Criticon febrium: or, a critical essay on fevers ... To which is prefix'd a large introduction concerning the use and abuse of mathematicks in physick ... where also the Euodia medicorum is annex'd / [Edward Strother].

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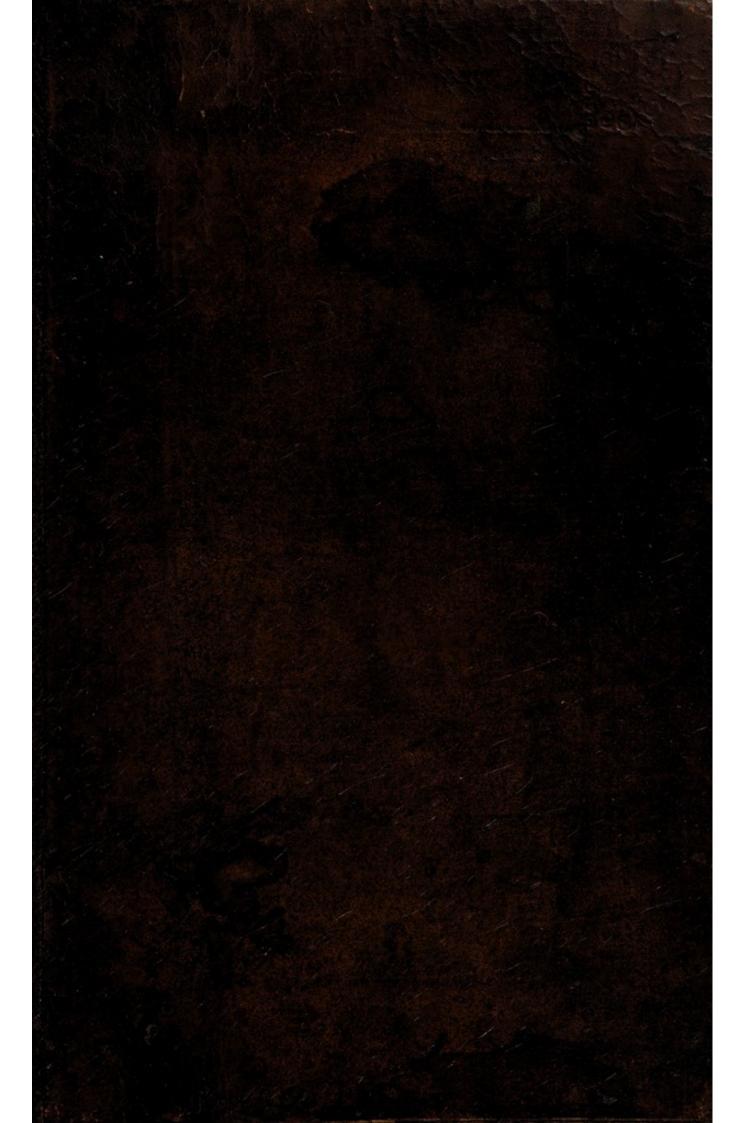
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Critical ESSAY:

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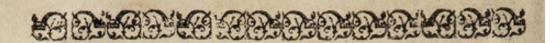
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## Critical ESSAY

ON

# FEVERS.





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Johannes Bateman, Prases.

Traineous French

Sir Hans Sloane Bart.

Guil. Gibbons,

Humph. Brooke,

Jacobus Ladds,

-Censores.

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## Critical ESSAY

ON

# FEVERS;

WITH THE

DIAGNOSTICKS and METHODS of CURE, in all the different Species of them.

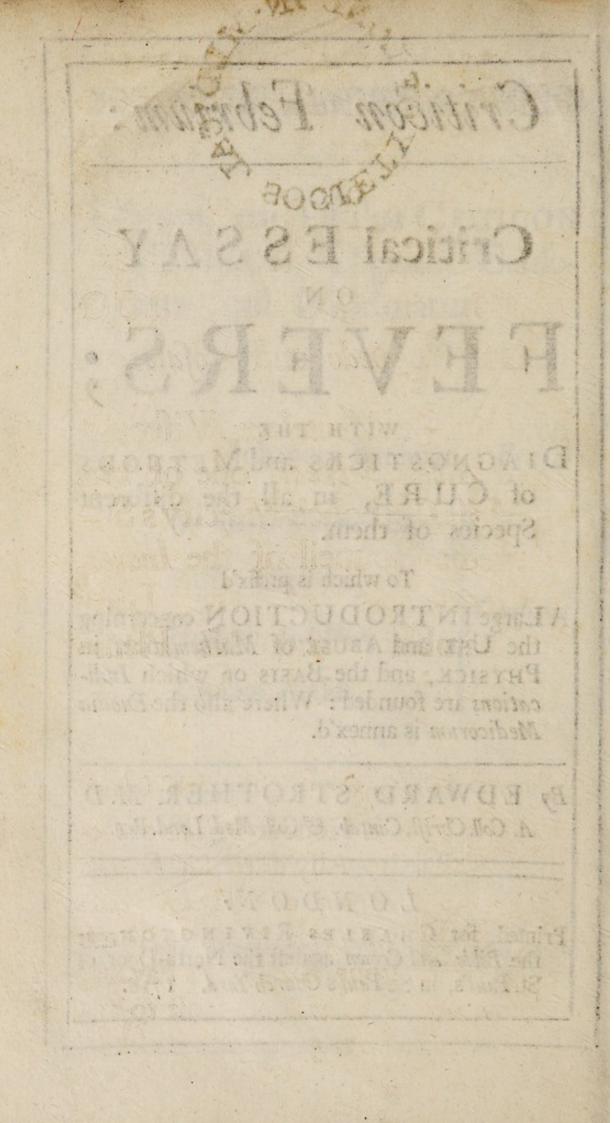
To which is prefix'd

A Large INTRODUCTION concerning the USE and ABUSE of Mathematicks in PHYSICK, and the Basis on which Indications are founded: Where also the Euodia Medicorum is annex'd.

By EDWARD STROTHER, M.D. A. Coll. Christ. Cantab. & Coll. Med. Lond. Reg.

#### LONDON:

Printed for CHARLES RIVINGTON, at the Bible and Crown against the North-Door of St. Paul's, in St. Paul's Church-Tard. 1716.





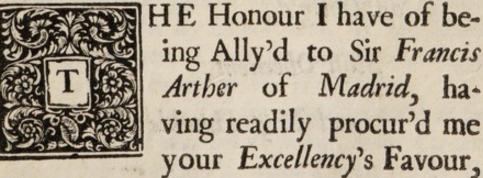
To His EXCELLENCY

# Don Isidro Casado

Of Azevedo and Rosales;

Marquis de Monteleon, Viscount of Alcazar Real, one of His Most Catholick Majesty's Supreme Council of the Indies, Gentleman of the Bed-Chamber, and his Plenipotentiary at London.

May it please Your EXCELLENCY!



I know not whether I am most to ad-

## The Dedication.

Friendship to my Relation; since, as a Stranger, there were Grounds enough to have deferr'd complying to any Re-

quest till farther Inspection.

To give any Encomium upon your Excellency's good Parts, would be somewhat extraordinary indeed, when I consider that You are sent hither as Plenipotentiary from the Court of His Most Catholick Majesty, where Wisdom and Politeness are distinguishing Characters that August Assembly was always allow'd to inherit; and that You are to transact the Assairs of that wise Nation, with the most sharp-sighted Court in the World. Therefore I shall only subscribe my self,

Your EXCELLENCY's

Most Oblig'd,

kelleney's kayour,

-ba or floor ma !

THE

Most Obedient,

and Most Humble Servant,

Edward Strother.

THE PREFACE.

