viz.*

1. Of the fruit of *Solanum Veſicarium*, which being of a ſweet-acid taſte, when gather'd immediately by the mouth, grows preſently bitter upon the leaſt touching of them with ones finger.

2. Of the Salt of *Centaurium minus* (the *ſmall Purple-centory*) which our Author ſaith doth, when kindled, make almoſt as vehement a noiſe as Gun-powder: Adding this further Note, that he can prepare out of the Salt of another Vegetable (which he names not) a kind of Gun-powder, which when a bullet is put upon it in the free Air, throws it up to a conſiderable height, with a great noiſe, no otherwiſe than if it came out of a Gun-barrel.

3. Of a Man, whoſe calling was that of a Porter, who was found, when open'd after his death, to have his skull of the thickneſs of ones little finger and without any Sutures at all, and yet in his life-time never heard to have complain'd of the head-ache.

4. Of a *White* Magnet, found in the Repoſitory of a Curious perſon, of the ſame power with the beſt of common Magnets. As alſo of another Loadſtone in the ſame perſons poſſeſſion, that was factitious; of the manner of making of which the Author gives his thoughts at large.

5. Of an odd effect of a Childbearing womans Imagination; whereby ſhe, being ſurpriſed and frightned with the ſight of an Ape carrying a red hat on his head, brought forth a Childe exactly reſembling the head of an Ape ſo dreſſed, and for the reſt like a human body.

6. Of Tryals made with the *Sympathetick Powder* prepared of Vitriol both burnt and unburnt; Which were theſe: The Author having by chance wounded his hand, he well wetted a linnen rag with the blood of that wound, (*without* any of the ſaid ſympathetick Powder,) and cloſed it up in a cheſt, where it was free from the open Air, ſmoak and duſt, tying the wound about with nothing but another meer linnen rag; The next day he cauſed the ſaid rag that was laid up in the cheſt, to be expoſed to the Noon-heat in one of the Dog-days; without finding any inconvenience from thence: ſa he did neither upon expoſing the ſame to the Fire; nor upon im-

merſing it into cold water, wine, vinegar; but found the wound healed the ſame day. Whence he infers, that if any wounds be healed *upon* the uſe of the ſaid Powder, the ſame might have been as well cured *without* it, by the meer winding ſome linnen about it, and keeping the Air from it.

6. Of the *Genueſe* Balſom (ſuppos'd to be the ſame with the *Spaniſh* Balſom of *Aquapendente*,) in curing the pain of the exterior parts of the body, and eſpecially thoſe in the Bowels of women that have ſuffer'd violence in travel. Of which, and the like kind of remedies, as alſo of ſeveral medicines, obſerv'd to have been beneficial in the Cure of divers Diſeaſes, as the Colick, Conſumption, Rheumatiſm, Epilepſy, Hæmorrhoids, Diarrhæa, Head-ache, Gout, Palſy, &c. the Reader may conſult the Author; from whom I ſhall borrow but one obſervation more, which is a *Coſmetick* for the face, deſcribed in his ſecond century, Obſ. 31. conſiſting in this, that he beats ℥ij of the Pearl-bearing Oyſter-ſhells into very ſmall duſt, and diſſolve it in Vinegar; then takes of *Benjamin* and Venetian *Borax* ℥j; and having mixed them together, makes a ſolution of them in ℥jv of well rectified Spirit of Wine, powring on it of white Lilly and Plantin-water, of each ℥vj, and letting it ſteam half away upon a very gentle fire.

IV. Joh. Nicolai Pechlinii *M. D. &c. de AERIS & ALIMENTI DEFECTU, & VITA SUB AQUIS Meditatio.* Kiloni. 1676. *In* 8°.

This Author having received out of *Sweden* a very extraordinary relation about a Man drowned under Ice and revived after ſixteen hours time, takes thence occaſion to diſcourſe in this Tract in general, how far *Air* and *Aliment* are neceſſary to the life of Vegetables and Animals.

He begins with *Vegetables*, and examines the neceſſity of Air and water to preſerve them alive. Where he obſerves the obſcure degree of life in Bulbs and Roots during winter; as alſo the cauſe of the diſtinction of life in *Annual* and *Perennial* Plants; together with the haſty Growth of ſome Vegetables.

Proceeding to *Animals*, he inquires *firſt* into the Life of *Inſects*, and their apparent Death in winter, (which he eſteems not to be without a remainder of the principle of Life;) as alſo into the Changes of ſome of them into Aurelia's and Butterflyes. Here he takes notice, after *Malpighi*, of thoſe exceeding minute tubes in Silk-worms, through which the Air paſſeth and carrieth on the motion of the liquor in their annular fibers.

Next he explains, how the ſame alteration of Life and Death holds in *Birds* (particularly in *Swallows* and *Storks*,) that is found in Inſects; and takes notice of the Swallows immerging themſelves under the water on the ſides of the Baltick Sea, and remaining there all winter, and reviving again in the Spring, flying about upon their being taken up in winter, and brought into a Hot ſtove.

