

being red-hot, I applied the North-pole to another Lath-nail cold, and untoucht before, which it took up but faintly, yet held it suspended for some time,

3. Two or three daies after, I took the same Loadstone, and found that it attracted them as strongly, as before it was cast into the Fire. Whence I inferr'd, that the Fire somewhat lessen'd its Attractive faculty, but did not deprive the Stone of it.

Cyder-season approaching, I know not how to conceal from the delicate and curious Cyder-drinker (though I my self find the pleasures of all liquors in one, even that of fountain water *) the notice of a liquor as commendable, as yet rare. It is a composition of the Juyces of good Cyder-apples and Mulberries, producing the best tasted and most curiously coloured liquor, that many ever saw or tasted. Of which the experiment may be easily made by those that are furnisht with Mulberry-trees, without any considerable cost.

* This Gentlemans constant drink is Spring water.

An Account of some Books.

I. *The HISTORY of the ROYAL SOCIETY of LONDON, for the Advancement of EXPERIMENTAL Philosophy, by THO. SPRAT.*

IT was indeed highly futable, that the *History* of the *Royal Experimenting Society* should be dedicated, as the *Candid Author* of it hath done, to that *King*, who is the *first* of all the *Kings of Europe*, that confirmed this Noble Design of *Experiments*, both by His own Example, and by a publick Establishment.

The Discourse it self, which is modest and elegant, is divided by the Author into these three general Heads:

The *First* gives a short view of the *Ancient* and *Modern Philosophy*; and of the most Famous Attempts that have been made for its *Advancement*, by the *Chaldeans*, *Egyptians*, *Grecians*, *Arabians*, *Romans*, of old; and then, by several *New waies* of *Philosophy*, in the compass of our memories, and the Age before us, representing what hath been attempted by the *Modern Dogmatists*, the *Revivers of ancient Sects*, the *late Experimenters*, the *Chymists*, and the *Writers of Particular Subjects*: All which he deduceth, to the end, that by observing, wherein others have *excell'd*, and wherein they have been thought to *fail*, he

D dd 3

might

might the better shew, what is to be expected from these new Undertakers; and what moved them to enter upon a way of Inquiry, different from that, on which the former have proceeded.

The *Second*, consists of the *Narrative* it self in which the *Historian*, out of the *Registers* and *Journals* of the *Royal Society* which he hath been permitted to peruse) relateth the *first Occasions* of their Meetings, the Encouragement, and *Patronage* they have received; their *Patent*, their *Statutes*, the whole Order and *Scheme* of their *Design* the *Qualifications* of their *Members*; the *Largeness* of their *Number*: their *weekly Assemblies*; the *manner* of their *Inquiry*: their *way* of *Registering*; and their *Universal Correspondency*; together with a particular *Enumeration* of the *principal Subjects*, about which they have been employed since they were made a *Royal Corporation*, and this to silence that importunate demand, *What they have done all this while?* And here the *Historian* hopes, that all *reasonable men* will find satisfaction, when they shall consider, *First*, That, besides that this *Society* hath past through the first difficulties of their *Charter* and *Model*, and overcome all oppositions, which use to arise against the *beginnings* of *great things*; their *Aim*, and the nature of their *Design*, and the *Extent* of their task do admit of no violent and hasty dispatch. *Next*, That, though their work hath not been exposed to open view, yet their *Registers* are stored with a good number of *Particulars* they have taken pains about; As,

1. *Queries* and *Directions*, they have given abroad.
2. *Proposals* and *Recommendations*, they have made.
3. *Relations*, they have received.
4. *Experiments*, they have tried.
5. *Observations*, they have taken.
6. *Instruments*, they have invented or advanced.
7. *Theories*, that have been proposed.
8. *Discourses*, they have written or published.
9. *Histories* of *Nature*, and *Arts*, and *Works*, they have collected.

The *Particulars* upon which *Heads* are more numerous, and of greater moment and variety, than perhaps *Detractors* and *Cavillers* imagine or expect: they exceed indeed the number of 700; of which the *Experiments* and *Observations* both together amount to above 350; the *Relations*, to about 150; the *Queries*, *Directions*, *Recommendations*, and *Proposals*, to above 80; the *Instruments*, to about 60; the *Histories* of *Nature* and *Art*, to above 50; and the *Theories* and *Discourses* to as many.