Account in what I advance, having or leaven

ed to by as little on every Parceroble as

## THE

# PREFACE:

HETREATISE I now venture to Publish, was not intended for the Press, when I first Wrote it; tho' I shall not mention the Reasons that induc'd me so to do. If I advance Facts, and give

Reasons for my Procedure; if neither the Undertaker nor Publick lose their Pains, or think their Monies ill spent; that will be a sufficient Recompence for my Endeavours. If the World suffer not by me, I may, if Leisure allow, give them farther Proofs of my Well-wishes.

The Book is swell'd far beyond what I at first design'd; for I was not aware of many Circumstances which occurr'd, when I review d my Papers: But I hope the Perusers will find their Account

## The PREFACE.

Account in what I advance, having endeavoured to say as little on every Paragraph as the Nature of the Subject would allow. I did not think it necessary to expatiate upon the usual, and, I think, useless Divisions of Fevers; in which much Time, I fear, has been spent by many, to little Purpose. The Task has been undertaken by many Learned Pens, and many more have fallen short in their Aims; the former bave eterniz'd their Names, and obliged their Posterity with lasting Monuments, on which are engraven the Methods to be truly serviceable to Mankind; and the latter are not unworthy Thanks for their kind Endeavours, in communicating their Thoughts for the Publick Good, altho' they have not wrote so learnedly; for tho' they have fail'd in Style and Thought, if they have spoke Facts, their Writings deserve a grateful Return.

However, I am sure I have built the following Tract entirely upon many Years Observation; and they who will censure, may go Scot-free; for I am not at leisure to return Answers to ungenerous Criticks, nor so obstinate as to persist in an Error, when I am once apprized of it.

The Language was the Choice of the Undertaker, not my own; and yet, I believe, 'twill fail of being serviceable to any who have not some competent Knowledge in the Materia Medica; and this I had in View, to prevent too much medling in so grand a Concern, as is the fewel

## The PREFACE.

Jewel of Life: And as the Circumstances of too many will not allow of a regular Attendance from the Beginning; so some Measures chalk'd out for the Use of those Gentlemen who are pleas'd to favour me with a Call in to their Patients Assistance, when the Disease is much advanc'd, will give Sanction to the Plainness of the Style. If it contain any Errata beyond the Literal, nothing can atone for it.

As far as I have had Opportunity to observe, more than the Third part of Mankind fall by this dismal Distemper; and the little Leisure there is to amend any Mistakes, committed at the Commencement of a Fever, in all the subsequent Stadia, ought to make the Persons that Practise seriously to consider what sort of Evacuation ought first to be attempted, and how far the Strengths of the Patient will allow them to be continued or reiterated: For to speak justly, on these depend the whole Art of Curing Fevers; and the Neglect or Preposterous Use of them, have convinced too many of the Truth of what I advance, since Alteratives produce their Effects but slowly.

I shall add no farther, than to tell you, that I have avoided to advance any Notion which did not square with the Practice; nor any Practice, but what has all the necessary Distinctions I could think of use to assist the Judgments of those whom Custom has prevailed to call first,

## The PREFACE.

in order to prepare a Patient; which is suffi-cient to denominate this Undertaking generous.

The Introduction was not intended for the Press so soon, but that the Book was too small of it self: What Faults may be found in it, I hope will be excus'd, it being only designed to sketch out a farther Design I have in publishing a large Collection of a System of Practice, modell'd in an uncommon, but useful Order. must here return publick Thanks to the Honour'd Sir Hans Sloane Bart. M. D. for his having comply'd to revise my Papers so readily, as also for his farther unparallel'd Civility in ushering 'em into the College to have 'em Approv'd by that Learned Body; fo that not content to let me have his own Private Judgment, he was willing to favour me with it, as in a Publick Capacity. golfa flow meita 9 edit continued or resterated: For to [peak juffly, on



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Chap. II. The various Sentiments about the immediate Causes of the Heat, and the Frequency and Celerity of the Pulse in Fevers, Chap. III. Of the two Generical Divisions of Fevers, and the Differences of them; with some farther Proofs of their immediate Causes, p. 81 Chap. IV. Of Eruptive Fevers, p. 114 Chap. V. Of Crises, p. 136 Chap. VI. Of Symptoms, p. 145 Chap. VII. Recapitulation, p. 174 Chap. VIII. A Syllabus of the Prescriptions, p. 183 Chap. IX. The Diagnosticks of Fevers, p. 203 ERRATA.

Leave this to the Professors of it; but learn from them what is useful to your own Business, and leave the Remainder to themselves. And whenever you have learn'd what you would be Master of, remember not to be so proud of it, as to endeavour to extend your Part of the Knowledge to what it concerns not, or draw Conclusions pernicious to Mankind from thence. If this were not too common a Crime, I should be sorry to mention it: But having undertaken to convince the World that this is too frequently done in a Matter so serious as Life and Death, I leave it to its proper Place to be discussed.

I would therefore have the Merchant perfect in his Numbers, and all the Parts of Arithmetick belonging to his Trade; for without it he must necesfarily starve himself and Family; the Navigator, without his Trigonometry, is a forry Friend to his Merchant; the Essayer, without his Specifick Gravity, or the common Method of Essaying, is an Enemy to the State; the General Officer fails in one of the useful Parts of his Duty, without the Art of Embattelling; the Gunner, if he is ignorant of the Elevation of his Piece, or does not know that Flanking is to a direct Shot, as 3 to 1, will not perform the Duty that is justly required of him from his General, nay, his Country. What does a Fortificator without the Knowledge of his Angles of Defence, but dupe his Prince, and expose his Subjects to Ruin and Destruction? What Value is the Miner of to his Master, who neither knows the Laws of Hydrostaticks as to Levelling, nor the Knowledge of Powers as to Lifting? And therefore no Wonder so many are chous'd out of their Estates. What Acres of Ground do the poor Tenants pay for, they never enjoy, whilst a Common Measurer encreases the Degrees in his Theodolite, to flatter his Gentleman

Gentleman into a Belief that he enjoys double the Number of Acres he really does, and to engross a few Pence into his own Pocket? How useful are the Arts of making and framing the several Sorts of Lens's, to discover the Figures of Bodies, for the Short-sighted, for the Old, for the Sailor, and for many other Uses? Should I expatiate more upon this Affair, a Section would swell into Volumes; which is far from my present Purpose, having no farther Design in this Section than to hint at the Use of the Mathematicks in General; which I believe I have sufficiently done, when I have let you see how many Affairs of great Moment 'tis absolutely necessary to.

#### SECT. II.

Of the Use of the Mathematicks, and Experimental Philosophy, in the Knowledge of our Human Bodies; and of some Data from the several Branches of it, drawn into Use.

A M not of so harsh a Disposition, as not to accept of several Data from the Mathematicians, which, it is to be own'd, are prettily enough adapted to the Purposes they demonstrate them for: But I am of Opinion, that it is an affected Shew of Learning to demonstrate these Truths in such a Manner, as that a Book of Physick, save its Title, would now appear rather a Point of Mathematicks discussed, than any useful Discovery in the Art of Healing; I believe I need not be at the Pains to convince the Peruser of our daily Treatises in use of late, where they will find Instances in abundance; where, after Sir Isaac Newton, Dr. Halley, and the Philosophical Transactions are risled, they gravely B 2

#### The INTRODUCTION.

recite a few Remnants from some Ancient, and so draw their Conclusions to a dangerous Purpose; of which more anon. I shall recite some of those Data, which need not be demonstrated, but supposed: And whosever defires them proved in a Mathematical Manner, would do well to consult the Authors they are borrow'd from, at their own leifure Hours.

In every Fluid there is a Gravitation and a lateral Pressure, which is perpendicular to the Tangent of the Circle.

Hence 'tis concluded, that the Blood in our Arteries and Veins presses downwards and sidewise; or, as the learned Bellini has it, the Blood's Motion is Longitudinal and Latitudinal. From this lateral Pressure it happens that our Vessels are Circular; and as the Vessels are of that Form, all its Ramissications are of a similar Shape; and as the Glands are but Complications or Contortions of Arteries, they are of the same Shape, and also their Orisices.

The Pressure of the Incumbent Fluid upon a Solid, is in Proportion to the Altitude; or, as Dr. Wallis will have it, The Moments of a Fluid pressing upon a Fund, are a Rectangle under the Quantities of Matter and the pressive Velocity; which is Sir Isaac Newton's Law of Motion, That Moments are equal to a Rectangle under the Celerity and Quantity of Matter.

Hence may it be concluded, that the Blood's producing any Effects on the Solids, such as the opening Obstructions in the Nerves, or elsewhere, must be an Argument of its Quantities being encreased, or its Pondus; or that it is stock'd with volatile Salts: By either of which the Obstruction is dug down, and the Nerves freed from their Infarctus. Hence also may be drawn the Reason of Hamorrhoges.

Hemorrhages, which, by the Quantity of Blood, either endanger a Rupture; or by its swift and nimble Circulation, does equally, by its Intumescence or Percussion, or some other Estect of its swift Motion, rend and tear the slender Orifices of the Vessels, and so occasions a Flux, which bears a Proportion to the Degree of its Motion; or the greater the Quantity is, or the more swiftly the Blood moves, the more dangerous are the Symptoms produc'd. 'Tis thus that Bodies under Water are considerably more press'd on than in the Air, because Water is to Air as 800 to 1; and the Sea-water is heavier than common Water. Hence 'tis observ'd, that the Cork will be press'd into the Bottle, when 'tis plac'd deep into the Sea.

Fluids running from a larger Syphon into a less, the Liquids run with a greater Velocity in the less Tube: But if the total Sum of the Orifices of less Tubes be more numerous than the Area of the transverse Sections of the greater, then the Fluids run slower in the less Tubes.

Hence it is concluded, that if all the Orifices of the Capillary Arteries were (put together) less than the Aorta, the Blood would run faster in them than in the Aorta; the contrary of which is demonstrably true, and therefore the Blood circulates slower in the Capillaries than in the Aorta: And hence so many Stagnations in the Evanescent or Capillary Arteries; which also happens from the Cone growing narrower towards the Vertex of it, or, in other Terms, from the Arteries Straitness at its Anastomosis.

Fluids cannot move on, unless the impelling Force conquer the Resistances.

Hence if the Force of the Heart's Motion were not superior to all Impediments in the Arteries, and elsewhere, the Blood would stagnate, and run

B 3

no more. And Borelli has, in his Æconomia Animalis, demonstrated that the Power of the Heart is to that Resistance, but as 1 to 45, or 3000 to 135000: and that were it not for some other Power, the Circulation must cease of course; which auxiliary Impulse he places in Percussion, or the Jerk and Shock it throws off its Load by; and so we again return to the Law, that the Moment is a Rectangle under

the Quantity of Matter and the Celerity.

Thus when we labour under a Penury of Spirits in a Fever, the Crifpations of the Fibres being augmented by the violent Heat of the Blood, will occasion the Impediment to Motion to be more forcible; and the Spirits flowing sparingly through the Channels of the Nerves, will lessen the Force of the Percussion; so that there must in this Case inevitably follow a full Stop to the Circulation, and the Thread of Life must be cut off; if then these Powers are not equally proportion'd, many and dreadful are the Consequences of the Destruction of this \*\*Equilibrium\*\*.

All Fluids flow through their Channels with only their Excess of Velocity above the Resistances.

So that let us suppose a Fluid to be impell'd with a Force equal to 47, and that the Resistances are equal to 35, then the Fluid only moves on with

a Velocity equal to 12.

Hence in Cachexies, and other Disorders proceeding from the Languid and Testudineous Motion of the Blood, the Alteratives must be given to such a Proportion, as to augment the Motion, not only till it comes to an exact *Aquilibrium*, but till we make it arrive to that Excess of Velocity which the Nature of that Person, we have under our Care, has been known formerly to be accustom'd to, when he enjoy'd a persect Health. The Knowledge of this is gathered by collateral Proofs, the Discus-

fion

#### The INTRODUCTION.

sion of which appertains not to our present Enquiry.

In all Fluids there is a Centre of Gravity, and Gravitation, viz.

1. The Center of Gravity is an imaginary Axis, which is supposed to pass in a perpendicular Line

to the Bottom of the containing Vellel.

So that whatever Posture we are under, the Particles of the Blood gravitate upon some Part of the Vessel: If our Posture is Erect, than the Gravitation is on the Orifices of the lower Vessels: If Horizontal, each Column gravitates on the Sides of the Vessels. Hence in Hamorrhages of the Uterus an erect Posture contributes extremely to promote it; but an horizontal one helps to allay it: So in Hamorrhages of the Nose, an erect Posture is most convenient.

The Altitudes of Projectiles are to each other in a duplicate Ratio of their Velocities.

Suppose then that the Heart of any Person throws out its Contents to the Head, with a Velocity or Force equal to 2, and that if another propels its Fluids with a Force equal to 3: I then conclude, that if the Blood of the one wou'd be thrown 4 Inches, that of the other wou'd he thrown 9 Inches forward. This I look upon to give Light to a Phyfician, in Bleeding of his Patients, in the Knowledge of the Force of the Heart; for where the Blood of one Person will flow to the Distance of one Yard and half, or 54 Inches, from the Arm into the Dish, the other flows only to the Distance of half a Yard and half-quarter, or 22 Inches 4. From hence also may be gather'd the imminent Danger Patients are under in Ardent Fevers; where the Force the Blood is thrown withal up to the Head, violently impacts it into the Cortical; nay, and I have (in Diffections

Diffections of fuch as died under this kind) found it deeply thrust into the callous Substance, and in pretty large Quantity; from whence incurable Phrenzies often ensue. From this Head I would advise some unwary Practitioners not to tread a Road, too common now in Fevers, of giving testaceous Medicines, nay, much warmer Cordials, and sleaing their Patients with Numbers of Blisters; when, if they consulted Reason, and not Prejudice, they would easily view what Shoals they precipitated to the Grave by this Butchery.

Cylinders are to each other in a Ratio compounded of their Bases and Altitudes; that is, if the Base of one Cylinder be 9, and another 6; and the Altitude of one 4, and the other 2; then are they to each other, as  $(4 \times 9) = 36$  to  $(6 \times 2) = 12$ .

Hence are the Quantities of Liquors circulating in our Vessels measur'd: Hence are the Quantities of Secretions proportion'd; for that it is easy (admitting there be no other Adventitious Cause, which I shall mention immediately) to believe that a greater Orifice will separate a greater Quantity, and even the most coherent Sort of Fluid in any given Time: For indeed I suppose the Celerity of the Blood's Motion to be the same; because when that is augmented, it alters the Question extremely. Some of our Notionalists will have it, that a greater Celerity in the Motion of the Blood, occasions a larger Quantity of secreted Fluids: But others, who argue from stern and patient Enquiry, find that the swifter the Motion of the Blood is, the less it separates. Who are best Judges in this Case, will appear from this; that one alledges Fact, the other begs the Question. We may then suppose the Case to stand thus; As we see that the Bladder, over-distended with Urine, cannot perform its ordinary Duty of Expulsion by the Contraction of its Fibres; so may

