

## 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 scarce 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 referable 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 Phenomena* 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* principles

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

And that the Reader may the less mistake what is driven at in many of the Experiments and Reasonings deliver'd and propos'd in these Notes about *Particular Quantities*, 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 employed in treating of the *Origin* of Qualities, they are of *three* distinct sorts. Some are brought to shew, that the propos'd 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 permanent 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 *Phenomenon* 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 leisure enough to contract them.

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

**T**His 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, Sweden*. 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-scent; of Wine-Vessels

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

made of Cherry-Wood, wherein the contained 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 state-liness of *Rome*, answer'd, he had found men Die there as well as at home.

III. *Georgii Hieronymi Velschii Hecatostea* 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 *Centaureum minus* (the *small Purple-century*) 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 lifetime 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 surpris'd 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 immer-

merging 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 ʒij of the Pearl-bearing Oyster-shells into very small dust, and dissolve it in Vinegar; then takes of *Benjamin* and Venetian *Borax* ʒj; and having mixed them together, makes a solution of them in ʒvj of well rectified Spirit of Wine, pouring on it of white Lilly and Plantin-water, of each ʒvj, and letting it steam half away upon a very gentle fire.

IV. Joh. Nicolai Pechlinii M. D. &c. de AERIS & ALI-  
 MENTI DEFECTU, & VITA SUB AQUA Meditatio. Kiloni.  
 1676. In 8o.

**T**his 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 *Tra&* 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 *Butterflies*. 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* immersing 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 viscid 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 themselves 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 hath no other use, than to soften and smooch, 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 *Embryos* 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 aerial ferment; but that the *latter* (the *Divers*,) I mean such as use no Art, are of that temper and confi-



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 him self 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, *sith 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 effluvioms (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 with- all, 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 *fetus* 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 Number

*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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