To these he adds an *Account* of the *Library* and *Repository*, they have obtain'd

obtain'd by the bounty of two of their Members; and gives withall some *Example* of their *Experiments*; *Histories* both of *Nature* and *Art*; *Queries* answered; *Proposals* recommended, &c. Which done, he concludeth, That if any shall yet think, they have not usefully employed their time, he shall be apt to suspect, that they understand not, what is meant by a *diligent* and *profitable* labouring about *Nature*; and that such men seem not capable of being satisfied, unless the Gentlemen of this *Society* immediately profess to have found out the *Squaring of the Circle*, or the *Philosophers Stone*, or some other such mighty *Nothings*; which only argues the extravagance of the Expectations of such men. Mean time, the *Author* esteems, that, since the Society promises no Miracles, nor endeavours after them, and since their Progress ought to be equal and firm, by Natural degrees, and thorow *small* things, as well as *great*, going on leisurely and warily, it is therefore fit, that they alone, and not others, who refuse to consider the *nature* of their *work*, and to partake of their *burthen*, should be Judges by what steps and what pace they ought to proceed.

The *Third Part*, is asserting both the *Advantage* and *Innocence* of this Design, in respect of all *Professions*, and particularly of *Religion*; and how proper, above others, it is for the present Temper of the *Age*, wherein we live: And this is done, to free it from the *Cavil* of the *Idle* and *Malicious*; and from the *Jealousies* of *Private Interests*; all which the *Author* shews to have nothing but *Humor*, or *Envy*, *Prejudice*, or *Mistake*, to bear themselves upon.

The promoting of *Experiments*, according to the *Model* of the *Royal Society*, will be so far from injuring *Education*, or from being dangerous to the *Universities*, that it will both introduce many things of greater concernment and benefit to supply the place of what may be laid aside; and be mainly conducive to recover that *Divine Dignity* of *Humane Nature*, which consists in the *Knowledge of Truth*, and the *Doing of Good*.

The *First years* of Men being secured by this new *Experimental* way; it is made out to all *Professions* and *Practical lives*, that they can receive no ill Impressions from it, but that it will be the most beneficial and proper study for their Preparation and Direction. Whereas other Learning is charged to consist in *Arguing* and *Disputing*; and to be apt to make our Minds lofty and *Romantick*; presumptuous and obdurate; averse from a practical Course, and unable to bear the difficulties of Action; Propense to things, which are no where in use

in the world ; and careless of their own present times, by doting on the past : This *Experimental* Philosophy will turn men to Trials and Works ; cure their minds of *Romantick* swelling, by shewing all things familiarly to them, just as large as they are ; free them from *perversity*, by not permitting them to be too peremptory in their *Conclusions* : accustom their hands to things, which have a near resemblance to the business of life : and draw away the shadows, which either enlarge or *darken* humane affairs : And of the *Crafty*, the *Formal*, and the *Prudent* (the usual Titles, by which men of business are wont to be distinguished :) Our Author resembles the *Crafty*, to the *Empirick* in Philosophy ; the *Formal*, to the meer *Speculative* Philosopher ; but the *Prudent* man, to him, who proceeds on a constant and solid course of *Experiments* : the one in *Civil life*, rejecting neither the wisdom of *Ancient*, nor that of *Modern* times ; the other in *Philosophy*, having the same reverence for *former* Ages, and regard for the *present* ; both raising their *Observations* unto *Use* not suffering them to lie idle, but employing them to direct the *actions*, and supply the *wants* of *humane life*.

And as this *Experimental* way will afford much help to our *Publick duties*, and *Civil actions*, so it is proved to be very useful for the *Cure* of mens *Minds*, and the management of their *private motions* and passions, by keeping them from *idleness* with full and earnest *employments*, and by possessing them with innocent, various, lasting, and even sensible *delights*.