we fay of fuch Arteries as we know are over-loaded with a rarefied Quantity of Contents, that they in like manner cannot contract themselves to protrude their Contents thro' the ordinary Emissaries, and confequently do then separate less. This will be no Surprize to any who confiders, that whilft the Bladder retains its Elasticity and contractive Power, by this it contracts its Coats, and extrudes its Contents with Ease, because here the Elasticity is superior to the Refistances; but whenever the Refistances conquer this elaftick Power of the Muscular Coat, then there necessarily follows a Suspension of that Action. Now in an Ischury (from this Cause) the lateral Pressure is such, that the Sides of the Bladder cannot act, because the Liquidum Nervorum and Arterial Blood, from whence this Power of Motion is derived, cannot enter into the Bladder. And in fuch a Case the Pressure on the Sphineler is only equal to a Column of the Size of its Orifice. all the rest of the Fluid having now a different Center of Gravity. But because this one Example may not be sufficient to convince a prejudic'd Perfon, I shall mention another Experiment of injecting Fluids into a Syphon, which we suppose is bor'd in feveral Places, to adequate the Cafe: If Liquids are thrown with a violent Force into this Tube. very little or none will exude through the small Emissaries, but 'tisall of it hurried along the larger and direct Orifice: For that longitudinal Pressure is much fuperior to the latitudinal one, (the only two Directions we place in Fluids.) But a Practitioner will be more convinc'd by Experiments drawn from Practice, which for his Satisfaction I shall stoop to do, and then draw this Paragraph to a Conclusion. Don't we see it very common in dying Persons, where the Motion of the Blood is very flow, that the Lungs separate a great Quantity of Mucus into the Bronchia, which, so long as the Spirits

Spirits are so plentiful as to contract the Parts, is thrown out; but whenever they fail, then it choaks them? Is it not a common Experiment to tie one of the Jugulars of a Dog, and we find immediately that his Saliva is spued from the Salival Glands more plentifully? The same Experiment below the Heart is found to fill the Cavities of the Body with a Heap of Serum, which Dr. Lower looks on as one Occasion of a Dropsy. The same Mechanism holds also true in Convulsions about the Head, where the Motion of the Blood through the Arteries is impeded by the Diminution of their Diameters: And hence, as a Sequel of this in these Parts, I have feen an Inundation with Serum in the Ventricles, which indeed may also Evene from the Return of it impeded through the Infundibulum. Catarrhs are often a Consequence of a slow Motion of the Lympha, or its Return hinder'd through the Lymphaticks. In fine, daily Experience convinces the Gentlemen of the Faculty, who have had Opportunity to obferve Nature's Laws, that after we have been spent with profuse Evacuations of Blood, we are often infested with dangerous Diarrhaa's, which are only an Effect of its loofe Texture and its flow Motion, as well as of its Spirits, so that it drops through its Glands, where its Center of Gravity is directed downwards.

Canals that are impervious from any Extraneous Body, must, by straitening its Alveis, be made to pass their Fluids: If they are impervious by their Rapidity, we must use Sluices to binder its rapid Course: If they are impervious for want of Fluids, Sluices also help this Fault.

How far this Maxim of Hydrostaticks can be adapted to human Bodies, I cannot certainly affirm; however, I shall deliver my Sentiments upon a Point or two which it feems to account for, without offering

offering to pronounce too dogmatically, as is the Custom. The Antients, in Fevers of the malignant kind, have often advis'd Bole, Terra figillata, and fome fuch other styptick Drugs, in order, as they fupposed, to contrast with the malignant Particles that had empoison'd the Blood and Juices. I obferve these very Medicines mentioned by later Practitioners in their Books of Practice; and the Reafons they give for their A&ing, is, as they are pleas'd to term it, To conglutinate the Crasis of the Blood; whose Compages is here supposed to be too loose; and from hence it is supposed to separate so easily into the Cutis, those Blotches, or whatever Eruption is made from the Blood. I faid, I observ'd it had been mentioned in their Books; but if you confult their Files, you will rarely, if at all, find any Drug of that Nature blended with their other Medicines; which to me is an Argument, that when they write, they think themselves oblig'd to give Reasons to the Publick, they themselves are not at all fatisfied with. Give me Leave to follow their Examples, in the Account I am going to give of the Virtues of these Stypticks, which yet I would gladly they should be persuasive, and introduce again what the Antients had doubtless observ'd to be useful. Shall we look upon the Retention of some Parcels of the Perspirabile, (which a Learned Author fays, is unequal in its Texture, and in Malignants calls it viscid) to be this extraneous Body? Let it for once be granted me; I say then, That fuch a viscid should be attenuated to a pitch fit for a critical Expulsion, it is necessary the Blood, or Blood-Veffels should receive some Change in their Texture or Ofcillation, or fome fuch probable way, in order to the bringing this about. I cannot fee a more likely Method to compass this Design, than by an eafy Supposition; and this I reckon to be done by changing the Diameters of the cylindrical

#### 12 The INTRODUCTION.

cal Cones and Syphons into much narrower Limits, which we all know to be a Vertue ascrib'd to Astringents; for by this very Mechanism, it will fall out that the Elastick Force of the Arteries will be encreas'd in a Ratio to a Diminution of the Diameters of these Cylinders; and whereas Tubes of a minute Diameter circulate their Fluids with a much greater Celerity than those of larger Diameters, it may thus be reasonably supposed that the Elasticity of these Fibres being augmented, but their Diameters diminished, the Fluids embrac'd between Fibres that have receiv'd fuch a double Change, will be more strongly compress'd, comminuted and agitated, as well as run on in a more continued Stream, and more nimbly than before, which to me feems to be all that is requifite to hinder the feceding of fuch Eruptions, and to attenuate this Viscidity: As to what concerns the other Medicines commonly given in fuch Fevers, 'tis a Difquisition appertaining to another Head.

I remember to have heard from a Lithotomist formewhat which then to me appear'd very paradoxical, That to make a Stone pass thro' the Ureters, he look'd upon Claret (which all of us know to be a Styptick) to be the best Diuretick, and what would make it pass the soonest. This Mechanism you see holds in cleansing Rivers of their Sand and other extraneous Bodies; whether it holds true in the Case of the Stone in the Kidneys, I shall not now take upon me to determine, but leave it to the Enquiry of such who have Opportuni-

ty to observe.

#### Action and Re-action are equal.

This grand Maxim holds true in many Instances: Without this Æquilibrium the Blood would stagnate; for unless the restitutive Power of the Arteries

teries in their Systole were equal to their Dilatability in their Diastole, the Fluids contain'd would be press'd into 'em so copiously, that the Blood would Itop at the Section of Refiltance; and from thence at the nearest Section to that, up or down, to the very Heart, and so occasion inevitable Death; which I take to be the Case in common Apoplexies, where the Laxity of the Fibres first suffers the Blood to lodge in the yielding Part, and from thence enfues gradually a Stop, till it can, for want of free Paffage, run no longer. By this we find the Density of the Air to be reciprocal to its Compression; so that whilst the Compression encreases, the Density of the Air equally encreases; and, vice versa, whilst the Compression is taken off, the Air is less dense. Hence it might be inferr'd, that if the Moon acted on the Sea by Attraction or Gravitation, our Air would fuffer some Change in its Action, and the Mercury would either rife or fall at fuch Times. This I shall have occasion to handle below more amply; but this feems to be by Mr. Boyle's Cosmical Qualities. Hence also the Air's Elasticity is reciprocal to its Extension; so that if we live in a lower Region, the Column of Air that prefles upon us, is much heavier than when we live in mountainous Places; fo that they whose Lungs are ruptur'd, and who spit Blood, live uneasy where the Air presses the Vessels too much, and thus keeps the Fraction always open, but are help'd by Removal into an Air less compress'd, (avoiding any Extreme on this fide too:) And they who are Afthmatick, and want to have the Lungs more expanded, ought to live in a dry Region, and somewhat inclinable to Cold, where the Air will be more compress'd, and their Breafts will be more opened. Hence the common Experiment of a Bladder half inflated, removed to a Mountain, it expands and fwells. Hence 'tis that the internal Air (contain'd, I mean, in any Fluid)

Fluid) expands or contracts reciprocally, as the incumbent Atmosphere expands or contracts itself: Whence it is that Bottles in hot Weather will crack; nay, when the Air's drawn off, they will crack, tho' placed under the Water: From this Quality of the Air, it happens that our Blood in hot Weather occupies a greater Space, and occasions in fuch a Season Fits of an Althma, Rheumatick Pains, Febrile Diforders, and fuch-like: Whence in cold Weather, when the Air is much contracted and heavier, the Blood almost loses its Elasticity, and Coagulations of dangerous Confequence enfue. But having hinted at this Principle, I shall add no farther Remarks.

Attraction of Bodies, is as the Squares of their Distances.

Hence at a greater Distance there is less of this Power exercis'd; at a less Distance it is greater: that is, if I suppose two Parcels of Salts; one at the Distance of 3 Inches from its fellow; another at the Distance of 5 Inches; then as 9 is to 25, To is the Attractive Force of one to the other.

Almighty God has plac'd a Magnetism in the World, and we find it, in some measure, plain on feveral Heads: Hence, when fuch attractive Bodies are fegregated at a tolerable Diffance, they lofe the Force of Attraction; but at small Distances they coalesce: So Salt of Tartar flows by the Attraction of Water, which is not eafily call'd off: But fo much is faid of this in Mathematical Authors, and more especially in Sir Isaac Newton's Quare's, at the End of his Opticks, that little farther need be spoke of it here. As to the Original Cause of it, he supposes to be some Impulse, or perhaps some unknown Way. If then any Difeases are occasioned by the Juxta-position of such Bodies as will unite into some Tertium quid, and so bring on va-Tious

rious Symptoms, the eafiest Method with such Cohafions in Chymical Experiments, is, by Dilution; and this is belt done by the Liquor heated. the Motion of which diffociates, whillt the Quantity enlarges the Distance of the attracting Salts: Hence it may not be amifs to observe a Caution Baglivi (p. m. 474. de Morborum & Natura analogismo) brings upon the Case of Rheumatick Pains; after due Evacuations by Bleeding, a cool Regimen of Barley and Oatmeal-waters and Emulfions: He adds in the Declenfion; ubi acuties tamen aliqua morbi nec non acrimonia inflammatoria adbuc viget; tunc sumo flavedinem subtilem corticis limonum in frustula rejectum, eumque bullio leniter cum aqua fontis; & bujusmodi aque citrate calida prabeo bibendos agro tot cyathos quot velit dummodo possit stomachus regere: Hac enim copiosa potione refrano salium acrimoniam, vires restauro & FLUX-ILES REDDO HUMORES, ut in suis filtris facilius citiusque repurgentur. Hanc potionem aqua citrata frequenter præscribo --- ut aliquot cyathos ejusdem valde calida quotidie sorbeant. Hence Keil. in his Book of Secretions, observes, "That Dilution " diminishes the Attraction of the Salts in Rheu-" matisms, and hinders their Violence in acting " and producing their racking Effects, when they " approach too near to each other.

Thus it is in Hectical People, where the Acrimony and Salts in the Blood are fo copious, and approach each other fo near, that they ravage and tear the Fibres, or at least irritate 'em so violently, that the Blood is hurried about one third fafter than in a natural Circulation, and confequently a valter Expence of Spirits are required to propel it, in a Ratio to the Excess of Systole's in this præternatural Circle to the natural one; for I think it will not be denied me, that our daily. Actions are the Standard of the Expence of Spirits; fo that their

their Exhaustion bears a Proportion to the Quantity of Motion, and that Motion to the Numbers of Contractions; whoever then can know how to hinder or separate the Contact of these Salts, hinders Irritation and their other Effects, that we see necessarily proceed from thence: Hence also here Dilution, in these Cases, is necessary in an absolute Sense. As to the other Correctives commonly given in these Cases, I don't design here to account for 'em, and therefore I shall proceed to another Point.

Motion in an inclin'd Plain, is doubly flower than in a perpendicular Line. The Celerity of Motion in an inclin'd Plain, is, to the Celerity of Motion in an inclin'd Plain of the same Altitude in a Ratio, reciprocal to that of their Lines: And a Body falling from an inclin'd Plain, the Velocity is equal, if the Descent be so. And an inclin'd Plain given, it easily found how far it's Body would fall in the same Space from a perpendicular of the same Altitude.

Abstracting from Resistances, or allowing for 'em, these Lemma's may give us some Light to know the Quantity of the Circulation of the Blood in perpendicular Lines, or inclin'd Plains, by its own proper Weight; so that the directer the Line is, the stronger must be the Protrusion; and therefore where the Fibres are made laxer than naturally, by any aqueous, oily, or such soft and uncluous Drugs, the Fibres, in proportion, turn less direct, and the Circulation grows slower in the Vessels; and, till the Exhalation of these Particles by discutient or absorbing Medicines, the Blood must continue to move slower on, and we be subject to all the Confequences that necessarily attend such a Change.

Heavier Bodies thrust lighter ones upwards: The Protrusion of Bodies less heavy, is so much the more vehe-

vehement, as the Dissimilitude of their Weights; (or the Protrudeus and Protrusum are in a Ratio of their

Pondus.)

I shall only add, that hence it is that the Mucus of the Nose swims at the Top of Water; and that Bodies only gravitate with their Excess above the protruded Body.

There is no Point of a visible Object, from whence Rays don't reach to all Parts of the Itis, and all Parts of an Object are seen: And Rays that emerge from a Glass Sphere, the Focus of such emerging Rays is at the Distance of three Semi-Diameters, and more.

From this it is concluded, that Spots and fuchlike Black Figures that feem to float in the Eye, are not really in the Humours, for that the Focus of the Representation of fuch Gnats, would, if at all, not converge but at a great Distance beyond the Retina, and therefore cannot appear at the Retina, and therefore are not notic'd by the Eye: Hence it is concluded, that fuch Specks are really fome Obstructions in the Retina, whence some Rays of the visible Object that are receiv'd, are not perceiv'd. Pitcairn did us the Favour to advance this as a mighty Discovery he had made, which however was faid by Galtruchius, p. m. 269. speaking from Aristotle, saying, Sensibile positum Supra Sensum, non facit sensationem: Quare, says Galtruchius, que sunt in oculo ab ipso oculo non videntur. Quia si propiùs objectum accedit ad oculum, vertex coni refracti projicitur ultra retinam.

In a Cone, the greatest Resistance to Motion is at the Vertex.

Hence 'tis suppos'd that Obstructions most reafonably happen in the evanescent Arteries; this also was advanc'd from Pitcairn, but taken notice

of

of long before by Lindanus in Collegio Supra Hartmannum, p. 166. de Mesenterij Inflammatione, §. 2, & 3. who has these Words; Obstructio est metuenda ubi ex majori in minus vas defertur: And hence it is that Tumours generally happen at the Terminus of some of the small Arteries.

If the Blood be so vitiated, as that the Strengths be augmented or diminished, tis the same as if the Blood offended in Quantity.

Hence, if a Person labour under a Want of Strength, from the Blood's being vitiated by fome preternatural Ferment; 'tis the fame thing as if the Blood were diminish'd and drawn off. And again, suppose a Person labours under a Disease, where their Strengths are much augmented, as Madness, and fuch-like, from fome Acrimony of the Blood, 'tis all one as if the Blood were augmented. that Suppose a Person has in the Vessels 2c Pounds of Blood, and his Strengths equivalate 5 Pounds, then if we confult Sir Ifaac's Law of Motion, it will stand thus, ac=m, or 20 multiplied by 5 is equal to 100 lb. this Person can lift. If then a Person falls ill of Madness, and can lift up 140 lb. then the Moment of Strength in each Pound of Blood amounts to 7 lb. for 20 multiplied by 7 is 140: But if they labour under fuch a Languor, as that they can only lift a Weight of 80 lb. then 20 multiplied by 4 is equal to 80 lb.

Secondly, Suppose the Blood were augmented to 28 lb. and the Moment of Strength of each Pound were equal to 5 lb. then 28 multiplied by 5 is equal to 140; so that 20 multiplied by 7 is 140, and 28 by 5 is 140. Hence 'tis evident that 'tis the same thing, as to Strength, whether the Blood's Quantity be augmented, or it's Quality vitiated. Hence it may be inferr'd, that if Madness be occafioned by some Acrimony of the Blood, and the Strengths

Strengths of that Person be considerably augmented, we may act as if the Person labour'd under a Plenitude, by drawing off such a Quantity, as will lessen the Strengths of the Patient to a certain Degree; and this we may the more boldly attempt, because 'tis agreeable to common Practice in such Cases: On the other hand, when the Strengths decay from some vitious Quality, it being the same thing as if so much Blood were lost, we may give Cordial Diet and Medicines to repair the Loss of Spirits and Strength: But as for the State of Humours, on which this Decay originally depends, 'tis the Business of another Part to correct.

The Heat in our Body is in a Ratio compounded of the Quantity of Blood, and its Celerity, And constituent Particles.

So that when we are under a Fever, and our Pulse is encreas'd in Numbers, our Blood is observ'd to mount the Thermometer up to Sultry; and this depends upon the Rarefaction and Attrition of the Particles amongst themselves. I am not now calling it into Question, whether some extraneous and active Particles don't give Rife to this Velocity; for nothing is mov'd but by fome Agent: Hence, vice verfa, 'tis argued, that in cold Fits of an Ague, the Celerity, and confequently the Attrition against the Sides of the Vessels, is much lessen'd; which fome extraneous Salts occasion, by clogging and impeding the Motion of the Blood: And here we find that the Distilition of the Arteries is not reciprocal to the Resistance, as Bellini somewhere expresses himfelf; for, in this Cafe, the Pulfe grows weak and flow, as Cole has it, p. 126. de Febr. Intermitt. and therefore the Systole bears a reciprocal Proportion with the Influx of the Animal Spirits into the Villi of the Heart, which, in such a Condition as the whole Fluids are then under, are very scantily supply'd. C 2

#### 20 The INTRODUCTION.

ply'd. This State of the Fever does not continue long, but is foon succeeded by its contrary, Heat; which, as the above-named Bellini has it, happens fo foon as the Pression, and the natural Force of Fire to exert itself, conquers the Implication from the Vifcid; or, that the Particles, by a repeated Circulation, are comminuted and divided into less Globuli, where the Salts begin to extricate themselves, and irritate the Villi of the whole Frame of the Heart and Arteries: And therefore to affift this Extrication the easier, and lessen the Cohasion, 'tis necesfary to follow the Caution, once mention'd, in giving Liquors warm'd, to dilute, and strongly to destroy the Attraction: The more Hafte we make in doing this, the better; for that in the cold Fits, there is Danger of their never furviving it, where the Caufe of this Cohafion is strong and plentiful. The different Effects of Heat upon the Fibres of our Bodies, is somewhat remarkable; for a gentle Warmth relaxes 'em, whilst a strong one crispates and corrugates 'em; fo that in any Difeafe, where there is a Tenseness of the Fibres, as Baglivi observes justly in Frenzies, Fomentations of warm Emollients to the Hypocondria relax and help to give some Revulfion to the Humours from the Head; for that by fuch a Procedure, the relax'd Fibres give an eafier Inlet to the circulating Fluids, by fo much as the Refistance to Motion is lessen'd; and thus the Blood that is not impacted, runs thither with more Eafe, and the distant Part is reliev'd. 'Tis upon this Principle of Relaxation, that Sylvius c. 9. de Morbis Infantum, advises the Feet to be bath'd in warm Milk, to prevent the Small-Pox's breaking out in the Face: Tis upon this Head too we read in Verbeyen de Febribus, p. 294. that Sir Kenelm Digby order'd a Young Woman to rub one fide of the Face with Oil of Almonds, and by it prevented any Marks from the Small-Pox; for that the more acuminated

the Small-Pox are, the less they are observed to mark; and the Refiftance to Motion that Way being much leffened, the Propulfion ad extra bore a Proportion to the Emollition of the Fibres. This fame Mechanism is observable in critical Tumours, where the Part affected is rubb'd with Ol. Chamam. Lilior. Amygd. d. tum Lana succida iisdem oleis im-

butâ. Vid. Schmitz. p. 139.

We see then how the Excess of Heat crispates 'em, in Proportion to the Humidity exhal'd; fo that in a violent Heat we fee 'em change their Texture and Direction extremely, even to become incapable of passing their Fluids, and at last of holding their Contents in their Channels; fo that how Inflammations and Erofions happen, is pretty well accounted for. On the other hand, a gentle Warmth is useful to keep the Vessels flexile, and cause em to yield upon the Impulse made upon 'em by the approaching Fluids; and thus the Circulation is continued by the elaftick and restitutive Force, which is the natural Office of the Arteries, contracting themselves after they have gently yielded to the Force impell'd on them by the Heart.

All Qualities are to each other as the Density of their Radii: And This Density is reciprocally, as the Distance from the radiating Point; or, as the Squares of their Radii.

Supposing two Circles; whatever is within the less, is more intensely heated than the Body contained on the Surface of the larger, in a duplicate Ratio to their Radii; so that suppose the Surface of the leffer Circle have it's Radius at the Distance of four Inches from the Radiating Point or Center, and the larger have its Radius at the Distance of 6 Inches; then, I fay, the Body on the larger is heated as 36 to 16, which here is more than double: This Principle holds good in all Qualities, as Heat, Cold, Air, Light, Sound, Smells, nay, and Motion; so that even the Blood may safely be said to move on swiftlier at the Center of its Motion, the Heart, than at the Extremity of the Arteries and Veins, where there is the utmost Distance from its Radiating Point: But this being an Affair so much within the reach of Common Sense, 'twould be an Obtrusion upon the Patience of the Reader to add more on this Head.

Effects are Aggregates or Rectangles under the Sum of their Causes.

Hence if we would account for any Effects produced in our Bodies, we must take a perfect View of all the Causes that can produce such Phanomena: I would gladly persuade Physicians particularly to be aware of the too narrow Views they commenly take in their Dissertations; for if we look into their Hypotheses they have settled, even in Practice, 'tis amazing to find Men of Sense amusing themselves with Trisses, and leaving the serious part of the Business either entirely out, or handling it so slightly, that it is very evident they may study to raise a Reputation by an unintelligible Jargon; but that they either don't really understand the main Point, or believe it sufficiently advanced by other Hands.

By this Rule, whoever has a mind to understand the Reason of Muscular Motion, must take a View of what is observable of a Muscle in Motion; so that he might not be mistaken in accounting for it: We observe then that a Muscle acting grows shorter; That however its Surface is Equal; That its Acquilibrium is destroy'd; That its Power is greater and swifter; That its Figure is chang'd; And, That one Terminus is immoveable. The Change of Figure in a Muscle to Breadth shortens it; but yet Experiments try'd by the Ingenious Dr. Connor, whilst

whilst I was one of his Hearers, convinced methat the Surface was the fame. We need only confult Geometry, that a change of Figure is no Argument of the Surface being fo too; fince to adequate one Parallelogram to another, there is a Propofition that the Squares of equal Lines are equal, and fince ocular Demonstration has convinced me of this, I find no Difficulty to suppose it shorter, yet broader, fince what it loses in Length it gains in Breadth. That the Aguilibrium is destroy'd, is evident; for whilst one Muscle has no greater Addition of Force than another, the Muscle and its Antagonist are both at Rest. From this Principle that Body's plac'd at equal Angles from the Center, if these Bodies are equal, there is no Motion; but if you join any Weight to one of them, the stronger presently makes an acute Angle with the Perpendicular and will move, and the Equilibrium is destroy'd. The Power is greater and. Swifter, in Proportion to the Distance of the Termini; for all Motion is varied in the Proportion of the Periphery or Radius to the Center: So that a Muscle doubly longer will move a Weight as the Lengths fquar'd. Hence a Muscle 4 Inches long will move 16 Pounds, when a Muscle of 2 Inches long only moves a Weight of 4. Pounds, if there be no other Cause that discriminates the Motion. The Figure is chang'd, for there wou'd be no Motion without this Mechanism, the Angles being equal, the Sides are also equal; but if the Sides continu'd unchang'd, they would be at Rest. One end of the Muscle must be at Rest and fix'd; for whatever is moved, is moved upon some Body at Rest: Hence the old Maxim of Archimedes, Give me Something to fix my Feet on, it, The you xivhow. But whether by a Contraction of the Venters to each Head, or by a Pondus drawing one Part upward, and another Pondus drawing the other Part down-C 4 war d

ward, or by the Liquidum Nervorum entring and rarefying, and occasioning a contrary Nisus, and so enlarging the Area's of the Fibres of this Rhombus, or whether by a bare Contraction, I shall not now determine, leaving to each Person to frame

what Notion he pleases in this Matter.

One thing cannot here be pass'd by in filence :. Dr. Cheyne, in his Theory of Fevers, advances, That the Flegm of the Stomach can be no Fomes to encrease the Fevers; because to enter the Lasteals, it ought to be much more attenuated than it is, and that a Sphere with a larger Diameter than the Orifice it is to pass through cannot enter. Hence also another Gentleman concludes, That Balfamicks cannot be ufeful in Confumptions, for that the Diameters of the Orifices of the Latteals are too little to pass them: But whoever reflects on the vast Fermentation there is in the Stomach, may guess how much any thing taken in at the Mouth, may be comminuted and divided by the intestine Motion between the Heterogeneous Particles of the Bodies, which we may grant here if no-where elfe: But if according to Monsieur Chirac, we compute the Compression of the Muscles of the Abdomen and Diaphragm, and that of the Stomach it felf to be equivalent to 260000 lb. how easy is it to imagin the vast Comminution Bodies taken in must bear, and how much they must be attenuated, and how easily pass the Latteals: Though I cannot believe that the Muscles have this Force they ascribe: If indeed they asted with a parallel Direction somewhat might be faid, but the Obliquity of the Direction must make this a false Hypothesis, as is easily demonstrated.

I have the Honour of a Call to a Baronet, who has for some time had the Misfortune of racking Pains, and continual, all along the Canal of the Uretbra and in the Bladder, he voids Matter, is Hectical, has a Tenesmus after making Water, his

Urine

Urine stops in the middle of its Course, he has a Weight in the Pubes, and Pains like Labour and a continual desire to make Water. From such Symptoms it would be easy to conclude there was a Stone in the Bladder, and an Ulcer, if Dr. C-p-no's Authority had not absolutely over-rul'd it; however, upon search, I order'd to be made by himself, it is too evident to be farther a Doubt. Strange Stupidity, that Persons who have practis'd a Trade for Forty Years together, should forsake their Reason (pardon me the Hysteron Proteron) and rely only to their Senses!

Secreted Liquors in our Body differ in Degrees of Cobasions, Fluidity and Quantity.

Hence all Liquors can be separated through every Gland, if the fize of the Gland be but alter'd. Hence in Icterical People where the Ductus Choledochus is obstructed, the Bile is feen to pass through the Kidneys, and appears in the Urine, as also in the Skin. Laxity then of a Gland, putting a Remora to Motion, will make the Fluid stop there e're it can be secreted; hence that Humour fecreted will be less Fluid; hence Opiates, by relaxing, make the Blood viscid; or the more complicated a Gland, the more viscid is the Juice secreted; for that so many Plica are so many Refistances to Motion, and the less the Quantity of Fluids the flower the Motion, and the more viscid is the Fluid secreted and the more the Quantity; (for that the Blood circulates in the less complicated Arteries, and finding there the less Refistance) the Secreta from thence are more fluid; hence also the Celerity, Cateris paribus, augments the fluid Secretions; the flow Motion, the viscid ones. In short, the Quantity, the Celerity, and the Largeness of the Orifices augment the Secretion of the more fluid Secreta; but the want of Blood, the flowness of its Motion, and laxity of the Fibres, occasion all the Secreta to be more viscid. When therefore there

is a depressed State of Blood, and the Motion is flow, we are oblig'd, to for ward the Secretions as well as change them, to administer all the volatile or ponderous Medicines to amend this Fault; and, on the other hand, where the State is too exalted and the Secretions too fluid, we impede its Motion, and incrassate the Secreta by all the acid, watry, and cooling Drugs used on such Heads. As to the Quantity of the Secreta, it has hitherto been throughly believ'd that Sanctorius gave us an exact Detail of what Quantity of Perspirabile as well as sensible Evacuations were thrown off in a Day, till Dr. Floyer found the contrary in our Clime by Experiments made for that end; so that instead of 50 3 in 12 Hours, 'tis evident we only perspire about 7 or 8 Ounces in that time, which is nearly equal to what is exhal'd from an equal furface of the Sea in our Clime on that space. As to the Measure of the Perspirabile from the surface of the Lungs in the fame time, I found it by a peculiar Contrivance, (I may have Leifure to mention somewhere,) to be 3iiii. Ji. in our Clime. The Propulsion of the Blood through the Lungs being fo near the Center of Motion, and the Varieties of the Air's preffure being so immediately communicated to the Bronchia, as well as the coldness of it, having so immediate an influence over its Secreta, and the Part being so momentous to Life; I am so far from being furpriz'd at their Distempers, that I am amaz'd we shou'd not always suck in Death at this Port.

A Fluid of equal Velocity with another, but of greater Gravity, gives a greater Istus than one with equal Velocity and less Gravity.

So we see in Percutient Bodies, the greater the Pondus, the greater is the Moment; so that the Idus is not from the Moles but the specifick Gravity: Hence if the Question be about Aperients, I look upon Volatiles

and Mercurials join'd to be the most potent; for here you combine a ponderous Drug to one of a nimble Disposition; the two Requisites to make a strong Effort on the Fluids and Solids too.

In Cones the Resistance is least in their Axis: Newton Prop. 35. L. 2. Schol.

Hence 'tis concluded that the Motion of Fluids through Cylinders and Cones find more Refistance at the Sides of the Vessels than in the Middle; so that the Blood is concluded to move faster in the Middle of the Arteries, than at their Sides: So that it is hence said, that the more viscid Parts are at the Sides of the Arteries, for that the Motion being slower there, and the Parts being more at Rest, have more Leisure to Cohere, and are more viscid, the Viscidity being in a Reciprocal Ratio to the Celerity.

Stimuli move the Solids and Fluids; contract and express the Fluids, and exagitate the whole Mass: They are performed by occasioning a mutual Action on the Solids and Fluids.

Whatever irritates, stimulates: Blisters are a notable Example of Stimulation. Where the Solids are put into frequenter Oscillations, the Fluids are hurried about by them with a greater Confusion; because in these we find very sensible Arguments to convince us that they enter the Blood, when we are oblig'd to have recourse to Emulsions, and even Opiates or Camphorates to allay the Dysuries they raise. Is it then reasonable in Intense Fevers to apply 'em? Is it good Practice in Phrenzies? Are they indicated in the Vigour of Instammations? And yet how frequently do we meet with this Mal-practice? But, Populus vult decipi, decipiatur.

Circles only touch in a Point; and a Sphere is touched by 12 equal Spheres in 12 Points only.

Whenever then a Body is spherical, and there is a Congeries of such Bodies, they touch each other in few Points; so that their Cohæsion must be small: and consequently such Bodies will easily ascend by a small impulse of the Fire. Hence 'tis agreed on, that Mercury being spherical, (or as: Gulielmini, Trattato di Fiumi, says, spheroidical,) it more easily ascends in Sublimation than some Bodies much lighter. Yet Doctor Friend observes very well, that if you mix Lead with Mercury, it ascends the easier; for that the Gravity by that Mixture being diminish'd, the Surface is enlarged; and large Surfaces yield better to the Impulse.

All Impulses all with their Excess of Power only, above Resistances. Et Vice Versa.

Hence suppose any Agent act with a Degree of Impulse equal to 6, and the Refistance be equal to 4, then the Moment of Impulse is equal to 2, its Excess of Power. We may then conclude that the greater Excess of Moment, removes the Resistance the easier. Hence is it that Ruptures of the Bloodvessels often happen from the too great Load of Blood, or the Plethora ad vafa; and by a contrary Reason, it often happens that the Pulse intermits; because, as in the Case of Fat on the Auricle of the Heart, the Refistance is greater than can be conquer'd in one Pulsation by the Moment of the Influx of the Spirits. The fame is faid of any Pondus that hinders the Elevation of the Heart: But when fuch a Quantity of Spirits are in the Villi of the Heart, as are more than a Counterbalance to the Refiltance, then it recirculates its resting Fluids.

cheries .

Animal Bodies are Porous: (6000000 % ENTIVOOR όλον τὸ σώμα.)

Whoever confults Mr. Boyle of the Porofity of Bodies, will find that folid Bodies, and fuch as are confiderably denfer than any Species of Solid in human Bodies, admit of Menstrua to penetrate them, fuch as Glass, Gold, Copper, Crucibles, Sand, &c. And therefore we can be at no Loss to conceive that the Pores even of Bones can imbibe Humidities, Humours, and even Mercury, if Authors observe justly. Hence in the Unction we find the Mercury as eafily enter as Spirit of Wine; and therefore we may conclude the whole, with Hippocrates, that our Bodies have expiratory Paffages as well as inspiratory ones, or it would be hard to imagine how Gold should turn white, if held in the Mouths of Persons under a Salivation. and that by Unction (which I mention, to prevent any objecting that the Mercurials given inwardly stick fomewhere about the Jaws,) but that the Gold attracts the Mercury lodged in the Blood.

Dissolvents are so, because of Congruity of Pores, &c.

Hence Refins are best disfolv'd in sulphureous Bodies; Salts and Mucilages in Water; and Metals in Saline Bodies: But as Experience teaches us to know this, give me Leave to mention some few, out of many more behind: Turpentine, G. Hæderæ, Galbanum, Myrrh, Refin of Jalap, Balfam of Peru, Balm of Gilead, and fome distill'd Oils, are dissoluble in the Yolk of an Egg; Alkahest Glauberi disTolves Ungula Alcis specifically; Oil of Anniseeds dissolves Coral; Spirit of Nitre dissolves Butter of Antimony; Spirit of Wine diffolves Mercury fublimate, all Oils, and Scammony; Antimony acts on Gold; Sal, Tartar. acts

on Sulphur; Spirit of Nitre acts on Bismuth; Sulphur on Steel; Lead is wrought on by Orpiment into Shot; Spirit of Wine, with Sal. Tartar. dissolves Oils; Salt Armoniack acts on Brass; Salts melt better in Cellars, than at the House-top; Campbire corrects Cantharides; Salt, Antimony; Mercury Sublimate is dissoluble in Water. And Konig Regn. Mineral. says the same of Arsenick, which is best corrected by Salt of Tartar. Hellebore by Quinces, says Antonius Ludovicus. Hence, whenever any extraneous Ferment is in the Stomach, or the Vessels, whoever affects to cure well, must make himself Master of the several specifical Dissolvents, as well as make the strictest Enquiry into the Symptoms produc'd by them, that he may be able to distinguish how he is to proceed.

Salts alter according to the different Managements of them.

Calcination makes Salts lixivial; Distillation gives us acid Salts; Putrefaction and Distillation affords us volatile ones; Coction gives us nitrous, armoniacal, faline, or tartareous ones. Now we may hence conclude, that Coction being the only Operation nearest to that perform'd in Blood, or rather a Branch of Coction, I mean Digestion; we can have no other Salts fave these 4 last variously alter'd in their Texture. However, that other Salts are materially pre-existent in it; because the feveral Sorts of Salts mentioned can be rack'd from it by the Fire; or how comes it that Spirit of Aunts changes Blue Flowers into a Red, (as does Spirit of Sulphur;) and (like Spirit of Æs Viride) corrodes Lead or Iron, as I remember to have read fomewhere in the Philosophical Transactions. And therefore when we are affur'd by the common Diagnosticks that Salts affect the Blood, we must use proper and specifical Corrigents to one of these; the tartareous and nitrous, give rife to the cold States of Blood; but the great AcriAcrimony of the Salt (whether by our Diet or Medicine, or otherwise) occasions the exalted States: But this being a Subject too copious for my present Purpose to treat on, I leave it to some more curious Enquirer, or till my Leisure will allow me farther Trials. I am apt to believe that our Lameness in the Knowledge of the particular Natures of Salts, has hitherto made Physicians look upon Elephantiases to be incurable: Some of which, however, are not so, to such as know the true Method of specificating the Antidote.

Colours are produe'd mechanically, as are Odours, Tastes, &c.

Colours are said to depend on their Salts: And to know the several Changes produc'd, we must be supposed to have some tolerable Skill in the Tinetorial Art; which at present I shall supply from the industrious Mr. Boyle: Salt-petre and Salt colours Neat's-Tongues red; Salt of Tartar boil'd in Milk makes it grow red; which many look upon to be the Case in the turning Chyle into Blood. A sulphureous Spirit of Benjamin mix'd with Sal Armon. turns also red, which illustrates Sanguisication. But whoever would be knowing in these Matters, let them consult Boyle, &c.

Having said enough to convince any thinking Person how far this Manner of Reasoning is useful to Mankind, I have a Mind to annex some Trials made on human Blood, and some of the Secreta, which I have taken the Pains to collect for such whose Leisure allows them not to make so strict a Scrutiny, which at once will help our Knowledge in the Nature of the Blood, and give them some Insight into the Nature of Medicines.

Serum coagulates on dropping into it Sublimate Water; by Sp. Salt, Oil of Vitriol, Sp. of Wine, and

and Oil of Tartar, per deliq, (fo it does Milk,) by the Heat of the Fire, by Allum, by feveral Tinctures made of Spirit of Wine, with Tinctures of Steel made with Acids.

It remains fluid with Spirit of Salt Armoniack, with Volatile Salts and Spirits, and most Tinctures made with Acrimonious Plants, with Tinctures of Steel (with Tartar.)

Blood coagulates with Oil of Vitriol, with Acids, with Allum, with Spirit of Wine, Cinnamon-Water, distill'd Vinegar. And though it coagulate by it self when let out, yet it congeals sooner with the following Trials; by Extract of Gall, Juices of Hemlock, Alchymilla, Bistort; by Lixivial Salts of Tamarisc, Rosemary, Pulegium, and of Thime.

Remains fluid, with Sp. C. C. ol. