

The doctrine of acids in the cure of diseases farther asserted: being an answer to some objections raised against it by F. Tuthill. In which are contained some things relating to the history of blood: as also an attempt to prove what life is / [Sir John Colbatch].

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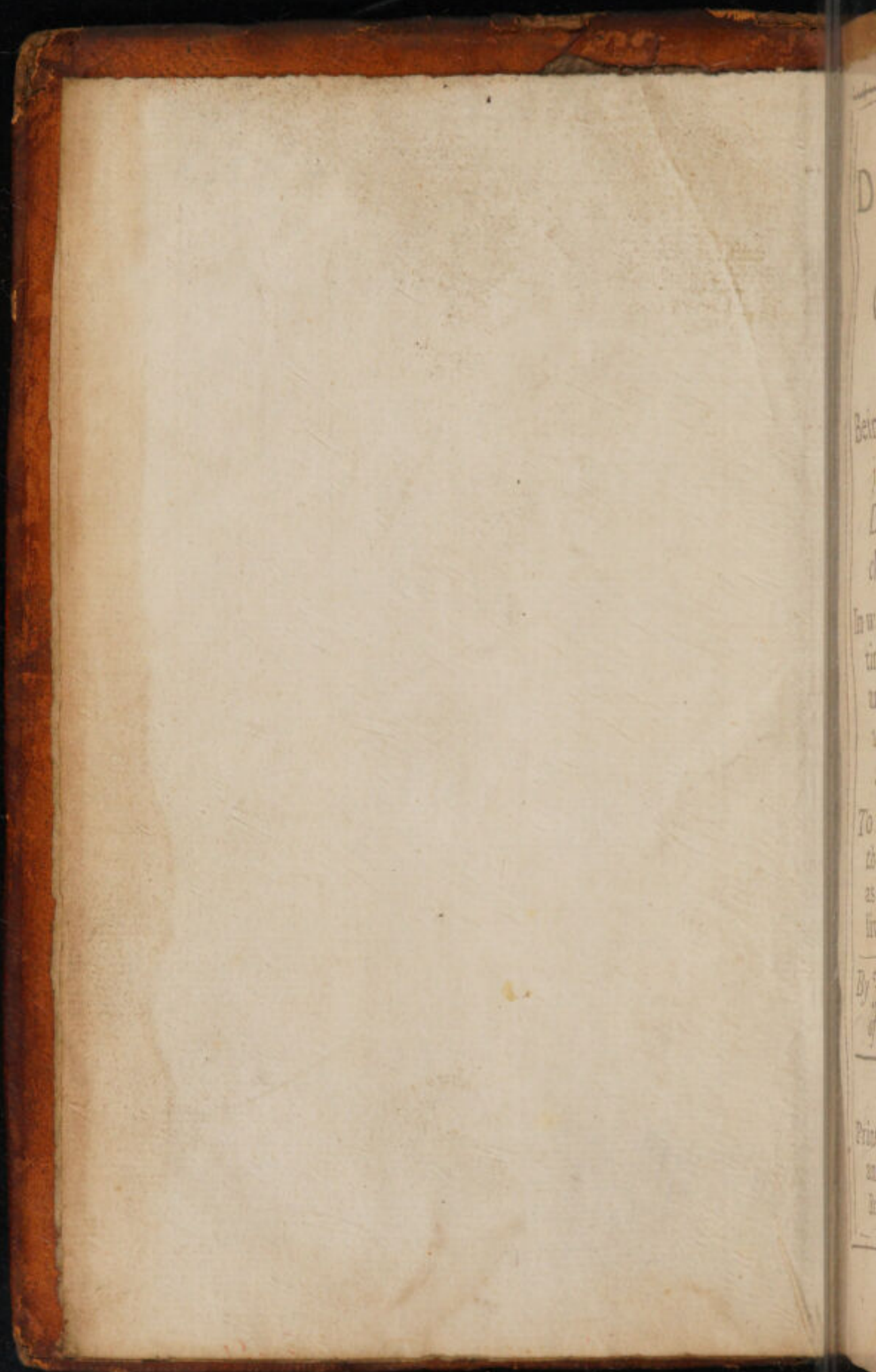


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THE
DOCTRINE of ACIDS
IN THE
Cure of DISEASES

Farther Asserted:

Being an *Answer* to some *Objections* raised against it by
Dr. F. TUTHILL of *Dorchester* in *Dorsetshire*.

In which are contained some things relating to the *History* of *Blood*: As also an *Attempt* to prove what *Life* is, and that it is principally supported by an *Acid* and *Sulphur*.

To which is added an exact *Account* of the *Case* of *Edmund Turner Esq*; deceased; as also the *Case* of another *Gentleman* now living, exactly parallel to Mr. *Turner's*.

By JOHN COLBATCH, a Member
of the College of Physicians, London.

L O N D O N,

Printed for Dan. Brown at the Black Swan
and Bible without Temple-Bar; and Abel
Roper at the Black-Boy in Fleet-street. 1698.



TO THE
R E A D E R.

THE *Hypothesis* I have advanced being new and contrary to the common received *Opinions* of other *Physicians*, a very few excepted, I am every day pestered with *Objections* of one kind or other; and therefore to save my self the labour of writing *Pacquets* of *Letters* every *Post-day*, I have thought fit to answer those *Objections* that are worth taking notice of in this publick manner. The *Gentleman* whose Letter I have answered here, seems to be a *Man* of wonderful *Candor* and *In-*
A 2 genuity;

genuity ; and were it but for the satisfaction of him only, I should not think my time mispent : but however, hoping to do service to the *Publick* by it, I have suffered these *Papers* to come abroad, as they are. I confess they are not sufficiently polished for publick *View* ; and at the same time the pains I have been at in composing of them is too great to have them confined to the private use of one person : and for the deficiencies, I shall endeavour to supply them in some other *Papers* that shall be got ready for the *Press* as soon as possibly I can.

He that would pass the *Course* of his *Life* without *Envy*, must believe what is generally believed, and speak as others do ; and whoever takes upon him to do otherwise, let the *Success* of his *Undertaking* be what it will, the *Reward* he is like to

to meet with from the generality of *Mankind*, is to be reproach'd. The enquiry after *Truth* is an *Undertaking* in which little *Assistance* is to be hoped; and there are so many *Guards* on all the ways that lead to it, that it's a very hard task to break through. 'Tis an antient *Proverb*, that, *Non omnibus licet adire Corinthum*. Whoever intends to overcome so many *Difficulties*, cannot hope to succeed, but by his *Diligence*, *Eagerness*, and *Earnestness*; which *Methods* I have pursued as much as the hurry of my *Affairs* would permit me.

When I consider the great *Number* and the *Potency* of my *Adversaries*, I am sometimes under the greatest *Discouragements* imaginable; and wish that I had either gone on in the common *Road*, or else that I had never appeared in publick,

but have kept my own *Notions* within the *Confines* of my own *Breast*, and so I might have jogged on without *Molestation*. But when I call to my remembrance the *Guilt* which that *Person* lay under, who made no *Improvement* of his one *Talent*, but hid it in a *Napkin*, it dispels the former *Considerations*, and withal animates me to go on in the *Work* I have begun; which altho it may create me many *Enemies*, *Truth* at its first appearance never wanting *Opposers*, yet the thoughts of having endeavoured to serve my *Generation* to the utmost of my *Power*, gives me that *Peace* and *Satisfaction* of *Mind*, that all the united *Force* of my *Enemies* is not able to deprive me of.

I never yet pretended to make *People* *Immortal*, my *Endeavours* having all terminated in this, viz.
to

to be serviceable to my fellow *Crea-
tures* in distress as much as I was
able. The wise *Man* saith, *That no
Man hath Power in the Day of Death,*
*and that there is no discharge in that
War:* The Issues of Life and Death
being only in the hands of the *Al-
mighty*. But I am that unfortunate
Man, that if I have any *Patient* die
once in three or four *Months*, tho
perhaps I scarce ever prescribed any
thing for them, it is immediately
spread abroad with all the Industry
that Malice is capable of, that I
have been their *Murderer*; by the
means of which Reports I have
sustained no small Damage: but
however, in spite of all this, *Thanks
to God*, I every day gain ground,
and don't in the least doubt, but in
a very little time to get out of the
reach of my *Enemies Malice*.

I must confess that I am deficient in so many things in respect to the ornamentive part of *Learning*, which is scarce to be obtained out of the *Universities*, that I am altogether unfit to be a *Champion* in so great a Cause; but I have so much reason to be positive that the *Hypothesis* I have advanced is true, that from the Hints I have given I dare almost be confident, that even in my own time the *Cudgels* will be taken up, and the *Hypothesis* maintained and asserted by one who is able to go through-stitch with it better than I can. In the manifestation of the greatest Truths to the *World*, Men of very mean parts are frequently made use of to be the first *Broachers* of them, but the farther clearing of them is left to Men of the most subtile and refined parts; and were my *Hypothesis* but rightly handled, I don't doubt but it would
 prove

prove the most Glorious of the kind that ever appeared upon the Stage of the *World*. However, till the thing is undertaken by some better Hand, I shall not be wanting to prosecute it as far as *I* am able.

I have one thing to beg of those who shall give themselves the trouble of reading these *Papers*, and that is, that they would not pass a rash Judgment upon me, but that they will be pleased to examine well what *I* have offered both in this and my former Tracts, laying aside Partiality and Prejudice; and if they find that *I* have not made things sufficiently clear, if they will but inform me of it, and lay their Doubts before me, *I* will spare no Pains to make things yet more clear.

Villers-street in York Buildings,
October the 8th, 1697.

BOOKS sold by Daniel Brown.

FOUR Treatises of Physick and Chirurgery: *Viz.*

1. A Physico-Medical Essay concerning *Alkaly* and *Acid*.

2. Farther Considerations by way of *Appendix* to the said Essay.

3. *Novum Lumen Chirurgicum*, or a New Light of Chirurgery.

4. *Novum Lamen Chirurgicum Vindictum*, or the New Light of Chirurgery vindicated from many unjust Aspersions.

The Second Edition corrected and enlarged.

A Treatise of the *Gout*, wherein both its Causes and Cure are demonstrably made appear; to which are added some Medicinal Observations concerning the Cure of Fevers, &c. by the means of *Acids*.

All by John Colbatch, M. D.

Dorchester in Com. Dorst. Aug. 9. 97.

S I R,

I have perused your ingenious Treatise of the Gout; in which you seem to accuse Alkalies as the Original of all Distempers: Before I subscribe to this Opinion, I desire to be satisfied in a few Points. The Grand Argument on which you build your Hypothesis, is taken from the green Colour of the Serum which arises from its mixture with Syrup of Violets. It must be confest, that Alkalies usually give it this Tincture, and there may be something of an Alkaly, or at least analagous to it, in the Serum:
But

But notwithstanding this, the many Inferences which you are pleased to draw from this Phænomenon, in my Opinion will hardly hold good. For, 1. If this Alkalized Serum is the Original of Distempers, then it must follow that wheresoever we find this Serum, there must be likewise a Distemper: Now I appeal to your self if the Blood of a healthy Person will not give Syrup of Violets a green Tincture, does not then the Argument labour? may we not impute this Phænomenon to arise rather from a due mixture of the Principles, than from any vitiated Habit of Blood? But, secondly, there is another way of discovering an Alkaly besides that of its Appearance, and that is by its effects, to wit, its Fermentation with Spirit of Vitriol. Now I aver this green Serum will not ferment with the aforesaid Spirit: Wherefore if it be an Alkaly, it is an Alkaly of a particular nature. It must be granted that

that we oftentimes find in the Blood some Particles of a very warm nature predominant, in which cases I have found Acids to be of great use: but whether they are of an Alkaline nature or not, I leave the Learned to determine. If they are Alkalies, then either fixt or Volatile; if fixt, how comes it to pass, that on the Dissolution of the Texture of the Blood, they claim the highest Place, and nothing will serve their turn, but they must needs swim in the Serum? If volatile, how is it that we many times find this warm Serum to be little better than insipid? Volatile Salts you know are aculeated, and affect the Palat strongly. May they not rather be of a sulphureous Nature, since it is the Nature of such Substances to sit uppermost on the Dissolution of Bodies? But thirdly, if Alkalies are the Original of all Distempers, whence is it that in Dropsies, Catarrhs, some Gouts and other Distempers, we find the Texture
of

of the Blood so thin? 'Tis observable that those Particles you term Alkalies, the more the Blood is saturated with them, of the more thick consistence it is, as we see in Pleurisies, Rheumatisms, and other inflammatory Cases (in which Distempers, if in any, these Alkalies abound) is not then its Tenuity rather to be imputed to Acids? Do not Acids immediately put the Blood in a Fusion, and render it thin? Besides, if Alkalies did always offend and cause Pain, it must follow that Acids must give ease: But I assure you I have often experienced the contrary; for upon the exhibition of Rhenish, White-wine, and other Acids, I have found the Pains immediately exasperated, and many times it has been a long while ere they went off. Again, if the Gout proceed from an Alkaly, what is the reason you use so much Sassafras in its Cure? Is Sassafras an Acid, and so proper to subdue this Alkaly? I have on-

ly a word or two to speak concerning the green Colour of Syrup of Violets, and so I have done. I believe it may be turned green without an Alkaly : On the exhibition of it to Infants it comes away green very often, and brings away a great deal of green Matter by stool ; and yet I believe they do not abound with Alkalies. You may read in a late Author of undoubted Credit, that upon an Infant's swallowing of a Dose of Testaceous Pouder, an extraordinary Ferment was raised in the Stomach of the Child : Now how could this Ferment be raised, if it had not an Acid to work upon ? Besides, does not Experience shew that nothing is so proper in Infants Distempers as Alkalies ? I have some more things to offer ; but I desire you would be pleased to satisfy me as to these. I should be glad to close with your Opinion, and embrace any thing that is new ; for I believe Medicine, tho it has met with great Improve-

Improvements of late, to be capable
of far greater. I'll give you no far-
ther trouble, only after Thanks to
you for your indefatigable Labour in
searching out the Truth of things, sub-
scribe

Your Humble Servant,

F. TUTHILL.

The

The Doctrine of ACIDS
in the Cure of DISEASES
farther asserted, &c.

Worthy Sir,

I Have read your *Letter* with all the Pleasure and Satisfaction imaginable, the *Objections* you have rais'd against my *Hypothesis* being the most *solid* and *substantial* I have ever yet met with: And you may assure your self that I have so great a Value and Esteem for *Truth*, that I would not dare to contend for any thing which is the Product of my shallow Understanding, that in the least stands in opposition to it.