Thirdly, he attempts to ſhew, why Fiſhes cannot live long in the open Air; *partly* becauſe the current of the Air is more impetuous than the nature of Fiſhes will bear; *partly*, becauſe the Motion of the Air carries off that viſcous moiſture which overlays their outſide; *partly* alſo becauſe the motion of their fins, by which

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the blood is made to circulate in them, having no place in the free Air, the blood muſt needs ſtagnate in that Element: Though ſome Fiſhes, eſpecially thoſe that emit, and are covered with, a very viſcous moiſture, as *Tenches*, *Skates*, *Eels*, (which laſt, he notes, do as often ſend forth new ſlime for their cover, as you wipe of the former,) will live longer in Air than others. Here he notes, that Fiſh under conglaciated water die not ſo much for want of Air, as from the plenty of the vapors that iſſue from the warm bottom. To all which he adds the reaſon, why Oyſters, Lobſters, Shrimps, and the like, ſurvive longer in the Air, than other inhabitants of the water. Concluding this Chapter with an account, why the *Serpentin* Kind grow torpid of themſelues in winter, and after revival caſt their skins every year.

Fourthly, he diſcourſes of ſome *Quadrupeds* hiding themſelves in caves during winter, as *Bears*, *Hedge-hogs*, *&c.* obſerving, that, what-ever the tradition be of Bears ſleeping all winter, and ſucking now and then their paws, it will be found, that they ſleep ſoundly at firſt for a good while, but afterwards awaken and live upon ſome proviſion they have ſtored up for that dead time of winter: And, as to the oleous moiſture ſweating out of the tubulous Channels of their feet, that that hath no other uſe, than to ſoften and ſmooth, by being licked up, the Sinuoſities of the ſtomach and bowels that had by long abſtinence been much corrugated, and ſo prepare them again for the new food to be taken in by the animal.

Fifthly, he inquires how far tis poſſible for Men to live without Air. Where he relates *firſt* an example, upon his own knowledge, of a woman ſtrangled, which was recover'd to life by a good doſe of Spirit of Salt *Armoniac*; Adding, that doubtleſs many ſuch might be recovered, if the like briſk ſpirits together with bleeding and friction were employed. Then he inquires into the Poſſibility of the living of Men *under water*: Where he begins with the conſideration of the difference there is between the life of *Embryo's* and *Urinators* or *Divers*, repreſenting, that the *former* need no other Air, than what is conveyed into them by the mothers rarified blood, being imbued with an aereal ferment; but that the *latter* (the *Divers*, I mean ſuch as uſe no Art, are of that temper and conſti-

conſtitution that their blood being colder than that of others, and there ariſing but a ſlender effervescence of the blood in the heart, there is no quick circulation, nor a neceſſity of expiring any great plenty of ſharp and offenſive fumes; which kind of blood the Author compares to that of fiſhes, or rather to that of Amphibious animals, as Frogs, Otters, Tortoiſes, Crocodils, *&c.* being of that nature, that the Air being once taken in, and included in the Lungs and the Bladders thereof, the motion of the circulating blood may be entertain'd and continued for a conſiderable time.

On this occaſion he relates that extraordinary Example of a Swediſh gardiner, lately alive, who ſome years ago endeavouring to help another that was fallen into the water under the Ice, fell into it himſelf to the depth of eighteen Swediſh Ells; where afterwards he was found ſtanding upright with his feet on the ground, and whence they drew him up after he had remained there for the ſpace of ſixteen hours, wrapping him about cloſe with linnen and woollen cloaths to keep the Air from too ſudden a ruſhing upon him, and then laying him in ſome warm place, and rubbing and rolling him, and at length giving him ſome very ſpirituous liquor to drink; by all which he was at length reſtored to life, and brought to the Queen Mother of *Sweden*, who gave him a yearly penſion, and ſhew'd him as prodigy to divers perſons of quality: The ſame thing being alſo confirmed by the famous Dr *Langelot*, who himſelf received the relation in *Sweden* ſo well atteſted that nothing, *ſaith our Author*, can be required more to aſſert an Hiſtorical truth. To which narrative are here ſubjoyned ſome others, ſo much more prodigious, that we want confidence to inſert them here.

To ſolve theſe ſtrange phænomena, Dr. *Pechlinius* pretends, that there remained in theſe perſons, ſome, though very languid and obſcure, motion of the Blood and Spirits, and that that motion was reduced *ad interiora*, and there confined to a ſmall compaſs, without circulation; as alſo that all the remainder of the ſaid motion is to be adſcribed to the Nitro-aerial effluviums (which abound in thoſe waters of *Sweden*) having a congruity to the pores of the bodies, through which they are tranſmitted. And that it may not be thought impoſſible that the blood ſhould get into the Lungs deſtitute of motion, our Author alledges the life of Urinators, in whom

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tis manifeſt that there is a motion of the heart and blood, and yet the reſpiration ſuppreſſed: Where he deſires it may be conſiderd withall, that the Lungs once inſpired doe more eaſily tranſmit the blood, than thoſe that never had any commerce with the Air; as alſo, that ſince part of the blood in a *fœtus* paſſeth through the Lungs collapſed, without reſpiration; all the blood may more eaſily paſs through the once inflated and expanded multitude of bladders, &c.

Errata in this Numb.

P. 665. *l.* 15. *r.* i o e; *et. p.* 670. *l.* 6. *r.* hath not taken. *ibid. l.* 12. *r.* as it ſhews. *ibid. l.* 34. *r.* permanent.

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JONAS MOORE,
Soc. Regiæ Vice-Præſes.

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