From hence our Author proceeds to make a defence of the *Royal Society*, and this new *Experimental Learning*, in respect of the *Christian Faith* ; fully evincing, that as it is not at all dangerous to *Religion* in general, so it is not to the *Doctrine of the Gospel*, nor that of the *Primitive Church*, or of the *Church of England*.

This done, he declares, on what account the *Study of Experiments* is the most seasonable study for the present *Temper* of the *English Nation* ; and then goes on to manifest the probable *Effects of Experiments*, in respect of all the *Manual Trades*, which have been heretofore found out and adorned. This Argument he dispatches in a clear Resolution of these *Four Questions* :

1. Whether the *Mechanick Arts* are still improvable by humane *Industry* ?
2. If they be, whether they may be advanced by any others, besides, the *Mechanick Artists* themselves ?

3. Whether

3. Whether there be any ground of hope from *Experiments* towards this Work?

4. Whether, if such *Arts* shall hereby happen to multiply, they are likely to prejudice those *Trades*, that are already settled?

In these *Particulars* our Author doth so answer his *Readers* doubts, that it will easily be granted him, That it is not a vain or impossible Design, to endeavour the *increase* of *Mechanick contrivances*; that the enterprize is proper for a *Mixt Assembly* of Experienced *Naturalists* and *Mathematicians*; that the Course which the *Royal Society* observes towards it, will be effectual; and the *Increase* of such *Operations*, inoffensive to others of the same kind, that have been formerly discovered.

Hence he proceeds to shew, That these Experiments are a proper study for the *Gentlemen* of this Nation, in which he finds them already well engaged: As also, that they will be beneficial to our *Wits* and *Writers*, who, if truly worthy men, will find in the *works* of *Nature* an inexhaustible Treasure for *Fancy* and *Invention*, which will be disclosed proportionably to the increase of their knowledge: Further, that they are advantageous to the Interest of the Nation, by enlarging the *Trade* and *Power* thereof.

Upon which and several other accounts (not possible to be contracted here) our *Historian* concludes his *Discourse*, with giving us a *Catalogue* of those, which at this present compose the *Royal Society*, amounting to near two hundred; whereof the *Kings Majesty* is *Founder* and *Patron*. Among the *Fellows* are three of the Greatest Princes of *Europe*, his Royal Highness the *Duke of York*; his Highness *Prince Rupert*, Count Palatine of the *Rhine*; and his Highness *Ferdinand Albert*, Duke of *Brunswick* and *Luxemburg*: then, the two *Archbishops* of *England*, and four *Bishops*; of *Dukes*, *Marquesses*, *Earls*, *Viscounts*, and *Barons*, *English* and *Scotch*, twenty nine; of *Knights*, thirty five; of *Doctors* and *Bachelors* of *Divinity*, fourteen; of *Doctors* and *Candidates* of *Physick*, twenty one; of *Esquires*, and other *Gentlemen*, and *Merchants*, sixty four; of *Strangers*, sixteen.

After the Enumeration of which, he recommends this *Undertaking* to the *English Nation*; to the *bravest people*, the most *generous Design*, which at once regards the *discovering* of *New secrets*, and the *Purifying* and *Repairing* all the profitable things of *Antiquity*: and here he represents, that if now this *Enterprize* should chance to fail for want of *Patronage* and *Revenue*, the World would not only be frustrated of

their present Expectations, but have just ground to despair of any future Labours, towards the increase of *Practical* and *Useful* knowledge. But he hopes and presages, that the *English* Nation will lay hold on this opportunity, to deserve the Applause of *Mankind* for having encouraged and supported a *Work*, which, instead of barren *Terms* and *Notions*, is able to impart to us the *Uses* of all the *Creatures*, and to enrich us with all the Benefits of *Real* Knowledge, true *Honour*, great *Plenty*, and solid *Delight*.

II. *DISQUISITIO ANATOMICA DE FORMATO FOETU*: Authore Gualtero Needham, M. D. Londini, in 8°

THis *Disquisition* consists of seven *Chapters*, full of the Learned and Ingenious Author, who was lately elected a Fellow of the *Royal Society*, his own Experiments and Observations.

In the *first* he inquires into the *Passages*, by which the *Nourishing Juice* is conveyed into the Womb of the Animal: where he examines the Assertion of *Everhard*, importing, that some of the *Lacteous* Vessels carry the said Juice to the *Uterus*; which vessels are pretended to have been seen by himself in the dissection of *Rabbits*. Which engaged our Author to take up again the Anatomical knife, and to dissect with all possible accurateness both some of the bigger Animals, as *Cows* and *Mares*, and some of the smaller kind, as *Rabbits*, which are instanced by *Everhard*.

But having spent all his labour and care herein in vain, and besides, evinced by *Ligatures*, that the pretended Vessels are neither those that are described by *Bartholin* under the name of *Lymphatick*, nor others, presumed to be known by *Everhard* alone, as immediately carrying the *Chyle* out of its *Receptacle* to the *Womb* and *Breasts*; he imputes the cause of this mistake to the *Trunk* of the *Lymphaticks*, running over the *Vena cava* into the *Receptacle* near the *Emulgents*, which *Ductus* he affirms to have often found filled with *Chyle* from the *Intestinum Rectum*, or the *Ileum* or *Cacum* a Dog having no *Colon*; but maintains withall, that by *Ligatures* it is manifest, that that *Ductus* goes to the *Receptacle*, and there deposits its liquor; which he proves to be alike true of all the *Milky vessels*, so that they carry nothing back and consequently are unfit to convey any thing to the Womb. This he illustrates by a Noble Experiment of that Learned and Expert Anatomist, *Dr. Lower*, using to open sometimes the right side of the *Thorax*,
and

and with his fingers to break the *Receptacle*; and sometimes on the left side the *Ductus Thoracicus*, a little under the *Subclaviar*; whereby it hath come to pass, that Dogs, well fed all the while, have thrown out all the Chyle into the opened part of the *Thorax*, and, though plentifully fed, were starved within three daies: there appearing mean time in the Veins opened a crass blood, destitute of *Serum*, but not any mixture of transmitted Chyle.

Having rejected the *Lacteous* and *Lymphatick* vessels from this office, he declareth, that we must rest in the Ancient Doctrine, which layeth the task of conveighing the *Succus nutritivus*, to the *Breasts* and *Womb*, upon the *Arteries*; unless the *Nerves* be call'd in for aid, for conveighing some of the *Spirituosus* Juyce, to be mixed with the *Nutritivus*, to give life and vigour; And having proved this, he takes notice of the *Anastomoses*, remarkable in the womb of pregnant Creatures; and subjoyns a discussion of the way how the *Alimental Juyce* is in the womb severed from the mass of the *blood*: whether by *meer Percolation*, or by some *Ferment*, working upon the Blood, and thence precipitating what is proper for the use of that part.

In the *Second* Chapter he treats of the *Placenta's* and *Glandules*, and shews, How many waies the *Juyce* is derived from the Womb to the *Fœtus*: First, simply from the Membrane of the *Uterus* to the Membrane of the *Fœtus*; as in all *Oviparous* Creatures; and among *Viviparous*, in a *Sow* all the time of her bearing; in a *Mare*, for half the time; and in a *Woman*, the first month only. *Secondly*, by a *Mass of flesh*, filtering the Juyce; as in all *Cake-bearing* (called by the Latines, *Placentifera*) and in all *Kernel-bearing* (called *Glandulifera*) or *Ruminating* Animals. Where he giveth a particular account of the double *Placenta* or *Cake*, to be found in *Rabbets*, *Hares*, *Mice*, *Moles*, &c. and examines the learned Dr. *Wharton's* Doctrine, assigning a double *Placenta* to at least all *Viviparous* Animals, so as one half of it belongs to the *Uterus*, the other to the *Chorion*: shewing how far this is true, and declaring the variety of these *Phænomena*, together with a very ingenious assignation of the Cause of that variety. Where do occur many uncommon Observations concerning the *difference of Milk* in ruminating and other Animals; the *various degrees of thicknes* of the *Uterin liquor* in *Oviparous* and *Viviparous* creatures; the property of the humour, turning into Eggs, with a hint of the cause of their being excluded, and not quickned and formed within; as also, of the cause of *Moles* in the womb, and of many kernelly and fleshy substan-

ces in other parts of the body : where he takes notice of a concretion seen by himself grown to the *Cone* of the Heart, of nine ounces weight in an healthy Body, that died of a violent death ; and of the like adhering to the *Spleen*, *Kidneys*, *Liver*, without any perceived trouble to the Animal ; yea, of some found *within* the *heart* it self.

He adds the *Number*, *Shape*, and *Use* of these *Placenta's* ; and first observes that those that are *Kernel-bearing* Animals, or chewing the Cud, have many, and those that are *Cake-bearing*, have for the most part, one *Cake* for each *Fœtus* ; but a woman commonly but *one*, though she happen to have many *Embryo's*.

He annexes a particular description of the *Placenta* of a Woman, as the most considerable, and teaches, how it may be most conveniently severed from the Vessels, to render them conspicuous, which are a numerous off-spring of Arteries, Veins, and Fibres ; of the last whereof he inquires, whether they be the capillaries of the Arteries, and Veins, or nervous.

The *Shape* of that in a Woman is *Orbicular*, about a foot large, and two inches thick ; one of its Superficies's, convex, but uneven, the other concave, and every where sticking close to the *Chorion*.

The *Use* of the *Placenta's* is known to be, to serve for conveighing the aliment to the *Fœtus*. The difficulty is only about the manner. Here are examined three opinions, of *Curvey*, *Everhard*, and *Harvey*. The two former do hold, that the *Fœtus* is nourished only from the *Amnion* by the Mouth ; yet with this difference, that *Curvey* will have it fed by the Mouth when it is perfect, but, whilst it is yet imperfect, by filtration only through the pores of the body, and by a kind of juxtaposition : but *Everhard*, supposing a simultaneous formation of all the instruments of nutrition together at first, and esteeming the Mass of blood by reason of its asperity and eagerness unfit for nutrition, and rather apt to grey upon than feed the parts, maintains, that the liquor is sucked out of the *Amnion* by the mouth, concocted in the stomach, and thence passed into the *Milky* Vessels, even from the beginning. Mean time they both agree in this, that the *Embryo* doth breathe, but not feed, through the Umbilical vessels.

This our *Author* undertakes to disprove ; and having asserted the mildness of, at least, many parts of the blood, and consequently their fitness for nutrition, he defends the *Harveyan* doctrine, of the *Colliquation* of the *Nourishing Juice* by the Arteries, and its conveyance to the *Fœtus* by the veins.

In the *third* Chapter, the *Membranes* and *Humors* of *Embryo's* are considered, The *Membranes* are in some, three, in others, four, in an Egg, six. All *Placentiferous* Animals (if I may assume this word) he affirms to have three *Membranes*, and *Sows*, *Mares*, and *Women* also; but only two *Humors*. Again, *Bitches*, *Cats*, and *Conies*, four *Membranes*, and three *Humors*; so that the Number of the *Membranes* hath been hitherto observed alwaies to exceed that of the *Humors*.

Giving the History of both, he begins from *Sheep*, *Cows*, and other *Ruminating* Animals, describing *first* the *Chorion*, assigning its *Use*, and comparing it with that in *Deer*, *Sows*, *Mares*, *Women*, *Rabbits*, *Bitches*, and *Cats*, when with young. Then he proceeds to the description of the *Allantoides* (the Membrane immediately encompassing that skin, wherein the *Fœtus* is wrapped) and thence to that of the *Amnion*, wherein the *Embryo* it self lieth, swimming in its alimential liquor. And *lastly* to that which is observed to be in *Bitches*, *Cats*, and *Rabbits*, and contains a very good and nourishing Juyce; which how it comes thither, is a difficult inquiry, as well as that other, how the liquor gets into the *Amnion*. To resolve both which our *Author*. having disproved the Filtration of the liquor, held by *Curvey* and *Everhard* out of the *Chorion* into the *Amnion*, and evinced, that the liquor in the *Allantoides*, interjected between these two is *Urinous*, he concludes, that the alimetary Juyce passes through the Umbilical Vessels by a proper *Artery*, depositing it in those *Membranes* we speak of, and reserving it there for the use of the *Fœtus*.

Concerning the *Humors*, he affirms, that all of them in all Animals are *Nutritive*, except that in the *Allantoides*. He observes also, that most of *Oviparous* Fishes have Eggs or Spawn, as to sence of one only colour, and but one humor; yet that the Spawn of a *Skite* hath a White and a Yolk. *Birds* have mostly three nutritious substances, that are visible, *viz.* a Yolk and a double White: to which upon incubation, comes a fourth, co liquated out of the former; the tender *Embryo* feeding upon the two Whites, till they being consumed, the Yolk of the Chick now to be hatcht, is shut up in the *Abdomen*, and thence by a peculiar *Ductus* conveighed into the guts; and so serves the young bird for breasts, it is fed by, until the twentieth day.

In *Viviparous* Creatures are found sometimes two, sometimes three humors, and in *Bitches*, *Cats*, and *Rabbits* four; which perplexeth the Author, as to the giving a reason for it. These *Humors*, he saith, he hath examined, by concreting, distilling, and coagulating them; where he

furnishes the *Reader* with no vulgar Observations. He concludes this *Chapter* by observing, that there is also *Air* in the said *Membranes*; which besides other Arguments, he proves from the crying of Infants in the *Womb* (of which he alledges a memorable and well attested example in a Child of an English Lady in *Cheshire*, the Child being yet alive and in good health;) and from Chickens, often heard to peep in the Egg, both before the breaking of the shells, and after, the *Membranes* being yet entire; ascribing the production of this *Air* to the spirituous liquor in the *Membrane*, apt to ferment, and thereby causing store of exhalations.

The *fourth* *Chapter* discourses of the *Umbilical Vessels*; and observes *first*, that they differ in different Animals, and hold proportion to the *Membranes* and *Liquors*, so as those that have two Liquors, have four *Membranes*, and three Liquors have six: the *Oviparous* also being furnished with a *Ductus*, passing to the *Guts*, because they want breasts, and their yolk is shut up in the belly.

The *Umbilical Arteries*, belonging to the *Placenta*, and commonly said to be derived from the *Crarals*, are by him affirmed to proceed from the end of the *Aorta*. They are here described, and their several portions distributed for the *Chorion* and *Amnton*. Then an account is given of the *Hepatick Vein*, corresponding to the *Arteries*. It is in *Viviparous* Animals inserted into the *Vena Porta*, passing again with the remaining Bloud thorow the *Canalis Venosus* into the *Cava*, without percolation made in the *Liver*. In *Birds* it enters not into the *Liver*, but passes over its convexity into the *Cava*. A description is also made of the *Urachus*, found in all *Viviparous* Creatures, though by many *Writers* denied to be in *Man*, who notwithstanding hath need, as well as other such Animals, somewhere to lodge his *Urine*. The *Oviparous* want this *Umbilical funiculus*, but yet are furnished with fit sanguineous Vessels, which here also are explained; especially the *Ductus Intestinalis*, said to be omitted by *Dr. Harvey*, and to have been known to the *Author* long before *Mr. Steno* claimed the discovery of it; for which he appeals to the testimony of *Mr. Boyle*, and three worthy Physicians, *Willis*, *Millington*, and *Lower*; as also to that of two ingenious *Frenchmen*, *Guison*, and *Flard*, to whom our *Author* affirms to have shewed *Anno 1659*, when they were going over into *Holland*, not only this *Ductus*, but also the *Ductus Salivales*, and the *Passages* of the *Nostrils*, published afterwards by the said *Steno*.

The use of this *Ductus Intestinalis* is esteemed to be the conveying
of

of the *Tolk* into the *Guts* for a *second* coction, there made by the *Pancreatick* Juice, acknowledged to be excellently handled by the Learned *Sylvius*, and his ingenious Scholar, *De Graeff*, from the former of whom our *Author* yet dissent, about the mixture of the Gall with the said juice in the Heart refuting it by several Experiments.

The *fifth*, explains the Communion of Vessels in *Embryo's*: In whom he saith, three *Anastomoses* are usually observed, which, as soon as the *Fetus* is born, are closed. They are called *Foramen Ovale*, *Canalis Arteriosus*, and *Venosus*. The two former to be met with about the *Heart*; the last in the *Liver*. All three here described by the *Author*, who also compares, as *Harvey* does, the *Fetus* yet in the *Womb* with the manner of operation of those *Animals*, that are provided but with one cavity in the *Heart*, and with no *Lungs*; the blood of the *Fruit*, as long as it is unborn, passing neither through the *Parenchyma* of the *Lungs*, nor that of the *Liver*. Lastly, the necessity of *Respiration* is explicated, and how the defect of the *Lungs*, and of one of the *Ventricles* of the *Heart*, is supplied in *Fishes*, viz. by comminuting and mixing the blood in the *Gills*. To which is annexed the manner of *Respiration* in *Amphibia's*, which are furnished with *Lungs* and two *Ventricles* of the *Heart*, and yet, if *Bartholin* misinforms us not, keep the *Foramen Ovale* all their life time open; which yet our *Author* calls in question, alledging, to have seen no *Diving Animals*, which had not the said *Foramen* closed after their being born.

The *Sixth* makes a digression, to discourse of the *Biolychnium*, and the Ingress of the *Air* into the *Blood*, for the *Generation* of *Spirits*, and the pretended kindling of a *vital Flame*. But our *Author* can see nothing that may prove either the *existence*, or the *necessity* of such a *Flame*: On the contrary, he finds the *Blood* unfit for taking *Fire*, and judgeth it very difficult to assign either the place or the manner of this accension; which is not made in the *Lungs*, nor in the *Heart*, which he holds to be destitute of all ferment. To which he adds, *first*, that the *Heat* of the *Blood* is not sufficient to cause such an inflammation, seeing how much even good *Spirit of Wine* must be heated; before it will flame, which it doth not without the actual application of fire. *Next*, That *Examples* are very rare of *Liquors* kindled by ventilation. *Further*, That *Fishes* and *Frogs*, which yet have life, motion, and sense, are not thought to have this flame, as being actually cold. *Besides*, That the *Animal Spirits* are not found in the form of flame; which he endeavours to prove from the *Willisian* doctrine of the manner, in which they

they are in the Brain fevered from the Blood. *Lastly*, That it is doubted by some, whether any Air at all is received into the mass of blood, which yet is not questioned by our *Author*, who only doubteth, whether through the *Lungs* there be a *high way* for the Air to the Blood.

After this, our *Author* gives his thoughts both of the true *Use of the Lungs*, and of *Sanguification*.

The *Lungs*, he saith, serve chiefly, by their constant agitation to comminute the blood, and so to render it fit for a due circulation; which office he thinks to be performed in *Fishes* by the continual motion of their *Gills*, a *Succedaneum* to *Lungs*.

Sanguification, according to him, is chiefly performed and perfected by the frequent pulsions of the Heart, and the repeated contractions of its left *Ventricle* at the passing of the Sanguineous liquor from thence into the *Aorta*.

The *Seventh* and *last* Chapter contains a *Direction* for the younger *Anatomists*, of what is to be observed in the dissection of divers *Animals* with young: and *first*, of what is common to all the *Viviparous*; then, what is peculiar to several of them, as a *Sow*, *Mare*, *Cow*, *Ewe*, *She-Goat*, *Doe*, *Rabbit*, *Bitch*, and a *Woman*: *Lastly*, What is observable in an *Egg*, *Skate*, *Salmon*, *Frog*, &c.

All is illustrated by divers accurate Schemes.

III. ELEMENTORUM MYOLOGIÆ Specimen; seu MUSCULI Descriptio Geometrica, Authore NICOLAO STENONE.

THis Book is not yet come into *England*; only the Excellent *Septalio* having in his Letter above-mentioned given us notice of its being published and dedicated to the *great Duke of Tuscany*, we thought it not amiss to inform the Curious of it.

LONDON, Printed for *John Martyn*, Printer to the *Royal Society*, and are to be sold at the Sign of the *Bell*, a little without *Temple-Bar*, 1667.