B

BUT

But as I would not by any means in the World oppose *Truth*, so at the same time I would not be guilty of so much *Cowardice*, as to quit its Interest, because I meet with a multitude of *Opposers*. Altho your *Objections* do carry the fairest shew along with them of any thing I have met with of this kind; yet I don't at all doubt, but very easily to clear myself from them, the which I shall endeavour to do with as much *Can-dor* and *Friendship* as you propose: them.

Letter. " I have perused your in-
 " genious *Treatise* of the *Gout*, in
 " which you seem to accuse *Alkaliess*
 " as the *Original* of all *Distempers* ::
 " Before I subscribe to this *Opinion*,
 " I desire to be satisfied in a few
 " Points. The *Grand Argument* on
 " which you build your *Hypothesis*, is
 " taken from the green Colour of the
 " † " Serum

“ *Serum*, which arises from its mixture
 “ with *Syrup of Violets*. It must be
 “ confest, that *Alkalies* usually give it
 “ this *Tincture*, and there may be
 “ something of an *Alkaly*, or at least
 “ *analagous* to it, in the *Serum*: But
 “ notwithstanding this, the many *In-*
 “ *ferences* which you are pleased to
 “ draw from this *Phænomenon*, in my
 “ opinion will hardly hold good.

Answer. As for my accusing *Al-*
kalies as the Cause of all or most *Dis-*
tempers, I must confess it was a very
 bold *Undertaking*, especially when
 by so doing, I opposed such Multi-
 tudes of *Great and Learned Men*, who
 by very strenuous and learned *Argu-*
ments asserted the quite contrary;
 whom I could not suppose but that
 I should greatly displease, by dis-
 turbing them in the quiet possession
 of an *Opinion* that had long been em-
 braced by all sorts of people. I my

self, as I elsewhere acknowledg, was formerly as great a *Stickler* for the Use of *Alkalies* in the Cure of *Diseases*, and did as little believe that they were the *Causes* of them, as any one of my hottest *Opposers* now doth. The *Methods* by which I came to change my Sentiments I shall here faithfully relate to you.

Whilst I was fairly jogging on in the ordinary *Method* of *Practice*, a certain *Gentleman* recommended to me a powerful *Acid*, which he told me I might rely upon in the Cure of some sorts of *Fevers*. When I considered the thing as an *Exalted Acid*, I could scarce give the least Credit to what he said, tho at the same time I knew he had no design to impose upon me: however considering the fatal *Success* that frequently attended the Use of *Alkalies* and *Alexipharmicks*, (which however at that time I durst not attribute to the *Medicines*, but their

† Malignity)

Malignity of the Distempers) I was resolved, upon the first poor Patient I had in a *Fever*, to try what the forementioned *Acid* would do; and after a *Multitude of Trials*, both upon *Poor* and *Rich*, I found I could by the means of my *Acid* cure most sorts of *Fevers* much more effectually and certainly than ever I before could by the means of *Alkalies* and *Alexipharmicks*. The Effects of this *Medicine*, (which is a very cheap one, and known to every body) back'd with some other *Observations*, put me upon thinking that *Fevers* and other *Distempers* did not proceed from the *Blood's* abounding with *Acid Particles*, but on the contrary with *Alkalious* ones: for if it had abounded with *Acids*, the giving of more *Acids* must have aggravated the *Symptoms*, whereas on the contrary, I found by the means of my simple *Acid* (which however was communicated to me as the greatest

Secret) I could take off the most dreadful Symptoms attending most Fevers with all the Ease imaginable. Upon which being greatly in love with Chymistry and Chymical Operations; and having a convenient Laboratory, and all Necessaries at hand, I was resolved to examin the Blood of Persons in all Distempers as fast as I could conveniently procure it, to see what Substances abounded; and after a multitude of Experiments in most Cases, I could never find any reason to charge Acids in any one. And that I may not be defective in my Duty to so friendly and ingenious an Objector, I shall here trouble you with some of my first Experiments.

Experiments

Experiment I.

July the fifteenth I committed to Distillation the Blood of a corpulent Lady of a sanguine Complexion, who eats and drinks highly, and who had formerly had for some Years together an inveterate Leprosy, which I cured by Cinnabarine Medicines, &c. But at that time she had a severe Fit of a Rheumatism, occasioned by Cold taking. This Blood and Serum, as it came out of the Veins, weighed two Ounces, one Dram: I obtained from it nine Drams of a clear Phlegmy Liquor a little impregnated with Volatile Alkalious Salt, which altho it was scarce manifest to the Taste, yet it might readily be discerned by pouring a little of it upon some good Syrup of Violets, which it presently would turn green. Besides

which *Phlegmy Liquor*, I obtained five *Drams ten Grains* of a strong *Volatile Alkalious Spirit*, as strong as the *Spirit of Harts-horn* usually sold in the *Shops*; *sixty five Grains* of *fetid Oil*; and in the bottom of the *Retort* there remained *seventy Grains* of a light *Caput Mortuum*.

Experiment II.

July the thirtieth I committed to *Distillation* seven *Ounces three Drams* of the *Blood* of a *Woman*, who had for about *three Weeks* laboured under great *Obstructions* of her *Nerves*; she had a *Lassitude* and *Faintness* upon her, and in this time from *Fatness* she became very lean, and so weak as not to be able to go about the *House*; she likewise complained of a wonderful *Coldness* and *Numbness* in her *Head*, and was so deaf as not to hear any thing unless

less People spake very loud to her. She had always before this *Illness* been used to eat and drink well, and was of a *Constitution* somewhat *Phlegmatick*. This *seven Ounces three Drams* of *Blood*, *Serum*, and all together, such as it came out of the *Veins* without standing to putrefy, afforded *four Ounces five Drams* of *Phlegm*, and in the Neck of the *Receiver* that caught the *Phlegm* a few *Grains* of *Volatile Salt* in a dry form, with which the *Phlegm* was so impregnated, that it would readily turn *Syrup of Violets green*. One *Ounce five Drams* and *15 Grains* of a strong *Volatile Alkaline Spirit*, two *Drams six Grains* of *fetid Oil*, and in the bottom of the *Retort* there remained two *Drams two Scruples* of a very light *Caput Mortuum*.

Experiment

Experiment III.

August the first I committed to Distillation two Ounces and a half of the Blood of a Person in a deep Consumption, who had a constant *Hætick*, and coughed much, bringing up by Coughing a great quantity of purulent Matter : He was worn away to a meer Skeleton, his Appetite quite gone, and so short-breathed, that he was not able to walk at all : He sweat much for the first part of the Night, and when the Sweats left him, he burnt prodigiously. It produced one Ounce six Drams of Phlegm, three Drams and a half of a strong Alkaline Spirit, thirty five Grains of fetid Oil, and sixty two Grains of Caput Mortuum as light as a Feather.

Experiment

Experiment IV.

August the fourth I committed to Distillation the Blood of a Gentleman, who had scrophulous, cancerous Tumours in two parts of his Body, which at some times would be ulcerated, and at other times after the use of a certain Remedy, the Ulcers would be healed, but the Tumors still remained. This Blood weighed three Ounces six Drams, and a Scruple: It produced two Ounces one Dram of insipid Phlegm, seven Drams and a half of Volatile Alkalious Spirit; of fetid Oil forty Grains, and of Caput Mortuum one Dram eighteen Grains.

Experiment

Experiment V.

AT the same time I committed to *Distillation* the *Blood* of a *Gentlewoman*, who had for many Years been afflicted with the *Stone* in the *Kidneys*, and at that time laboured under the most terrible *Fit* of the *Gout* that ever I saw : It weighed *two Ounces seven Drams, two Scruples and seven Grains*. It afforded *two Drams* of a most *volatile Alkalious Spirit* before the *Phlegm*, *one Ounce four Drams* of *Phlegm*, and *six Drams twelve Grains* of *Volatile Alkalious Spirit* of the common sort ; *two Drams* of *fetid Oil*, and *one Dram and half* of *Caput Mortuum*. The *Volatile Alkalious Spirit* that came over before the *Phlegm* in this *Experiment*, was what I never saw before ; but her *Fit* of the *Gout* was also the most
extra-

extraordinary that ever I met with, there being scarce a *joint* of any of the *extreme Parts* that was not at one and the same time affected.

Experiment VI.

August the tenth I committed to Distillation four Ounces two Drams of the Blood of a young Man of a sanguine Complexion, and in a state of Health: It afforded two Ounces six Drams of Phlegm that was perfectly insipid, and so destitute of *Volatile Alkaly*, that an Ounce of it would but just discolour a very small quantity of Syrup of Violets. It afforded also five Drams of an *Alkalious Spirit*, three Drams of heavy Oil, and two Drams four Grains of *Caput Mortuum*; which being broke into small *Atoms*, each *Atom* appeared in my Microscope to be

be so many little Bodies of Fire. This Phenomenon very rarely appears, but when it doth so, it is for the most part in the *Caput mortuum* of the Blood of people in a state of Health.

Experiment VII.

THE same day I committed to Distillation the Blood of a Gentlewoman, who for many Years had had a short convulsive Cough, and always subject to an Obstruction of her Menstrues; she was then big with Child, and besides her Cough, she then complained of a Sickness in her Stomach, and a loss of Appetite, with a lurking Fever, and an Inflammation in her Face. It weighed seven Ounces six Drams, and afforded four Ounces four Drams and a half of Pblegm, impregnated with a highly Volatile Alkalious Gas, that

that would readily turn Syrup of *Violets* green, and in quantity would effervesce with Spirit of Niter, Sea-Salt, *Vitriol*, &c. It afforded also one Ounce four Drams of highly exalted *Alkalious* Spirit, one Drop of which would turn a considerable quantity of a strong Solution of Syrup of *Violets* as green as *Grass*; about ten Grains of light Oil that swam upon the Spirit, and three Drams of a heavy fetid Oil, that sunk to the bottom of it, and two Drams two Scruples of *Caput mortuum*.

Experiment VIII.

August the eleventh I committed to Distillation three Ounces two Drams of the Blood of a Man of a black swarthy Complexion, and of a highly scorbutical habit of Body. It afforded

forded one Ounce three Drams and ten Grains of Phlegm, with a little volatile Alkalious Gas mixt with it; one Ounce fifteen Grains of a highly strong Alkalious Spirit, two Drams of fetid Oil, which all sunk to the bottom, and two Drams of *Caput mortuum*.

Experiment IX.

August the twelfth I committed to Distillation the Blood of a Maid of a pale Complexion, who had what we call the *Green-sickness*: It weighed three Ounces six Drams, and afforded one Ounce seven Drams of Phlegm, unmixt with Gas, one Ounce two Drams and a half of a strong Alkalious Spirit, one Dram two Scruples and a half of fetid Oil, which all sunk to the bottom, and one Dram and a half of *Caput mortuum*.

Experiment

Experiment X.

I Committed to Distillation *three Ounces two Drams* of the Blood of a very worthy Gentleman, who was very *Hypocondriacal*, and had had a very great Pain in his Back and Hips of many Years, and once a month had violent distending Pains in his left Side, and at that time was much troubled with Wind. It afforded me of an insipid Phlegm *one Ounce six Drams*; of a highly impregnated Alkalious Spirit *one Ounce two Drams and a half*; of fetid Oil, which all sunk to the bottom, *one Dram seventeen Grains*; of Volatile Alkalious Salt, which stuck in the Neck of the Retort in a dry form, *seventeen Grains*; and of Caput mortuum *one Dram five Grains*.

Experiment XI.

S*eptember the ninth* I committed to Distillation *three Ounces* of the *Blood* of an *Honourable Lady*, who had had for *two Years* a *scrophulous Tumor* in one of her *Breasts*, and of a very *scorbutick habit of body*, and subject to *wandring Pains* and *nervous Obstructions*: It afforded *one Ounce six Drams* of *Phlegm*, *six Drams* of *strong Alkalious Spirit*, *one Dram seven Grains* of *fetid Oil*, and *one Dram ten Grains* of *Caput mortuum*.

I could add a multitude of *Experiments* of this kind, but they belonging to another *Piece*, I have thought fit to trouble you with no more; and in relation to these few, I think it necessary to premise a few things, that I may make things as clear as may be.

To avoid the grand *Objection*, that by exposing things to violent *Fires* there are new Substances produced, which were not existent in the *Concrete* before, (which *Objection* I shall take occasion to make appear to be but a very trifling one) I took the following Method, as the only one by which I could most clearly satisfy myself, being the most plain and easy one imaginable.

I first of all put the *Blood* as it came out of the *Veins*, *Serum*, and all together, into a glass *Retort* with a very wide *Mouth*, to which I had a *Receiver* adapted as fit as possibly I could. I afterwards put my *Retort* into a sand *Furnace*, under which I made a very gentle *Fire*, which I increased by degrees, till the Drops began to fall at about a *Second's* distance one from another; in which state I continued it, till the *Phlegm* was all come over, and unless in one or two very extraordinary

Cases I have always found the *Phlegm* come over first, which perhaps to some may appear a *Paradox*, that what we commonly call *Volatile Spirit* and *Salt* should not rise before the *Phlegm*; but upon trial, I am sure whoever will give themselves so much trouble, will find it true. When it had dropt so long that one Drop being dropt upon two Drams of a strong Solution of Syrup of *Violets* would turn it green, I then changed my *Receiver*, and continued my *Fire* till nothing more would come over; and this last I call *Spirit*, having always a proportion more or less of a fetid *Oil* mixt with it. Now what we call *Spirit* of this kind, is only a proportion of *Volatile Alkalious Salt* mixt with so much *Phlegm* as will well dissolve it: Therefore I confess the most nice way of making these *Experiments*, is to separate the *Volatile Alkalious Salt* by it self, without any mixture of

†

Phlegm;

Phlegm ; but every *Experiment* requiring a fresh *Vessel*, and the *Vessels* themselves being very chargable, it would be almost impossible for any private *Man* to make a sufficient number of *Experiments* without the assistance of the *Publick*, which occasioned me in the *Preface* to my *Tract* of the *Gout*, to propose a *Publick Stock* to carry on this Work, to bring things to an absolute certainty, if possible.

However, altho these *Experiments* are not the most accurate that might be made, yet they are plain and easy, and are capable of being made by those who want the common *Apparatus* for a *Laboratory*. An *Iron Pot* set up in the *Corner* of a *Chimney*, with a few *Retorts* and *Receivers*, are all that are necessary for the making of these *Experiments* ; whereas for the other sort there are required long *bolt-Heads*, each of which will serve but for one *Experiment*, with nice *Furnaces*, and

so much other charge and trouble, that few private Men are either capable or willing to be at, to make such a number of *Experiments* that are requisite. But by the way I have set down, a Man may make a vast number of *Experiments* for a small charge ; it is but going by *one Rule* in the making of them : and I don't see, but a Man may act with as much certainty as in the other, only I must confess it is more liable to the *Objections* of *Cavillers* ; but for such I have no value, it being only for such candid ingenious Persons as your self, for whom I am willing to take pains.

Let a Man but nicely observe to change the *Receiver*, when one *Drop* will turn the Syrup of *Violets* green, and that *Blood* that affords the greatest quantity of such Spirit afterwards that abounds with such *Particles*, may reasonably be supposed, nay I think does certainly appear to abound most
with

with *Volatile Alkaly*, or at least what by all Mankind is taken to be such, it answering all the *Phænomena* that Spirit of *Harts-horn* and Salt *Armoniack* will do; affecting the *Palat* in the same manner, and making an *Effervescence* with all sorts of *Acid* Spirits, such as Spirit and Oil of *Vi-tri-ol*, *Sulphur*, *Sea-Salt*, *Nitre*, *Vine-gar*, &c. Now if such a Substance as this be not to be called an *Alkaly*, I should be glad to be informed what is; but it is what I at present call so for want of a better Name: and that *Blood* that by this simple easy way of *Distillation* affords the greatest quantity of Spirit of equal Strength, I cannot forbear to charge with abounding with a greater quantity of *Alkaly* than that which affords less. And in examining the foregoing *Experiments*, it plainly appears that the *Blood* of *People* labouring under the *Distempers* there mentioned, doth afford a

much greater quantity than that of the healthy *Person* ; that of the *Person* in a *Consumption* affording the least of any of those in a morbid state, for which a very good reason may be given : the great quantity of *luxuriant Alkaly* being thrown upon the *Lungs*, which causeth the *Ulceration* there, and the discharge of such a quantity of *Pus* or *Matter* afterwards as emaciates the *Body* even to a *Skeleton*.

As for the *Fire's* producing new Substances, which were not existent in *Bodies* before, or which is more pertinent to the point in hand, making *Acids Alkalies* or *Alkalies Acids*, or producing *Alkalies* or *Acids* from *Bodies* in which they did not exist before, I think there is not the least weight in it : I am sure it is contrary to my *Experience*, and I believe to the *Experience* of all inquisitive *Chymists* that have ever gone before me ; tho I confess

confess there have been some superficial ones that have dreamt such things; but to the best of my apprehension, without the least reason for so doing. I never could find, but manage *Vitriol* in what manner, or with what degree of *Fire* you please, and it will always produce an *Acid Spirit*; do the same by *Harts-horn*, *Blood*, &c. and it will always produce an *Alkalious* one, or at least what we call so: for if people will cavil about *Words*, we shall never have an end of *Controversies*; and indeed most of the great *Controversies* we have had in the World have been more about *Words* than *Things*; Men have contended more earnestly for the *Shadow* than the *Substance*. But my present *Controversy* with my *Worthy Brethren* is not such; our Difference is whether *Diseases* proceed from the *Blood's* abounding with *Alkalious* or *Acid Substances*, things which differ

fer much more than in *Name*, their *Natures* being directly opposite one to the other. I confess there are some who have complained both of me and others that have written concerning *Alkaly* and *Acid*, that we have not sufficiently explained our selves what we mean by those *Names*: This I take to be a Dispute about *Words* only, since there are few People in this day, who upon the first view of any of those things of either *Tribe*, especially of the manifest ones, cannot readily give their *Judgments* to which they belong, and this even amongst those who are not *Physicians*: and therefore altho we may not be able perhaps to give an exact Definition of the *Words*; yet since by these *Words* all people know we mean such and such *Substances* whose *Natures* are directly contrary, that ought to breed no difference. And for my part, I know no other use of *Words*, than
by

by the means of them to impart my Mind to others; and if that Intention be once answered, I care for no more, but shall leave the *Philologists* to squabble as long as they please. But as for the producing either *Alkalies* or *Acids* by the means of *Fire* out of those *Bodies* in which they did not exist before, or the changing of an *Acid* into an *Alkaly*, or producing either out of the other that was simply one of them before; if any one will shew me such an *Experiment*, or demonstrate such a thing without *Fallacy*, I shall own my self his *humble Servant*.

As for the *Inferences* I draw from the *Serum* of the *Blood* turning a Solution of Syrup of *Violets* from a blue Colour to that of Greenness, being what all manifest *Alkalies* will do, all manifest *Acids* changing the same blue Colour into Redness; I see no reason at all that I have to recede from

from what I have said concerning that matter: For if it be true that all manifest *Acids* do change a Solution of Syrup of *Violets* from a blue Colour to that of Redness, and all manifest *Alkalies* do change the said blue Colour into a green one; if the *Serum* of the *Blood* doth so change the Colour, a Man may, to the best of my Apprehension, without Pre-sumption conclude, that that *Serum* which doth change a Solution of Syrup of *Violets* from blue to green, doth abound with *Alkalious* Particles: And I am sure if it did abound with *Acids*, it would not fail of changing the blue Colour of the said Solution into a red one: Which is a thing any Man may easily try; let but a sufficient quantity of any *Acid Spirit* be mixed with the *Serum* of a sick Man's *Blood* that will before in a small quantity turn a very large quantity of Solution of Syrup of *Violets* from
blue

blue to Greenness ; if the *Acid* be so much as will overpower the *Alkaly* in the *Serum*, instead of turning a Solution of Syrup of *Violets* green, it will immediately upon the mixing of it become red.

But that you may see I am not the only Person who has made use of this *Experiment* to distinguish between *Alkalies* and *Acids*, I shall produce an Authority or two for my so doing. Dr. *Fran. Andre* of *Caen*, in his *Discourse* concerning *Acid* and *Alkaly*, pag. the 65th, *English Translation*, tells us, That the principal Cause of permanent Colours comes only from the different nature and different mixture of *Acid* Salts with *Alkaly* Salts, which we may observe by divers *Experiments*.

Experiment I.

All Acids destroy blue Colours, and all Alkalies make them reappear.

Expe-

Experiment II.

Syrup of Violets, which is a composition of Acid and Alkaly, becomes of the fairest green in the World when it is mingled with some Alkaly, as with Oil of Tartar made per deliquium, and reddish when some Acid is mingled therewith.

Swalve in his *Traet of Alkali and Acidum*, pag. 141. hath it much to the same purpose: *Syrupum Violarum præ oculis habeto, quia suspectam habes Solutionem plumbeam per Acetum in Saccharum redactam. Syrupus ille ab Acido quovis rufescit, ab Alkali virescit; hinc inservit aptissime dignotioni utriusque. Quodvis Acidum eum sistit rubrum, sicut quodvis Alkali viridem, fixa & volatilia uniusmodi sunt, &c.*

But my Hypothesis doth not altogether hang upon so slender a Thred as the change of Colour, tho that be

a better *Foundation* than a great many *Hypotheses* are built upon. You may very well remember that I brought this *Experiment* upon the Stage, only to satisfy *Gentlemen* who have not the conveniency of making more elaborate ones : And all *Mankind* having imbibed the Notion that if any thing ailed them, they immediately concluded that it proceeded from an *Acidity* of their *Blood* ; I therefore thought it my *Duty* to convince them of the contrary in the most familiar manner I could ; but I never expected that *Physicians* should take up with it, I referring them to a more certain *Method*, viz. to analyze the *Blood* of their sick *Patients*, and to compare the Substances produced from it, with the Substances produced from the *Blood* of People in a state of *Health* : And if once they will but take that *Method*, I am morally certain that the number of
my

my *Enemies* will every day decrease. But let People continue to say what they will of me, I shall endeavour to satisfy my self, and to act for my *Patients* with as clear a Conscience as possibly I can: And if after all I am reproached by my *Brethren*, I must bear it as well as I can. It never will be in any *Physician's* power to make people Immortal; but at the same time I am absolutely certain that peoples Lives are frequently prolonged by the use of proper *Remedies*; and I doubt not but that they are also shortned by the use of improper ones: And if we are mistaken as to the *Cause of Diseases*, I don't see how we can readily find out proper *Medicines*.

Letter. “ For first if this *Alkalifated*
 “ *Serum* is the Original of *Distempers*,
 “ then it must follow that whereso-
 “ ever we find this *Serum*, there
 “ must

“ must be likewise a *Distemper* : now
 “ I appeal to your self if the *Blood*
 “ of a healthy Person will not give
 “ Syrup of *Violets* a green *Tincture*,
 “ does not then the *Argument* labour ?
 “ may we not then impute this *Phæ-*
 “ *nomenon* to arise rather from a due
 “ mixture of the *Principles* than
 “ from any vitiated Habit of *Blood* ?

Answer. I confess this is close argu-
 ing, and much to the purpose : But
 you may remember that I no where
 say that the *Serum* of well Persons
Blood will not turn a Solution of Sy-
 rup of *Violets* from a blue Colour to
 that of Greenness. But on the other
 hand, I have asserted that the *Blood*
 of those labouring under any *Dis-*
temper I have met with will do it, in
 order to prove that the said *Distempers*
 did not proceed from *Acids* ; because
 if it had abounded with *Acids*, in-
 stead of turning it from blue to
 D green,

green, it would, as is before observed, have turned it from blue to red. Well, but still the *Serum* of the *Blood* of a well *Person* will cause the same change in the *Solution* of *Syrup* of *Violets* as that of a sick one; and therefore to rid my self of that *Difficulty* is the great thing I have now to do.

First, I all along throughout my *Tract* of the *Gout*, the *Piece* you refer to, and elsewhere, do endeavour to prove that the *Blood* of *Persons* in a morbid state doth more abound with *Alkalious Particles* than that of well *Persons*, but no where say that the *Blood* of well *Persons* hath no *Alkaly* in it: And that the *Blood* of sick *People* in all or most *Distempers* doth abound with such *Particles* more than that of those that are in a state of *Health*, is to be demonstrated severall *Ways*: *First*, If you take an equal *Proportion* of the *Serum* of the *Blood*

of a healthy Person, and of that of a Person in a Fever, Pleurisy, &c. and pour them into the same Quantities of Solution of Syrup of Violets of equal Strength, you will find that wherein the Serum of the sick Person's Blood was poured, to be much greener than the other. Secondly, If you take two Ounces of the Blood of a healthy Person as it comes out of the Veins, Serum, and all together, and two Ounces of the Blood of a Person in a Fever, Pleurisy, a Fit of the Gout, &c. and commit them to Distillation in the same degree of Heat, you will find that the Blood of the sick Person will produce a much greater quantity of Alkaly than that of the Person in a state of Health.

Secondly, What shall I do with this Alkaly that is to be found in the Blood of healthy Persons? Because every Body has some Alkaly in their Blood, must every Body therefore

labour under some *Distemper*? Why truly I can't say that I ever yet met with that *Person*, who upon strict *Enquiry* had not some *Complaint* or other to make. *Mankind* since the *Fall* is subject to *Death* every moment; there being since that time a *Principle* of *Death*, in opposition to that of *Life*, implanted in our *Natures*; and not only in our *Natures*, but in the *Natures* of every thing else for our sakes: And God said to Adam (upon his *Fall*) *Cursed be the Ground for thy sake, &c.* I confess there are many in our *Age*, who will laugh at and ridicule me for having recourse to *Sacred Writ*, especially to the *Writings* of *Moses*, which they look upon as a kind of *Romance*; but let them laugh on. If there were not a *Principle* of *Death* within us, how is it possible for a *Man* one *Hour* to be in a good state of *Health*, and the very next to be *expiring*? How this may be I shall endeavour

deavour to demonstrate as clearly as possibly I can.

All the *Alkaly* that there is to be found in the *Blood* is most certainly an *Excrement*, and in a way of being carried off by some of the *Emunctories*; and if any of the *Emunctories* chance to be stopt, that this *excrementitious Alkaly* hath not room to pass out by them, why then there is a *Distemper* of some kind or other caused, the *Blood* being overcharged with this *excrementitious Matter*. How many *Distempers* are occasioned by what we call taking of *Cold*, which is nothing else but a *Constipation* of the *Pores*? What is the *Occasion* of the *Jaundice*, but an *Obstruction* of those *Vessels* in the *Liver*, which separate the *bilious Particles* from the *Blood*? and what dreadful *Distempers* does the *Jaundice* frequently cause? How are *Mortals* tormented by the *Stone* in the *Kidneys* and *Bladder*? and what is the origi-

nal Cause of them, but an *Obstruction* in the *Kidneys*, whereby the *excrementitious Alkaly*, which should be carried off that way, by its over long stay in those Parts is converted into that *Substance* we call a *Stone*? And whoever will give themselves the trouble of distilling *Stones* either from the *Kidneys* or *Bladder*, will find that they are composed of *Alkalious Particles*. I could expatiate, and I doubt not give an Account of the Cause of all or most of the *Distempers* attending *Human Bodies*, from the *excrementitious Alkaly* being hindred from being carried off by the proper *Emunctories*. And I appeal to all *Candid Ingenious Persons*, even those who are my greatest *Enemies*, whether all the *Excrements* of our *Bodies* are not *Alkalies*. When I speak of *Excrements*, I don't mean that which is carried off by *Stool*, I having told you in another Place that my *squeamish Stomach* would ne-

ver yet give me leave to make *Experiments* upon that, to know what Parts it contained; but every Body knows that the *Bile* is the greatest part, if not all of it, carried off that way; and that the *Bile* is an *Alkaly* I suppose no Body doubts.

I know there are a great many who will reply, That we will allow you that the *Matter*, or at least the *Saline Substance* that is discharged by the *Glands* of the *Skin*, by *Urine*, the *Bile*, *Tears*, &c. are *Alkalious*; but there is another *Excrement*, the which you take no notice of, which is a very considerable one, and that is the *Matter* discharged from the *Glands* of the *Mouth*, called *Spittle*, which in all respects seems to be an *Acid*. To which I answer,

That the *Saliva* or *Spittle* is so far from being an *Excrement*, that it is one of the most noble *Juices* that our *Body* affords; it being the only

Menstruum that *Nature* hath furnished us with for the dissolving of the solid *Food* we eat, and turning it into a nutritious *Juice*: For by chewing of our *Meat* we compress the *Salival Glands*, and cause them to throw out a sufficient quantity of the *Juice* contained in them; which being mixed with the *Food*, is along with it carried into the *Stomach*, where the *Office of Digestion* is performed. But those People, who swallow their *Meat* without chewing, seldom or never digest it, and are always lean. Now when I speak of *Saliva* or *Spittle*, I don't mean that inviscated, coagulated Substance that People hawk up in a Morning, or discharge when they have a Cold as they call it, that being a degenerate *Saliva*; but I mean that thin, Limpid Substance that some great Tobacco-Takers lavishly let run from them: which is the only reason that the smoking of Tobacco takes away most

most Mens *Appetites* ; for would they
smoak *Tobacco* as a great and worthy
Prelate and my self do, and as all the
Turkish Nation do, which is to swal-
low their *Spittle*, they would rarely
want an *Appetite*.

But that I may return to my pro-
per Business, which is to prove that
all the *Alkaly* we have in our *Blood* is
an *Excrement*, and in a way of being
carried off as such, or for want of
being carried off, would cause a *Dis-*
temper of some kind or other. And
here give me leave to acquaint you,
that according to the best of my Ap-
prehension, the *Matter* of all our *Dis-*
tempers is the same ; but according to
the difference of the *Part* immediately
affected, the *Distemper* differs: And
indeed when I consider the wonder-
ful *Structure* of our *Bodies*, of what
Multitudes of minute *Parts* it is compo-
sed, instead of being surprized at
our being sick and out of order so
often

often as we are, I am almost amazed to think we are ever well. All *Alkalies* that I know of will presently cause *Rottenness* and *Putrefaction* in *Animal Substances*, as may be seen in making of *Glovers Leather*, an Instance of which I have given in my *Tract* of the *Gout*, from a very good hand. Nay it is a thing very easily to be experimented by any one; for let but a *Piece* of *Flesh* of any kind be put into a *Liquor* well impregnated with *Alkaly*, and in a small time (tho in the *Winter*, when things are not subject to putrefy) it will turn to a meer *Putrilago*, a *Mass* of *Rottenness* and *Corruption*. Whereas let a *Piece* of the same *Flesh* be put into *Liquor* impregnated equally strong with any *Acid*, and it will preserve it from *Putrefaction*. *Alkalies*, whether *Volatile* or *fixt*, being applied to the *Skin*, will either cause a *Mortification*, or destroy the *Tone* of the *Part*; where-

whereas *Acids* of equal *Strength* will prevent *Mortifications*, where they are actually beginning, and frequently restore the *Parts* to their *Tone*, where it is lost.

But it may very reasonably be askt, where is the *Acid* in the *Blood* that does us all that *Service* you speak of, or what becomes of all the *Acid* we take in, you owning *Bread* to be an *Acid*, and several other things that are every day used by all *Mankind*, when in your *Analysis* of the *Blood* you mention no such thing, and seem to intimate, that altho *People* take them in never so great quantities, yet they never abound so as to cause a *Distemper*? This is what may reasonably be offered, and is very necessary that I should clear as well as I can.

The *Life* of *Man* I take to be a *Fire* or *Flame*, and all we eat and drink,
together

together with the *Air* we draw in, to be as *Fuel* for this *Flame*; and that which is not proper *Fuel* for it is cast off as *Excrement*. Now I appeal to all *Mankind* conversant in *Chymistry*, whether the *Excrements* of *Fire*, or of the *Fuel* of which it is made, viz. *Ashes* and *Soot*, be not *Alkalies*; and that our *Lives* are nothing else but a *Flame* or *Fire* of the same *Nature* with that commonly used, or very *analogous* to it, I think is plain.

It is the *Nature* of all common *Fire* to consume whatever is a proper *Pabulum* or *Fuel* for it, and to leave its *Excrements* behind it, which, as is before observed, are *Ashes* and *Soot*; in the *Ashes* is contained a *fixt Alkaly*, and in the *Soot* a *Volatile* one. It is very plain that the *Body* of *Man* would soon be consumed, unless supplied with proper *Food*; and how could this be, unless there were something to consume it?

Common

Common *Fire* cannot subsist where there is not a due *Access* of *Air* to it: Is it not the very same thing with the *Life* of *Man*? let him be but inclosed in a Place where the *Air* is not capable of coming at him, and immediately he expires. It is well known that it is the common *Practice* of *Miners*, and those who have occasion to go into *subterraneous Vaults* or *Passages*, to carry *Candles*, *Torches*, or some such things along with them, not more for the convenience of the *Light* they afford them in such dark *Places*, than for the *Security* they are to them against the most imminent *Danger*, viz. the *Loss* of their *Lives*: for as soon as they once perceive their *Lights* begin to grow dim, common *Prudence* and *Experience* teaches them to retreat; and whoever has chanced to be so fool-hardy as to advance after the *Light* hath been extinguished, has
scarce

scarce ever returned either to repent, or give an account of his *Folly*. A fatal *Accident* of this kind happened to two Men in a great *Vault* in a *Yard* belonging to my *Father's House*, into which *Vault*, if we put a large *Pan* of *Charcoal* well lighted, they would be extinguished in a *moment*; and the two Men before mentioned, as near as we could guess, lost their *Lives* in as small a time.

Heat and *Warmth* are the constant *Concomitants* of *Fire*: And that there is both *Heat* and *Warmth* in the *Body* of *Man*, none that is *Master* of his *Senses* will deny: But why should I make a *Distinction* between *Heat* and *Warmth*, when they only differ in degree? But not to stand any longer about that matter: How is it possible for the *Heat* of our *Bodies* to be sustained, unless there were a *Fire* within us to do it? We are generally as hot, if not hotter in *Bed*, altho we use no
Exer-

Exercise to excite the *Motion* of our *Blood* and *Juices*, than when we are up and in motion. Nay, mere *Motion*, let the great *Des Cartes* and his *Followers* say what they will, will never cause any *Heat* in *fluid Bodies*, altho excited never so much : I confess in solid ones, upon violent *Friction* or the like, there will a *Heat* arise ; but what relation hath that to us, when we are asleep ?

There is a received *Maxim*, that there is no *Smoak* but there is some *Fire* : Every Body must be sensible what vast quantities of *Steams* there are continually discharged from all *Parts* of our *Bodies* ; and how that comes to be, unless occasioned from some *Fire* within us, I cannot understand.

I confess I have the *Concurrence* of some of the greatest *Men* perhaps the *World* hath afforded, that the *Life* of *Man* is a *Flame* ; but at present I have

not

not leifure to perufe their *Writings* to fee what they have faid upon this *Subject*.

If any *Man* fhall ask me, how this *Flame* came to be firft kindled? I fhall make no other reply, but defire him to inform me how the *Ovum* came to be impregnated with the *Mafculine Seed*, fo as to make it capable of producing a *Human Body*? and when he hath done that, I will quickly tell him how this *Flame* came to be firft kindled.

The next thing I have to do, is to confider what is the proper *Pabulum* or *Fuel* for *Fire*, and this every body knows muft be fomething that is *fulphureous*: Now there is fcarce a *Sulphur* we know of that is not combined with an *Acid*; *Sulphurs* feeming to be the genuine *Vehicles* for *Acids*, with which they are generally united, few *Sulphurs* being devoid of *Acids*, and few *Acids* devoid of *Sulphurs*; and

and as the one or the other predominates, so they are denominated either *Acido-Sulphurea* or *Sulphureo-Acida*. As *Sulphurs* are the *Vehicles* of *Acids*, so *Acids* seem to be a sort of *Vinculum* to *Sulphurs*, by the means of which they are hindred from *Dissipation*. Whenever a *Sulphur* is devoid of *Acid*, it is of so *Volatile* a *Nature*, that it is scarcely to be preserved from *Dissipation*: Not that I suppose any *Sulphurs* to be perfectly destitute of an *Acid*; but the less *Acid* they have mixt with them, the more *Volatile* they are; such are *Rectified Spirit of Wine*, *Camphire*, &c. And Mr. Godfry assures me that he can make *Spirit of Wine* so *Volatile*, that a *Drop* of it won't fall to the *Ground*, but disappear almost as soon as it is disingaged from the *Mouth* of the *Bottle* in which it is contained. Now the purer the *Pabulum* is, the less *Excrement* is produced; *Spirit of Wine* and *Camphire*

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pro-

produce little or no *Excrement* at all ;
 whereas *Oil Olive*, *Bees Wax*, *Tallow*,
 &c. afford a great deal of *Soot*, in
 which is contained the *Volatile Alkaly*.
 Most *Vegetables* commonly in use for
 burning, afford a great quantity both
 of *Ashes* and *Soot*, some more of one,
 and less of the other ; as *Oak* a great
 quantity of *Ashes* in which is con-
 tained the *fixt Alkaly*, and but a little
Soot, in which the *Volatile Salt* is con-
 tained. *Beech* on the other hand pro-
 duces but a small quantity of *Ashes*,
 but a large quantity of *Soot* : this is
 what I have been informed of by those
 who burn quantities of *Wood*. The
Substances we live upon, and are nou-
 rished with, are not to be reckoned
 amongst the number of those which
 afford no *Excrement* upon burning :
 and by the way I can't understand
 what should become of all we eat
 and drink, unless, as is before obser-
 ved, there were a *Fire* or *Flame* with-
 in

in us to consume it ; and the *Consumption* is so great, that we are not able to live without a constant and frequent Supply. And which to me is none of the least Arguments to prove that our *Life* is a *Flame*, is what is manifest by every day's *Experience*, viz. Let a very fat Man be seized with a *Fever*, or any such *Distemper*, attended with a total loss of *Appetite* ; and the *Fat*, which is the proper *Fuel* for *Fire*, will first be consumed : and in such *Distempers* it is frequently seen that very corpulent Persons will in a small time be wasted to a *Skeleton* ; when at the same time the sensible *Evacuations* of *Urine* and *Stool* are less than in a time of *Health* ; which thing could not be, unless there were a *Flame* to cause that *Consumption* : And wherever there is a *Fire* or *Flame*, especially when supplied with gross *Matter*, there must be a throwing off of *Excrements* ; which is the reason

that the *Blood* in *Fevers*, and other *Dis-temper*s of that nature, abounds more with *Volatile Alkaly* than that of well *People*, because the *Flame* is more excited at that time, and the *secretory Vessels* designed for that purpose being some way or other obstructed, cannot carry off the *Excrements* so fast as they are produced.

Let us consider what all the *Alkali-ous Salts*, whether *Volatile* or *fixt*, are. I suppose no one can produce me a *fixt Alkaly*, which is the bare *Product* of *Nature*: The very *Name* it self being derived from the *Salt* of the *Ashes* of the *Herb Kaly*, as I have observed in the *Appendix* to my *Essay* of *Alkaly* and *Acid*, in concurrence with several *Authors*, who have written upon the same *Subject*; tho none that I know of have ever written upon it with the same design that I have done. But that you may see I am not singular, I shall produce two or three

three Authorities. Swalve in his *Treatise of Alkaly and Acid*, pag. 48. does thus define it. *Originem Nominis Alkali ab incineratâ Herbâ Ægyptiacâ Kali desumptam haud ignoras : Salibus illud fixis & lixivialibus abhinc applicatum; illudq; primariò judicatum Alkali, quod Gensm suam è cinere & lixivio traxerat. Tachenius in his Hippocrates Chymicus defines it much after the same manner. Fit itaq; Sal Kali ex Herbâ Kali, magna copia in Ægypto proveniente, quæ ibidem viridis exurit, & ad nos transfertur; à quibusdam vocatur etiam Soda, Alumen catinum, & vero nomine Sal Kali appellatur; non reperitur tamen Sal Kali in Natura, nec in omnibus tribus Regnis, nisi ab Artifice ignis ope producat. For my own part, I could never yet see any such thing as a fixt Alkaly to be obtained any other way than from the Ashes of Plants, which are that part of them that is altogether unfit for Fuel for common Fire, they plainly appearing to me to*

be an *Excrement*, and as such will rot and destroy all *Bodies*, especially *Animal* ones, that they are mixt with. In *Animal Bodies* there is no such thing to be found unless in the *Bile*, which is an *Excrement*, and seems to be as genuine an *Excrement* of *Fire* as any thing whatsoever, both from its burnt *Tast*, *Colour*, &c. and I am sure if it be detained in the *Body*, will play the *Devil*.

As for *Volatile Alkalies*, they are to be found in *Soot*, in *Plants* after *Putrefaction*, in *Urine*, in *Horns* and *Hoofs* of *Animals*, and in *Blood*; and altho *Sweat* abound with a great quantity of it, yet that is not to be obtained in quantities sufficient to draw *Volatile Salt* from it. *Soot* is the *Volatile Excrement* of *Fire*, or of the *Matter* of which *Fire* is made. *Urine* is an *Excrement* of our *Bodies*, and the *Volatile Salt* in it the *Excrement* of *Animal Fire*, or of that which is its

Pabu-

Pabulum or *Fuel*. The *Horns* and *Hoofs* of *Beasts* are generally allowed to be excrementitious Parts of their *Bodies*, and they afford the greatest quantity of *Volatile Salt* of any thing besides. As for *Blood*, the *Volatile Alkaly* to be obtained from it, is only the excrementitious part of it, or rather of the vital *Flame*, or the *Pabulum* of it, in a way of being carried off by some of the *Emunctories*, which, if it chance to be obstructed in its *Passage*, affects the *Body* with some *Distemper* or other. As for the *Volatile Salt* to be obtained from *Plants* after *Putrefaction*, I shall give you a particular account of it, by reason that some *Men* have made a great *stir* about it, and spent a great deal of time in quest after it, supposing it to be one of the grand *Medicines* of *Nature*. Most, if not all *Vegetables* do principally consist of a *Volatile Acid* and a *Sulphur*, which make them a

proper *Fuel* for *Fire*: Now let any of the *Aromatick Plants*, such as *Rosemary*, *Sage*, *Lavender*, *Mint*, &c. be well dried, and afterwards be put into a *Hole* in a moist *Cellar*, and rammed down very hard; let them lie without a *Cover* till they grow hot; after they have done so some time, and the *Acido-sulphureous* parts are exhaled (which is much the same, as if they had been burnt) they will then contract a stinking ill *Smell*; when they are in this state, put them into a tall glass *Bottle*, with a glass *Head*, and in gentle *Heat* of *Sand* you will obtain a *Volatile Alkalious Spirit* and *Salt*, good for nothing else that I know of, but to bring other *Bodies* into the same state of *Corruption* that the *Plants* from which it was extracted were before it was drawn from them. Thus I have let you see what is my *Judgment* concerning *Alkalies*, and how they are produced.

But

But as for the *Acid* that we take in as *Food* and otherwise, that, together with the *Sulphur*, are made use of as a *Pabulum* or *Fuel* for the vital *Flame*; and were not the *Sulphureous Particles* in some measure suppressed and detained by the means of an *Acid*, the *Thred* of our *Lives* would be but very short. Dr. *Andre* of *Caen* in *Normandy* in his *Discourse* of *Alkaly* and *Acid*, speaking of *Acid*, pag. 21. *Engl. Translation*, he saith, *There is nothing in this World which owes not its birth to an Acid Salt: Nothing can live nor be multiplied without it: It is that Soul of the World, of which the Antients have so often told us.* Tachenius in his *Clavis Hippocratis Medicinæ*, from pag. 3, to pag. 11. gives strange *Encomiums* of it, some of which I shall here transcribe. Speaking of *Acid*, he brings in *Lullius*. *Nos & multi alii, inquit, vocamus illum Filium Solis: nam primò per Solis influentiam fuit generatus per naturam*

naturam sine adiutorio scientiæ vel artis ;
 & ideo Aristoteles vocavit Solem patrem
 & Terram matrem omnium vegetabilium,
 &c. He afterwards says, Acidum itaq;
 est & pingue antiquissimum principium,
 & omnium rerum vita & fons, quod
 variis nominibus nominarunt Scriptores,
 ut ignem, solem, aurum, spiritum, sul-
 phur, forma, & sexcentis aliis nomini-
 bus, quæ omnia synonyma sunt, estq; ea-
 dem res, cui tamen diverso respectu diversa
 nomina imponuntur ; nobis tamen eam
 hic & ubique commodiore opportunitate
 Acidum vocare libet. Again, A Sole i-
 taq; ut a fonte defluunt Acidum naturale
 & lumen vitale, quæ reipsa sunt idem,
 sed officio distinguuntur : Acidi enim mu-
 nus est ad interiora Naturæ penetrare ; lu-
 minis verò exteriora patefacere, utcumq;
 solis radii operentur ; adeoq; Sol est pri-
 mum naturale organum, cujus accessu &
 recessu omnes naturæ operationes variæ
 reguntur, intenduntur ac remittuntur.
 Hinc Cosmopolita ingeniosissimus ; si non
 esset

esset vis vegetabilis sulphuris (id est Acidum pingue & filius solis) non coagularetur aqua in herbas: si itaq; Acidum à sole fluens infunditur in materiam ex gr. mineralem statim recipit determinationem naturæ, & virtutis mineralis, & sic de cæteris animalibus, & de Vegetabilibus rebus dixit Luilius; & propterea quòd hæc aciditas naturalis omnibus mundi Materiis copulatur, Mercurii nomen à sapientibus adeptæ est: Et licet oculus vulgi quotidie videat Acidi naturalis multiplicationem, nec non incorporationem, attamen illud non cognoscit: exempli loco sit minera salis petreæ Patavii jam evacuata, quæ quinque vel septem annorum decursu rursus repletur, est enim terra ejus nutrix, Hermete teste, unde hic spiritus in illa corpus assumit, atq; fit inflammabile nitrum.

Acids are without doubt the most perfect Bodies in Nature, since they cannot undergo a Putrefaction; and what we take in by our Mouths is so far from being too much for us, that be-
sides

sides it we are not able to live without drawing in fresh Supplies from the *Air* every moment; and that the *Air* is filled with *Acid* Salts, a Multitude of common and obvious *Experiments* do evince: as for instance, Let *Vitriol* be distilled with the most violent *Fire* imaginable, so that it will not yield the least drop of *Acid Spirit* more; do but take out the *Caput mortuum* or *Colcathar*, and expose it to the open *Air* under a *Shed*, where it may not be rained upon, and in a few months time it will become good *Vitriol* again, and yield as much *Acid Spirit* as it did at first time, and this it will do *ad infinitum*: The same thing may be done by the *Caput mortuum* of *Sea-salt*, *Nitre*, &c. Now if the *Air* did not abound with *Acid Particles*, from whence came those insipid Bodies that were totally deprived of the *Acid* they had in them by the first *Distillation*,

tillation, to regain the same quantity of *Acid* that they had before they were distilled? If you expose the *Caput mortuum* of those things that by *Distillation* had afforded an *Alkalious* Spirit or Salt, that *Caput mortuum* will never regain its *Alkaly* again, let it lie never so long; which argues plainly that the *Particles* of the *Air* are not *Alkalious*: And therefore were *Acids* so injurious to Mens Bodies as some would have us believe they are, every Draught of *Air* we take in must poison us, since the *Air* is full of *Acid* *Particles*; and I believe no body doubts but that the *Air* has a free Communication with the *Blood*, if not by the *Lungs*, at least by the receptory *Pores* of *Skin*: But I think it's plain that there is a *Communication* with it both ways.

By all the ways I could yet contrive, I have not been able to procure one Grain of pure *Acid* from the *Blood* of either healthy or sick People:

But

But in the before recited *Experiments* you find there is always a proportion of fetid *Oil*, with which *Oil* the *Acid* is imbodied to make it a proper *Pa-bulum* for the *vital Flame*; and when once *Acid* and *Oleaginous* Bodies are well united, which they will very readily do, it is no very easy matter to cause a Separation of them. Now the reason that this *Oil* hath such a very ill Savour is from its coming over the *Helm* along with the *Volatile Alkaly*; all *Alkalies*, whether *Volatile* or *fixt*, giving a very ill Smell to sulphureous oleaginous Bodies, especially if together they are exposed to a great degree of *Heat*; and the *Heat* that is required to bring them over the *Helm* is much greater than that of our Bodies, tho in a burning *Fever*: Yet from the *Action* of the *Volatile excrementitious Alkaly* upon the sulphureous parts of the *Blood*, may I think a very good reason be given for the

Symp-

Symptoms that attend most, if not all Fevers; for all *Alkalies* destroy *Sulphurs*, as may be seen in the making of Soap, *Hepar Sulphuris*, &c. *Sulphurs* are the active Principle in both Animal and Vegetable Juices; *Alkalies* by breaking and dividing the Particles of the *Sulphurs* excite Fermentations, and by degrees cause a total Dissipation of them. *Acids* are a sort of *Vinculum* to *Sulphurs*, and therefore they suppress Fermentations, and keep the *Sulphur* from Dissipation: From whence I infer that a true *Oleosum* must be the great Medicine; but it must not be such a one as commonly goes under that Name, which is only a Combination of *Volatile Alkaly* with Spirit of Wine and *Aromatick Oils* or *Spices*, instead of which it must be an *Acido-oleosum*, an exalted *Acid*, combined after the foresaid manner: The Life of Man it self being principally supported by an *Acido-oleosum*.

If

If any one asks me what I mean by *Sulphur*? My Answer is, whatsoever is inflammable. And with such kind of *Substances* the World is almost every where filled: For without them neither the *Lives* of *Men* nor *Beasts* could be any way supported; and therefore those places that are best supplied with them, are best stocked with Animals of all kinds; whereas those that are deficient in them, such as the *Desarts* of *Arabia*, &c. are almost wholly destitute of all kinds of living Creatures.

Letter. "But *secondly*, there is another way of discovering an *Alkaly* besides that of its Appearance; and that is by its effects, to wit: its *Fermentation* with Spirit of *Vitriol*. Now I aver this green Serum will not ferment with the foresaid Spirit: Wherefore if it be an *Alkaly* it is an *Alkaly* of a particular nature.

“ It must be granted that we often-
 “ times find in the *Blood* some Par-
 “ ticles of a very warm nature
 “ predominant, in which cases I
 “ have found *Acids* to be of great
 “ use : but whether they are of an
 “ *Alkaline* Nature or not, I leave to
 “ the *Learned* to determine. If they
 “ are *Alkalies*, then either fixt or
 “ Volatile ; if fixt, how comes it
 “ to pass, that on the Dissolution
 “ of the *Texture* of the *Blood* they
 “ claim the highest place, and no-
 “ thing will serve their turn, but they
 “ must needs swim in the *Serum* ? if
 “ Volatile, how is it that we many
 “ times find this warm *Serum* to be
 “ little better than insipid ? Vola-
 “ tile Salts you know are aculea-
 “ ted, and affect the Palat strongly.
 “ May they not rather be of a sul-
 “ phureous nature, since it is the Na-
 “ ture of such Substances to sit upper-
 “ most on the Dissolution of Bodies ?

Answer. I own it is one of the genuine and constant Effects of an *Alkaly* to cause an *Effervescency*, when mixt with Spirit of *Vitriol* or any other *Acid Spirit*; but whether this *Effervescency* be to be accounted a *Fermentation*, I greatly question: Tho *Alkalies* will excite *Fermentation* in fermentible *Liquors*, as is well known to many *Mechanicks*, and I fear too well by the *Brewers* about this City. As for what you mean by the green *Serum*, which you say will not ferment or *effervesce* with Spirit of *Vitriol*, I cannot tell: But sure I am, that if you put a little Spirit or Oil of *Vitriol* into a small Bottle, and upon that pour some *Serum* of *Blood* that will turn *Syrup* of *Violets* green, it will immediately become intensely hot and a great many Bubbles will immediately rise, which looks very like a *Fermentation*, if it be not one therean

therefore when you made this *Experiment*, upon which you are so confident, there must needs be some Error committed ; for upon your urging this thing, the first Opportunity I had I made the *Experiment* afresh, and it succeeded the very first time ; and I doubt not, but if you will give your self the trouble of making this *Experiment* again, it will not fail of succeeding.

As for those warm *Particles* that you say are often predominant in the *Blood*, I must confess I don't understand what you mean by them ; the *Blood*, whilst we are in a state of *Health*, is always warm, the reason of which I have before given you. If we have a *Fever* upon us, the *Blood* exceeds its natural *Temper*, according as the *Fever* is more or less violent : Now the Cause of this Excess of *Heat* in a febrile state I take to be as follows ; in most *Fevers*, e-

F 2

specially.

specially in the beginning of them,
 there is a *Constipation* of some of the
Emunctories ; so that the *excrementitious*
Alkaly, which should be carried off
 by them, is detained in the *Blood*,
 which by breaking of its *Globules*, and
 dividing of the sulphureous *Particles*,
 which are the *Pabulum* of the vital
Flame, does either excite what we
 call a *Fermentation*, or rather by divi-
 ding the sulphureous *Particles*, and
 subduing the *Acid* that held them to-
 gether, does increase the *Flame* to an
 intense degree. An Instance of which
 we have in common *Fire*, as I have
 elsewhere taken notice of, and shall
 here again repeat, viz. let the *Matter*
 of which *Fire* is made be laid close
 together, and then kindled, and it
 will consume leisurely and by de-
 grees ; whereas let it be laid at some
 little distances one from another, and
 it will consume with a rapid and in-
 tense *Flame*. Salt-Peter also and

†

Brim-

Brimstone being mixt together, will burn with a gentle and easy *Flame*; but by adding a Proportion of *Charcoal-Dust* (as is the *Method* in making *Gun-powder*) wherein is contain'd the fixt *Alkaly* of the *Wood*, the said *Alkaly* by causing a Division of the *Particles* of the *Nitre* and *Sulphur*, does so alter the Property of it, that instead of burning placidly and easily, the least *Spark* of *Fire* falling into it, will cause an *Explosion*, viz. make it take *Fire* all at once, and so be consumed as 'twere in an instant. Are not the *Attacques* of some *Fevers* and other acute *Distempers* much like to this *Explosion*, wherein *Nature* seems to be overthrown, and the whole *Course* of it put out of order almost in an instant? This is all at present I think necessary to take notice of in relation to the warm *Particles* you speak of; and that *Acids* are the only *Medicines* to suppress this unnatural

Heat, I think I have already made appear. As for the *Inferences* you are pleased to draw from them, I think I have nothing more to do with them, but slightly to touch at them, they having already fallen under my Consideration. And I have sufficiently demonstrated that *Alkalies* are the Causes of all *preternatural Heats* in our *Bodies*.

But supposing that *preternatural Heats* are occasioned by the Superabundance of *Alkalies* in the *Blood*, you still seem to be dissatisfied about them also: For, say you, if they are fixt ones, how comes it to pass that on the *Dissolution* of the *Texture* of the *Blood*, they claim the highest *Place*; and nothing will serve their turn, but they must needs swim in their *Serum*? if *Volatile*, how is it that we often-times find this warm *Serum* little better than insipid? *Volatile Salts* you know are aculeated, and affect

the

the *Palat* strongly. May they not rather be of a *sulphureous Nature*, since 'tis the *Nature* of such Substances to sit uppermost on the Dissolution of *Bodies*?

First, I don't remember that I have any where said that fixt *Alkalies* do claim the highest Place in the *Dissolution* of *Bodies*, and that they swim uppermost in the *Liquors*, in which they are dissolved: But this I believe you infer from my *Experiment* with the *Serum*, which is the lightest part of the *Blood*, and therefore is uppermost in the *Poring*, after it hath stood some time, and that a Separation is made in the Parts thereof. Now I did not make use of the *Experiment* with the *Serum* and Syrup of *Violets*, thereby to intimate that *Serum* only was over impregnated with *Alkalious* Particles; but that being the most colourless part of the *Blood*, was therefore most proper for

such an *Experiment*: For should I have made such an *Experiment* with the *fibrous* and *globulous Parts* of the *Blood*, which are combined together in one *Mass*, they are so imbued with a *scarlet Dye*, that a small quantity of it would tinge a great quantity of *Solution of Syrup of Violets* with the same *Colour*, altho at the same time it were greatly overcharged with *Alkalious Particles*. Therefore in my plain and easy way of *anализing the Blood*, I have made use of it altogether, as it came out of the *Veins*. But if a Man considers with what *Rapidity* the *Blood* moves along the *Vessels*, it is impossible but all the *Parts* must be so mixt together, that if the *Serum* be overcharged with *Alkalious Particles*, the other parts must be so also; or if the other parts be overcharged, the *Serum* must be in like manner so. But however, as for fixt *Alkalies*, the *Blood* is very rarely

ly overcharged with them, the *Substances* we take in for our *Nurishment* affording very little of them after burning; and therefore *Nature* has provided but one *Emunctory* for the carrying them off, viz. the *Ductus Biliaris*, which empties it self into the *Duodenum*, and is conveyed off along with the *Excrement* of our *Food* by *stool*: Whereas there are *Millions* of *Emunctories*, besides that great *Discharge* that is made by *Urine*, to carry off the *Volatile Alkaly*. But if at any time the *Glands* of the *Liver* are obstructed, that the fixt *Alkaly* cannot be separated from the *Blood*, what fatal *Effects* does it produce?

I have scarce ever known a true *Ascites* (which is that kind of *Dropsy* that is scarcely ever to be cured) which hath not had its *Origine* from an *Obstruction* of those *Vessels* in the *Liver*, which separate the *Bile* from the *Blood*. Nay frequently they have

a *Jaundice* upon them thro the whole *Course* of the *Distemper*. But if not so, I never yet knew an *Ascites* that had not a *Jaundice* preceded it ; and in what manner the whole *Oeconomy* of the *Body* is destroyed in this *Distemper*, is but too well known. But this is not the only *Distemper* that hath its *Origine* from the *Obstruction* of these *Vessels*, tho it be one of the most dangerous.

Secondly, As for what you say concerning the *Insipidness* of the *Taste* of the warm *Serum*, I suppose you mean that *Serum* which is overheated in *Fevers*, &c. the *Serum* being always warm, whilst *People* are alive. I can assure you it is contrary to my long *Experience* ; for of many *Years*, it has been my *Custom* to taste the *Serum* of the *Blood* not only in *Fevers*, but all other *Distempers*, where I have had occasion to prescribe *Blood-letting* ; and in some *Fevers* I have found the

Volatile Salt to bite my *Tongue* very severely, but never once could find the *Serum* insipid: and by this way of tasting I can better judg of the Condition of my *Patient* than from the Colour of the *Blood*. But in those Cases where the *Serum* is much *inviscated*, as in most *Pleurisies*, *Rheumatisms*, and many *Fevers*, the *Volatile Alkaly* is so involved, that it doth not very strongly affect the *Taste*, tho it is never insipid that I could ever yet find. As for *Volatile Salts* being aculeated, and affecting the *Palat* strongly, I am very glad you take notice of it, since the general *Notion* that most people have of all *Alkalies* is, that they are of such a sweet, soft, mild *Nature*, that they carry a sanative *Virtue* along with them wherever they go.

Thirdly, I own that *fulphureous Substances* are wont to sit uppermost in the *Dissolution* of *Bodies*; and that the *Blood* is impregnated with such Substances,

stances, I am far from denying ; but they appear in all respects to be equally distributed through all its parts : but suppose they should sit uppermost here, and the *Serum* more impregnated with them than the *globulous* and *fibrous parts* of the *Blood*, *Sulphureous Substances* won't change *Syrup of Violets* from blue to green ; and the *Serum* abounding with those *Particles* that will do so, which are *Alkalies*, these *Alkalious Particles* by breaking and dividing the *Particles* of the *Sulphur* will increase and excite the *Flame*, I have before taken notice of, to a more intense degree : For the *Serum* would not be the more hot, supposing it did abound with *sulphureous Particles*, unless the said *Particles* were some way or other enkindled.

Letter. “ But thirdly, if *Alkalies* are
 “ the Original of all *Distempers*,
 “ whence is it that in *Dropsies*, *Ca-*
 “ *tarrhs*,

“ *tarrhs*, some *Gouts*, and other *Dis-*
 “ *tempers*, we find the *Texture* of the
 “ *Blood* so thin? ’Tis observable that
 “ those *Particles* you term *Alkalies*, the
 “ more the *Blood* is saturated with
 “ them, the more thick consistence
 “ it is of, as we see in *Pleurisies*, *Rheu-*
 “ *matismis*, and other *inflammatory Cases*
 “ (in which *Distempers*, if in any,
 “ these *Alkalies* abound) is not then its
 “ *Tenuity* rather to be imputed to *Acids*?
 “ Do not *Acids* immediately put the
 “ *Blood* in a *Fusion*, and render it thin?

Ans. In most *inflammatory Cases*,
 where the *Blood* is immediately affect-
 ed, there the *Serum* is *viscous* and *sizy*,
 being overcharged with *Alkalious Par-*
ticles; but in those *Cases* you mention,
 and in some others, where the *Blood* is
 over thin, it is not the over *Thinness* of
 the *Blood* which is the only Cause of
 those *Diseases*, but a *Destruction* of the
Tone of the *Parts*; and where the *Tone*
 of

of any *Part* is once spoiled, the great quantity of *excrementitious Matter* is soon thrown thence, and so the *Violence* of the *Malady* is increased: Besides, in *Dropsies* the Quantity of *fluid* taken in, they being always thirsty, is so very disproportionate to what is carried off, they always making Water but in very small quantities in proportion to what they drink, that it's no marvel that their *Blood* is over thin. I have frequently in *Dropsies* known People drink *three Quarts* in a day, when they have not pissed a *Pint*: And that *Acids* should occasion the *Thirst* that attends *Hydropical* People, is ridiculous to imagine, when they are the only things in the World that will quench *Thirst*. Besides, do but consider the *Nature* of the Medicines that are most effectual to bring the *Blood* to a Consistence, when it is over thin. I have scarcely ever met with any thing equal to *Calibears*

libeats, and that Steel is an *Acid* I have
 elsewhere endeavoured to prove:
 And as a farther Proof of it I shall
 produce the Testimony of *Beckerus* (no
 contemptible Man) in his *Minera A-*
renaria, pag. the 88th. *Non recensebo*
jam qualiter ille Spiritus esurius in aquis
subterraneis latitans, varia sibi Salium,
Aluminum, Vitriolorum, Sulphurum, Re-
algarium mineralium compositionum species
producat; nec demonstrabo, quâ ratione
supra terram in Aeris regione tractus qui-
dam hujus Acidi spiritus de uno Polo ad
alterum, & perillum acus Magnetica fe-
ratur. Hoc tantum hic loci allegabo, omne
Acidum substantiæ martialis esse, in quo-
cunque oleo, pinguedine, fuligine, limo,
silice & arena; imo etiam ipsa flamma re-
peribile, ac ad oculum demonstrari posse:
quæcunque ergo naturæ Acidæ & martia-
lis sunt, illa potestatem habent Alkali tan-
quam substantiam metallorum mercurialem
alterandi & transmutandi. Now if this
 Thinness of the Blood be to be taken off,
 and

and the *Blood* brought to its due *Consistence* by the means of *Acids*, it is not reasonable to suppose that *Acids* should be the cause of its fusion. But then I confess here lies a great *Difficulty*, viz. how is it possible for *Acids* to make the *Blood* thin, when 'tis too thick and viscous, and to bring it to a due consistence, when it is over fluid? To which I answer, That should I pretend to give an account what *Acids* taken in the proper Latitude would do, I should be guilty of the greatest *Arrogance* imaginable; for that would be to pretend to as much Knowledge as *Solomon* had, who knew the *Virtues* of *Plants* even from the *Cedar* of *Lebanon* to the *Hysop* which grows upon the *Wall*. And *Divine Providence* had determined him to be the wisest of *Men* that had ever been before him, or that should come after him. All *Plants* from the greatest to the smallest are principally com-

composed of *Acido-sulphureous* Particles; for what Comparison is there to be made between the small quantity of fixt *Alkaly* that is to be found in the *Ashes* after burning, and of *Volatile Alkaly* in the *Soot*, in relation to the great quantity of *Acido-sulphureous* matter that is spent in *Flame*? Or to come nearer to the matter, let a Pound of any *Vegetable*, which affords the greatest quantity of fixt *Alkaly*, viz. *Broom*, or any such *Plant*, be sufficiently dried, so that the *superfluous Humidity* may be evaporated; after that is done, let it be committed to *Distillation per se*, and it will afford between *two* and *three Ounces* of an *Acid Spirit*, with a good quantity of *Oil*, when all the *Art of Man* is not able to procure from the *Caput Mortuum* above *two Drams* of fixt *Alkaly*, and, as is before observed, *Broom* is one of those *Plants* that affords the largest quantity of fixt *Al-*
G *kaly.*

kaly. Now the *Acid Spirit* and *Oil* are those *Substances*, which in burning serve to supply the *Flame*: and from the *Caput Mortuum*, unless it be afterwards burnt, there is no *fixt Alkali* to be obtained. But here again to obviate the *Objection* before taken notice of, *viz.* that the *Fire* may produce new *Substances*, which were not existent in *Bodies* before, or that for instance, the *fixt Alkali* to be produced out of the *Ashes* of the *Caput Mortuum* of the *Broom*, is only the *Product* of the *Fire*: If this were so, why then the *Ashes* after all the *Salt* has been once extracted, being again committed to a *Violent Fire* must produce more *Salt*; whereas on the contrary let it be committed to the *Fire* in the most violent degree of heat, and continued there for never so long a time yet it will never after afford the least quantity of *Salt* of any kind. But that I may return to answer the former

er *Objection*, viz. how *Acids* are capable of making the *Blood thin* when over *viscous*, and also to reduce it to its *consistency* when it is over *thin* : All the *Bodies in Nature* are differently *specified* by the *all-wise Author of Nature*, and at the same time are all *animated* by one *Universal Acid Spirit*, which is what the *Antients* were wont to call the *Soul of the World*, and I think not improperly. Now the more any *Bodies* are impregnated with this *universal Acid Spirit*, and its beloved *Sister Sulphur*, the more perfect they are ; and *Gold*, which is one of the most perfect and durable *Bodies in Nature*, seems to be composed of nothing else but a pure *Acidum* and *Sulphur*, as I think has been sufficiently made appear by some of the most strict *Enquirers* into *Nature's Secrets*. Now the more perfect any *Bodies* are, the more *Acidum* and *Sulphur* they contain, and afford the least quantity of *Excre-*

ment, viz. *Alkaly*, that being the only *Destroyer* of all *Bodies*, and is what brings them to a state of *Putrefaction* and *Corruption*. Well, but what's all this to the answering of the *Objection* twice started? Why it's only to make my way clear. But I shall now apply my self to it. There are *two* general sorts of *Acids*, viz. manifest, and inveloped ones: the manifest ones are such as immediately appear to the *Taste*; and these, altho originally the same, proceeding from the same universal *Fountain*, yet have different *Operations* upon *Human Bodies*. The inveloped ones are such as do not immediately appear to the *Taste*, but by taking of the *Bodies* asunder appear to be such. There is an *Axiom* that, *Unumquodque in id dissolvitur unde compactum est*: Every thing is dissolved into that whereof it is made. Now if this *Axiom* be true, as I think it is an infallible one, a Man may

reasonably conclude that those *Bodies*, which upon their Dissolution are reduced into *Acid* Substances, are *acids*, tho before their Dissolution they did not appear to be so. Most *Vegetables* upon the Dissolution of them, or analyzing by the *Fire*, appear principally to be composed of *Acid* Substances; and therefore I think are to be accounted *Acids*, altho they are so differently specified, and have such different *Operations* upon *Human Bodies*, that a Man who has not nicely examined them, would be tempted to believe that the original constituent *Parts* of them were much more different than they are. Now the more perfect and durable any *Vegetable* is, the greater quantity of *Acidum* and *Sulphur* it affords, and less of excrementitious *Alkaly*. And from the different Combinations of the two Sisters *Acidum* and *Sulphur*, I believe it possible to give a very probable Ac-

count of all the differences in *Plants* as to *Colour*, *Taste*, &c. And as these two *perfect* (if it be lawful to call any natural thing perfect) Principles are more or less clogged with excrementitious *Allkaly*, so they are more or less durable as to themselves, and more or less friendly to *Human Bodies*, for whose use they were principally created ; so that here you may see, that when I preach up *Acids*, it is not only *Vinegar*, *Lemons*, *Oil of Vitriol*, *Oil of Sulphur*, &c. that I recommend, but all the perfect Parts of the *Creation*, and decry the use of those things that are the Principles of *Death* and *Destruction* in Bodies, viz. *Alkalies*. From what I have before said I think I may without Presumption, reckon *Oak-bark* amongst the number of *Acids* ; and yet *Oak-bark* being given in *Substance*, or a *Decoction* of it, is so far from making the *Juices* over fluid or thin, that it will reduce them to a

Con-

Consistence, when they are so: the same may be said of *Bistort*, *Tormentil*, and abundance of things of that *Tribe*: the same thing will *Comfry Roots* do, and all the things of that *Tribe*; the same I could say of many more, but here I have not room to expatiate. *Asparagus*, *Parsley*, &c. will make the *Juices* fluid when they are over thick and *viscous*, and so will a multitude of things more of that *Tribe*. I could range myself out into the mineral *Kingdom*, but the different *Operations* of them are so well known to every body, that I think it needless to take any particular notice of them: yet this much I will presume to say, altho it be foreign to my present Design, that after having made all the Enquiry into the *Nature* of *Metals* that *Human Industry* is capable of, I am perfectly satisfied that they differ one from another only in *degrees* of *Purity*; and there-

fore for ought I know the Business of *Transmutation* is not so ridiculous a thing as some People would make it. As to those *Acids* that are manifestly so, they greatly differ in their Operations upon *Human Bodies*. I have before observed that there are those which may properly be called *Acido-sulphurea*, and others *Sulphureo-Acida*: but in Nature I don't know a simple *Acid* or a simple *Sulphur*, there being such an indestructible *Bond of Union* and *Friendship* between them, that they are never one without the other. Now those *Acids* that have most *Sulphur* united with them are *Aperitives*, *Openers of Obstructions*, and keep the *Blood* and *Juices* in a proper state of *Fluidity*: Those that have little *Sulphur* mix'd with them are *Stipticks*, and bring the *Blood* and *Juices* to a *Consistence*, when they are over fluid. What I have said upon this *Subject* is not the effect of *Fancy*, but of a *Series* of several

several Years strict and nice Observations.

Letter. “ Besides, if *Alkalies* did
 “ always offend and cause *Pain*, it
 “ must follow that *Acids* must give
 “ ease: But I assure you I have often
 “ experienced the contrary; for up-
 “ on the exhibition of *Rhenish*,
 “ *White-Wine*, and other *Acids*, I
 “ have found the *Pains* immediately
 “ exasperated, and many times it
 “ has been a long while ere they
 “ went off.

Answer. If *Alkalies* cause *Pain*, I
 do agree with you, that *Acids* of con-
 sequence must give ease; but I don't
 suppose that an ill habit of *Body*, that
 has been perhaps some *Months* or *Years*
 a contracting, is to be altered with a
 few *Doses* of the most exalted *Medi-*
cine in the World, let it be *Acid*, or
 what you please. But supposing *A-*
cids

cids to be the most proper *Medicines* in the World to ease *Pain*, as I believe they are ; yet it is not improbable, but upon the giving a small quantity of *Acid* in such cases where there is a large quantity of *Alkaly* lodged upon any *Part*, so as to cause *Pain*, it may only in part dissolve the *Alkaly*, which was before more fixt, and so by accident may exasperate the *Pain*; whereas by continuing the use of the *Acid*, the *Alkaly* would be perfectly dissolved and extirpated, and so the *Pain* would altogether vanish: But *Pain* being sometimes exasperated upon the first giving of them in too small quantities, has, I doubt not, been one great Cause of deterring people from proceeding in the use of them, and also of attributing to them the Cause of *Pain*: But in great *Pains* it is my constant *Practice* to apply *Acids* externally to the *Part* affected, as well as give them inwardly;

ly ; and there are but very few *Pains*, especially *Gouty* and *Rheumatick* ones, that I am not able to overcome in a small time. And for the *Pain* you say you have often found to be excited upon the giving of *Rhenish* and *White Wine*, I have assigned a Reason for that, if they are drunk in too large quantities, both in my *Essay of Alkaly and Acid*, and in my *Tract of the Gout* ; and therefore shall not again repeat it, but refer you thither.

Letter. “ Again, if the *Gout* proceed from an *Alkaly*, what is the reason you use so much *Sassafras* in its Cure? Is *Sassafras* an *Acid*, and so proper to subdue this *Alkaly*?

Answer. I can cure the *Gout*, if there were no such thing as *Sassafras* ; I only use *Sassafras* in *Apozems*, as a proper *Vehicle* to dilute other *Medicines* in

in the *Stomach*. But however *Sassafras* is no contemptible *Medicine*; and if you will but give your self the trouble of *Distilling* a *Pound* or *two* of it in a *Retort per se*, if you afterwards reckon *Sassafras* amongst the numbers of *Alkalies*, I am mistaken; and if I am so, I shall willingly own it.

Letter. “ I have only a word on
 “ two to speak concerning the green
 “ Colour of Syrup of *Violets*, and so I
 “ have done. I believe it may be
 “ turned green without an *Alkaly* ::
 “ On the exhibition of it to *Infants*
 “ it comes away green very often,
 “ and brings away a great deal of
 “ green Matter by stool; and yet I
 “ believe they do not abound with
 “ *Alkalies*.

Answ. I own that upon the exhibition of Syrup of *Violets* to *Infants* it will frequently occasion green Stools: But
 from

from whence doth that proceed, but from its *Mixture* with the *Bile* in the *small Guts* ? and that the *Bile* is an *Alkaly* I know not any one that doubts.

Letter. “ You may read in a late
 “ *Author* of undoubted *Credit*, that
 “ upon an *Infant’s* swallowing of a
 “ *Dose* of *Testaceous Powder*, an extra-
 “ ordinary *Ferment* was raised in the
 “ *Stomach* of the *Child*: Now how
 “ could this *Ferment* be raised, if it
 “ had not an *Acid* to work upon ?
 “ Besides, does not *Experience* shew
 “ that nothing is so proper in *Infants*
 “ *Distempers* as *Alkalies* ?

Answer. The *Author* you speak of is my singular good *Friend*, and a *Man* for whom I have a very great *Value* and *Esteem* ; and as to the *Truth* of the *Relation* you mention, I can readily assent to it : But if you have read the *Appendix* to my *Essay* of *Alka-*
 ly

ly and *Acid*, you cannot but remember, that I there acknowledg that *Acids* may sometimes abound in the *Stomach*, and cause a *Disorder*, but in no other part of the *Body*; which thing I have so fully handled in that place, that should I recite what I have there said upon this *Subject*, my *Enemies* would accuse me of *Tautology*, and therefore thither I shall refer you: and if what I have there said be not satisfactory to you, I shall endeavour to give you what further Satisfaction I am able. As for the *Cure of Infants Diseases*, I don't see but that they require the same *Methods* to be taken with them, as with grown *People*, only the *Medicines* given them must be more mild and gentle, and in less quantities, considering the wonderful *Tenderness* of their *Natures*.

Letter. "I have some more things
 " to offer; but I desire you would
 " be

“ be pleased to satisfy me as to these.

“ I should be glad to close with your

“ Opinion, and embrace any thing

“ that is new ; for I believe *Medicine*,

“ tho it has met with great *Improve-*

“ *ments* of late, to be capable of far

“ greater. I'll give you no farther

“ trouble, only after thanks to you

“ for your indefatigable *Labour* in

“ searching out the Truth of things,

“ subscribe

Your humble Servant,

F. T

Answer. I have endeavoured to give you what satisfaction I am able as to the *Objections* you have already raised, and shall think no labour too much to answer any farther *Objections* you have to offer. I don't desire of you, or any else, to take up with any thing that comes from me, without examin-

examining it in the *Balances* of Reason and Experience; and if after such *Examination* you find what I have advanced to be Truth, I don't doubt but to find you a zealous *Champion* in my *Cause*: But if otherwise, I beg of you that you will convince me of my Errors, and I shall be very ready to write a *Recantation*. As for the *Improvements* that have been made of late, they have principally belonged to *Anatomy*, and indeed they have been very considerable; and of all the *Physicians* of *Europe*, those of our own *Nation* have had the greatest hand in them. But as for the *Improvements* in the practical Part of *Physick* (setting aside the *Discovery* of the use of the *Peruvian Bark* in the Cure of *Agues*) they are very inconsiderable: The most that has been done of that kind, was done by the indefatigably *Industrious* Dr. Sydenham, and I heartily wish that we had more Dr. Sydenhams at this day.

Sir,

Sir, there are abundance of *Imperfections* that you will meet with; but if you did but know the great hurry I have been in, and how little time I have had to sit composedly in my Study, you would readily pardon a great many of them: But this I can assure you, that had I not had an earnest desire to serve you with some other such *Candid, Ingenuous Persons* as your self, I would not have deprived my self of so many Hours Sleep (having little other time to command) as I have been forced to do, to put things in that Order they are: At present I have nothing more to add, but that I am

Yours to Command,

JOHN COLBATCH.

H

The

The CASE of
 EDMUND TURNER *Esq.*

ON Monday Night about twelve
 a Clock, being August the
 thirtieth, Madam Turner came
 to my House, and told me that
 Mr. Turner was very ill at Mr.
 Lord Wharton's at Winchington, and
 withal desired me, that I would im-
 mediately get my self ready, and go
 down to him to take care of him
 which accordingly I did, and got to
 Winchington the next day by one
 Clock. When I came there, I found
 Dr. Fry of Oxford had been there some
 time, and was then at Dinner; so
 went up to Mr. Turner to inform my
 self as nicely as possibly I could of his
 Case; after I had done which, I came

down to Dinner, and as soon as Dinner was over, I desired the Doctor that we might consult together what was proper to be done for the distressed Gentleman. But before I take notice of what passed between the Doctor and my self, I shall exactly relate the Case, with the Occasion of his Illness.

On the Saturday Night before, Mr. Turner, with two other Gentlemen sate down to drink, and continued at it till seven or eight next Morning, but I cannot learn that the Quantities they drank were extraordinary: At which time they all went to bed, the other two Gentlemen lay in Bed the whole day, and eat nothing but Water-Grewel; but Mr. Turner got up in the Afternoon, and eat boiled Mutton, with a great deal of strong Broth with Mushrooms in it, and drank plentifully both of Wine and prodigious strong Beer, and then went to bed again, and presently fell asleep; but early next

Morning he awaked in the most dreadful condition imaginable. When I came to him his *Circumstances* were as follow.

He had a violent *Pleurisy*, and *Pleuropneumony* upon him, as was plainly to be perceived by a most sharp *Pain* in his *left side*, which he greatly complained of, and a prodigious *Shortness of Breath*. He also complained of a wonderful *Nausea* and *Sickness* at his *Stomach*, and had a *Fever* upon him to the most intense degree, with a great *Stupor* and *Dulness* in his *Head*.

Dr. Fry had some Hours before came sent a *Prescription* to Mr. Williams an *Apothecary* at *Ailesbury*, of which have here inserted an exact *Copy*.

For Mr. Turner, August 31. 1697.

R Ol. sem. Lin. rec. (sine igne)
extract. lib. semis.

Sig. The Oil.

†

Rx Syr. Balsam. Tolat. Unc. quatuor.

Sig. the Balsamick Syrup.

Rx Antimonii Diaphoret.

Corallii Rub. pp

Margarit. pp ana Dracm. duas.

M. f. pul. in Chart. 12 equal. reponend.

Sig. the Pearl Pouders.

Rx Aq. Hissopi.

Cichorei ana, unc. sex

Limacum Mag.

Lumbricor. Mag. ana Unc. unam sem.

Cinnamom. Hord. Unc. unam

Syr. Capillor. Ven.

Violar. ana Dracm. sex

M. f. Julap.

Sig. the Julap.

Rx Emp. de Cicut. cum Ammon. Unc. duas.

Rx Sem. Cumin. pul. Unc. semis.

Dr. Fry.

He had also about an hour before I came taken away about *seven Ounces* of *Blood*, the same quantity having been taken away (as I am informed) the Day before by the Order of Dr. *Wilson* a *Physician* of the *Neighbourhood*. I told Dr. *Fry* that I could not in conscience agree to the use of the *Medicine* he prescribed. The *Nausea* at his *Stomach* was so great, that I feared the *Linseed Oil* would increase it to such a degree, that it would be of ill consequence; and for the *testaceous Powders*, &c. they would excite the *Hurry* and *Disorder* in his *Blood* to a greater degree, and increase the *Inflammation* of his *Lungs*, and I fear'd inevitably ruin him. He askt me what *Method* I would propose? To which I replied, that in my *Opinion* according to the laudable *Custom* of the *Great Doctor Cole*, he ought to lose at least *twenty Ounces* of *Blood* more, which would empty the *Vessels*, and make room for

for the *Blood* to circulate through the *Lungs* : That at due Intervals he should take a moderate quantity of *Tartarum Vitriolatum* and *Cremor Tartari* in a Spoonful of Syrup of *Vinegar*, drinking afterwards a large Draught of *Pectoral Decoction*, which would take off the *Nausea* at his *Stomach*, and promote *Expectoration*, and perhaps gently carry off the undigested Matter, which lay in his *Stomach* by *Stool* : That he should be allowed moderately cooling *Liquors* as oft as he desired them, in every Draught of which he might take about ten Drops of *dulcified Spirit of Nitre*, which might help to take off the *Inflammation* of his *Lungs*, and calm his *Blood* : That he should take a Spoonful of a Mixture of *Pectoral Syrups* often, in which was contained a convenient quantity of *Oximel of Squills*, which is a great Promoter of *Expectoration*. To take off the *Stupor* and *Dulness* in his *Head*, I proposed a

Cataplasm of Mustard, Horse-Raddish Roots, Rhue, and Castor, to be applied to the Bottoms of his Feet.

To none of these things would the *Doctor* comply, neither could I comply with his Methods ; so after many long Debates, we at last agreed to go up separately to *Mr. Turner*, and acquaint him, that we could not agree, and that he must discharge one of us. *Dr. Fry* went up first, and when he came down I went up ; but for fear that things might be misrepresented, I would not go up unless *Mr. Wats* (a Man eminently known in this City) would go with me to hear what I said. *Mr. Wats* at first was unwilling, but at last consented. When I came up to *Mr. Turner*, I told him *Dr. Fry* and my self could not agree, and therefore one of us must be discharged ; I likewise told him that I had sufficient reason to believe that the *Method* I had proposed for him might

might retrieve him, but that Dr. Fry was more positive as to the success of his than I would be of any *Method* I could use in a much less dangerous Case than his was, and therefore I thought it was his most prudent Method to continue him: To which he made me no other Answer, but desired me to go down again, and see if we could not find a *Method* of *Reconciliation*, or Words to that purpose: Upon which I went down, and told the Doctor what he said: After a farther Debate without any compliance on either side, we agreed at last to get Mr. *Wals* to go up and know who must be discharged: when Mr. *Wals* came down, he brought us word that Mr. *Turner* desired to speak with us both together; accordingly we went up, and when he saw us, he desired we would not stand upon any little *Punctilios*, and begged of us that we would give him a Vomit, for

for that after any *Surfeit* he was wont to take a *Vomit*, which always reliev'd him. I readily consented to give him a *Vomit*, and propos'd *Oximel* of *Squills* with large quantities of *Posset-Drink* (as Mr. *Wats* may well remember) and if that did not work, to excite it with Salt of *Vitriol*: But to this neither would Dr. *Fry* agree, but closely urged the use of the *Medicines* he had prescribed, upon which Mr. *Turner* assented to take them. I staid all that *Afternoon* and the *Night* following, but had no hand in any thing that was done. I went up with Dr. *Fry* about six a *Clock* to see how he did, and at that time his *Pulse* seemed to be somewhat mended, it having been extremely bad before. About ten (just before I went to bed) I went up again with the Doctor to see how he was, but then I found a most lamentable *Pulse*, there being nothing but a little trembling *Motion* to be felt; upon which

which I desired the Doctor to walk out of the *Room* a little, when I told him that things lookt very ill, for that his *Fever* was extreamly high, his *Breath* very short, and his *Pulse* as is before related, and that if he did not mend that *Pulse* he would drop his *Patient*; his answer was, that all was well enough: upon which I had nothing more to say, he not being my *Patient*. Next Morning about seven a Clock I went again to see him, and found him much after the same manner he had been the *Night* before, but the Doctor told me he hoped all would be well; so I went to *Breakfast*, and whilst I was at *Breakfast*, I told one of my Lord *Wharton's* Servants (to the best of my remembrance it was the *Butler*) what my Apprehensions of Mr. *Turner* were, and that I did not see any hopes of his *Recovery*: But Mr. *Turner* being solely under Dr. *Fry's* Care, I did not think fit to stay

stay any longer to neglect my *Patients* in *London*, and do him no other Service than to go up now and then, and look at him : so away I came without taking my leave of him ; but before I went, I wished the forementioned *Servant*, if *Mr. Turner* should enquire after me, and know I was gone, that he would acquaint him that I was unwilling to take my leave for fear of disturbing him. Of all that passed between the *Servant* and me, *Mr. Turner's* own Son was a *Witness*, and was much concerned that his *Father* was not under my Care. As I was coming home, about six Miles on this side *Ailesbury* I met *Col. Cornwel* going to see *Mr. Turner*, who sent his Man to me to enquire how he was ; I made answer, that I hoped he was somewhat better, fearing that if I had told him my real Sentiments he would have pressed me to have gone back with him ; and as things stood

stood I did not care to return. By that time I had come about six Miles farther, I met Madam *Turner*, to whom when she askt me how Mr. *Turner* did, upon the same considerations I made the same reply I had done to Col. *Cornwel*. After I was gone Dr. *Fry* prescribed more *Linseed Oil*, and a *Pearl Cordial*.

About eight a Clock at Night, being *Wednesday*, I came home, and after I had made two or three *Visits*, and eat my *Supper*, I went to bed; I had not been in *Bed* half an *Hour*, but Col. *Cornwel*'s Man knockt at the Door, and desired to speak with me; When he came to me, he told me Mr. *Turner* was much worse than when I left him, that Dr. *Fry* was discharged, and he begged me that I would come down again to him; for that he would take nothing more from any one, but what I should direct. Upon which I got a *Calash* and four *Horses*
as

as soon as possibly I could, and went down again. I got to *Winchington* on *Thursday* about *twelve* a Clock, and when I came there, I found the poor *Gentleman* in the most profuse *Sweat* imaginable, his *Breath* short to the last degree, and almost no *Pulse* at all: But the *Pain* in his *Side* was gone, which his *Lady* (who was then with him) and those about him took for a good *Sign*: But I told them that his *Shortness* of *Breath* continuing, and his *Pulse* being so very low, it was rather a bad one, and that he was in a most deplorable condition; and I appeal to every one of my *Lord Wharton's* Family, who askt me how he did, whether I once gave them the least *Encouragement* to believe that he would recover. His *Shirt* that he had upon him was as wet as if it had been dipt in a *River*, and as cold as *Ice*, and so were both the *Sheets*; therefore the first thing I did
was

was to free him from this cold wet *Linen* ; in order to which I got as large a *Fire* made in the next *Room* as the *Chimney* would bear ; I then set a *Shirt* and a pair of *Sheets* that had been before used, to be well aired and heated : in the mean time his Lady and her Maid with hot *Napkins* rubbed him, and made him as dry as they could ; after which with all the *Caution* imaginable, we put on a hot dry *Shirt*, and took away the cold wet *Sheets*, and put those that we had well heated and aired in their room. This matter just as I have related it I can have sufficiently attested, altho it be positively said about the *Town*, that I took him out of the *Sweat*, and put him on clean *Linen*, without airing it at the *Fire* at all. He being prodigiously thirsty, begged of me that I would give him something that might allay it ; upon which I ordered them to make him

a Mixture of four Parts small Beer, one Part *White-wine*, some Juice of *Lemons* to make it grateful, and to sweeten it with *Loaf-sugar*; and he being a great Lover of *Nutmeg*, desired that a little of it might be grated into it, which, considering the *Stupidness* in his *Head*, I agreed to. Of this *Liquor* I allowed him to drink as plentifully as he pleased; considering the *Profuseness* of the *Sweats* he had had, I durst not then venture to bleed him, altho his *Fever* was as violent as ever. But to the *Apothecaries* I prescribed as follows.

For Mr. Turner Sept. 2d, 1697.

Rx Oximel simp. Unc. quatuor
 Aq. Lactis Unc. sex
 Cinnamomi fort. Dracm. sex
 M. f. Mixtura, cap. Cochleare unum frequenter.

Rx

℞ Oximel. squillit. Unc. duas
Sig. Oximel of Squills.

℞ Crem. Tart. Unc. sem.
Tart. Vitriolat. Dracm. unam
Sach. Alb. unc. sem.

M. f. pul. in sex Chart. distribuend. ex
quibus cap. unam tertiâ quâque horâ in
Cochlear. Syr. Aceti superbibendo haust.
Apozematis sequentis.

℞ Fol. *Hederæ* terrest.
Flor. *Hypericon*, ana M. unum
Rad. *Altheæ* unc. duas
Bals. *tolutani* Dracm. unam
Aq. Font. lib. tres

bulliantur ad tertiæ partis consumption. &
coletur, colaturæ adde

Oximel. simp. unc. duas
sp. Nitri dul. gut 30. M.

℞ Sp. Nitri dul. Dracm. duas
Sig. dulcified Spirit of Nitre.

I afterwards sent a second Prescription, which was as follows.

℞ *Sem. Psillii*
 Cydoniorum ana unc. sem.
ponantur in Chart. separatim.

℞ *Electuarii Lenitivi unc. duas*
 Crem. Tart. unc. sem. M. f..
Elect.

This last *Electuary* was for Mr. Turner's Man, who had sate up several Nights, and complained of a great inward Heat and Costiveness; but I thought it convenient to take notice of it; tho it is no Poison, and if Mr. Turner had taken it himself, it would not have murdered him.

The forementioned things with Directions were taken as directed; and as to those, for the use of which

there was no Direction given, I shall here give an account how they were taken.

Once in about two Hours I mixt half a Spoonful of the Oximel of Squils in a small quantity of the *Apozem*, and gave it him. Of the dulcified Spirit of Nitre I gave him ten Drops in almost every Draught of Liquor he drank. As for the *Flea Bean* and *Quince seeds*, I had one half of them boil'd in two Quarts of Water to the Consumption of one half; and of this *mulaginous Decoction* I now and then gave him a good Draught, it being a great Promoter of Expectoration. In the House I got made up a *Lambative* of fine salad Oil and Syrup of Vinegar, and of this I sometimes gave him a Spoonful. But all I could do availed nothing; I could by no artifice make him expectorate in any quantity, only sometimes he would discharge a green putrid Matter. He continued

to be short breathed to extremity, his *Fever* no whit abated, his *Pulse* low and irregular, and sometimes would totally intermit for two or three seconds, with a *Stupidness* in his *Head*.

About nine a *Clock* he again broke out into a most profuse *Sweat*, which I did by no means like, at which time I laid me down upon a *Field Bed* that was in the *Room* to sleep, choosin^g rather to lie so than go to bed, that I might be the more ready to be called upon occasion ; but having travelled near *sixscore Miles* in *three days*, and been *two Nights* upon the *Road*, I was very sleepy. About *eleven a Clock* my Lord *Wharton* called *Madam Turner* into the next *Room* to consult about sending for *Dr. Bako* ; she left his Man sitting upon the *Bed* by him, I being fast asleep upon the *Field Bed*. Whilst *Madam Turner* was in the next *Room* with my Lord *Wharton*, *Mr. Turner* in the midst of this profuse

†

Sweat

Sweat leaps out of the *Bed*, and walkt round it to the *Clofe-stool* without any thing but his *Shirt* upon him : *Madam Turner* hearing some body walk in the *Room* barefoot, run in to see what was the matter, and found him in this posture ; she was immediately followed by my Lord *Wharton* and some others : as soon as *Madam Turner* came in I awaked, and got up to help her to get him into the *Bed*. When he was put into *Bed* he laid himself into a Posture, out of which he never moved till he died, which was within a very few *Hours*. Whether this last getting out of the *Bed* was a shortning of his *Life*, I cannot be positive, but it is very probable it might. It is to be observed that the *Night* before about eleven a *Clock*, he was in such extreme *Agonies*, that every body thought he would have died then, at which time his *Nails* turned *bluish* ; but upon his

recovering himself (which I believe was principally occasioned by the sight of his *Lady*, who just then came into him) his *Nails* never recovered their *Colour*, but continued bluish till he died. Now the *Nails* not returning to their *Colour* was as fatal a *Symptom* as could be.

I am sorry I have been forced to rake up the *Ashes* of the *Dead*; but I having so often been charged with no less than the *Murder* of this *Gentleman*, I have been forced to write the *Case* in my own *vindication*. I am sure it was as much my *Interest* to preserve *Mr. Turner* as any one *Man* in *England*, there not being one to whom I am more obliged than I was to him, he having done me a great many singular pieces of *Service*; and I am sure I would have gone as far, and done as much to have saved his *Life*, as any *Man* could have done for his *Friend*.

Before I conclude upon this *Subject*

I shall presume to take notice of a thing, which happened, which was a kind of *Preludium* to his *Death*; and for ought I know the Thoughts of it might deject his *Spirits*, and have a fatal *Influence* upon him.

About *April* last Mr. *Gadbury* came to him, and told him, Mr. *Turner*, you will die in the *Countrey* this *Summer*, of a *Surfeit* of *Drinking*. He received it with a *Smile*, and said, I die with *Drinking*, who am the soberest *Man* in *England*? that's impossible. In *May* he went to the *Bath*, but before he went there, he made his *Will*, and was observed to be more melancholy than usual. He came back from the *Bath* very well, and told some of his *Friends* that Mr. *Gadbury* was deceived: Some time after he went to *Winchington*, and just as he was going, one of his *Friends* bid him remember what Mr. *Gadbury* had said, and beware of drinking: he said he

would. As soon as he was taken ill (I suppose remembering Mr. *Gadbury's* Words) he told his Son that he should not recover.

CASE II.

July the eleventh I was sent for to Mr. *Davis*, a Gentleman of a very considerable Estate near *Lynn* in *Norfolk*, who then lodged at *Chelsey*. He had a little before had the *Small Pox*, and after that a *malignant Fever*, having been under the care of another Physician, who had treated him after the common Method with *Alkalies* and *Alexipharmicks*; but his Case was now so deplorable, that his Friends despaired of his Recovery, so the former Physician was discharged, and I was sent for; when I came to him,

I found his *Case* as follows. He had a violent *Peripneumony* or *Inflammation* of his *Lungs*, his *Breath* being constantly very short; but at some times he was so extraordinary short breathed, that his *Friends* were afraid he would be strangled. He had a *Fever* upon him to a most intense degree, a great *Stupor* and *Dulness* in his *Head*, a *Nausea* at his *Stomach*, and his *Pulse* very low and irregular, with a great *Depression* and *Lowness* of his *Spirits*. I prescribed for him to Mr. *Baxter* an *Apothecary* in *St. Martins-lane* as follows.

For Esq; *Davis*, July the 11th 97.

℞ *Cremor. Tartari Dracm. tres*
Salis Prunellæ Dracm. duas
Ol. Cinnamomi gut. duas
Cons. Cynosbati Un. unam
Syr. e Rubro Idæo q. s. f. elect.
cap. quant. Nucis Moscatæ largæ tertiâ
quâ.

quâque horâ superbibendo haust. parvum
Julap. sequentis.

R Aq. Cinnamoni Hord.
Lactis Alex. ana Unc. sex
Vini rub. Gal. un. quatuor
Syr. e rubro idæo Unc. tres
Ol. sulphur. per camp. gut. xx

M. f. Julap.

R Syrup. Aceti Unc. tres
de Rosis sic. Unc. unam

M. f. Mixtura, cap. Cochleare unum in
omni difficultate respirationis.

R Aq. Cinnamomi Hord. Unc. qua-
tuor

Mirabilis Unc. unam semis

Syr. Garrioph. Unc. semis

Conf. Alkermes Scrup. duos

M. f. Card. cap. cochlearia quatuor vel
quinque quando spiritus languent.

Besides

Besides the foremencioned things, I ordered him to eat *Lemon* and *Sugar* very often, and to drink *Lemonade* in as plentiful quantities as he pleased.

The next day I visited him again, and found him much after the same manner he was the day before, only his difficulty of breathing seemed to be somewhat abated; the *Water* he made in the *Night* was of a perfect *Lead Colour*, and his *Pulse* was very low and irregular, and would sometimes totally intermit. The *Blackness* of his *Water* and *Irregularity* of his *Pulse* made me very doubtful of his *Recovery*. I then prescribed the following *Medicines*.

℞ Conf. Flor. Calendulæ
Lujulæ, ana Dracm. sex
 Conf. Alkermes Dracm. unam
 Ol. Cinnamomi gut. tres
 Ol. Sulphur. per Campan. gut. xv
 Syr. *Lujulæ* q. s. f. elect.

cap.

cap. quant. Nucis Moscatæ largæ quartâ
quâque horâ superbibendo haust. Julap. seq.

R Aq. Lactis Alex.

Cinnam. Hord. ana Unc. decem

Theriacalis Unc. duas

Syr. Lujulæ Unc. tres

Ol. sulph. per Camp. gut xv

M. f. Julap.

R Aq. Cinnamomi Hord. Unc. sex

Mirabilis

Epidem. ana Unc. unam

Syr. Garrioph. Dracm. sex

M. f. Cardiacum, cap. Cochlearia sex in
languoribus.

The thirteenth I visited him again, his Pulse continued low and irregular, his Urine very black, his Fever nothing abated, but he began to expectorate a little, at which I was well pleased. In the Night he was taken with a Looseness, which considering his long Illness before, he was not well able to bear. I prescribed as follows.

Aq. Cinnamomi Hord.

Germ. querc. ana Unc. quatuor

Epidem Unc. tres

Mirabilis Unc. unam

Theriacalis Dracm. sex

Conf. de Hyacyn. Drac. unam sem.

Syr. Garrioph. Dracm. sex

M. f. Julap. Cap. Cochlearia quatuor vel
quinque frequenter.

℞ Lupulor. man. unum

Passular Corinth.

Salis Marini, ana Unc. quatuor

Aceti Acer. q. s. f. Cataplasma

Carpis applicand.

℞ Rad. Petasitidis Unc. tres

Angelica Hispan. Unc. sem.

Fol. Rutæ pug. duos

Aq. Font. lib. duas

Aceti Acerrimi Unc. sex

Infunde clausè & calidè in Vase terreo vi-
treato per horas quatuor, & coletur, cap.

Unc. quatuor quartâ quâq; horâ.

The fourteenth I visited him again ;
his

his *Loosness* was quite stopped, he spit prodigiously, upon which his Shortness of *Breath* was almost totally gone; his *Fever* was greatly abated, and his *Pulse* extremely mended, and his *Urine* of a good *Colour*, and well digested. I prescribed as follows, and also ordered him to take liberally of his *Mixture* with *Syrup* of *Vinegar* to promote his Spitting.

R *Aq. Lactis Alex.*

Cinnamomi Hord. ana Unc. decem

Vini Rubri Unc. sex

Syr. Lujulæ Unc. tres

Ol. Sulphuris gut. xvi

M. f. Julap. cap. haust. larg. ad libitum.

The *fifteenth*, *sixteenth* and *seventeenth* he continued to take the fore-mentioned things, during which time he spit like one in a *Salivation*; but he continued very weak, and having something of his *Fever* lurking within him, the *eighteenth* I prescribed the following Medicines.

R

℞ Conf. Calendulæ
 Lujulæ ana Unc. semis
 Conf. de Hyacyntho Dracm. duas
 Crem. Tart. Dracm. tres
 Ol. Cinnamomi gut. duas
 Ol. sulph. per Camp. gut. xv
 Syr. Lujulæ q. s. f. elect.

Cap. quant. Nucis Castan. tertiâ quâq; horâ
 superbibendo haust. Apozematis sequentis.

℞ Rad. Eringii Unc. duas
 Aq. Hordei lib. tres
 bulliatur ad tertiæ partis consumptionem, &
 coletur, colaturæ lib. unam sem. adde
 Aq. Cinnamomi Hord.
 Vini Rubri ana Unc. quatuor
 Syr. Lujulæ Unc. tres
 Ol. Sulphur per Camp. gut xx. M.

℞ Ol. Vitriol. dul. per digest. fact.
 Dracm. duas cap. gut. octo in
 omni haust. potus.

He continued the use of these things,
 and in a week's time his Fever was per-
 fect-

fectly gone, he recovered Strength, and was perfectly free from his Shortness of *Breath*, and all the other *Symptoms* that he complained of. I then prescribed the following *Purge*, which was repeated two or three times at due distances, and he is now as hale and hearty a Man as any in *England*.

R *Rerinae Julap. gr. decem*
Antimonii Diaphoret. gr. xii
Crem. Tart: scrap. unum
Syr. Bals. q. s. f. bolus
cap. primò manè cum regimine.

FINIS.

Advertisement.

JUST as the last Sheet was going to the Press, I met with a Book call'd *Alkali vindicatum*, written by Dr. Coward, being *Reflections* on several things in the first part of my Essay of *Alkaly* and *Acid*. How far he has overthrown my *Hypothesis* I leave to all impartial Judges. For my part I don't think the Book worth a Reply: He has taken a great deal of Pains to shew his *Learning* and *Gentleman-like Education* in his *scurrilous Reflections* upon me; but considering the service his Book will do me, I think I have no reason to be angry with him.

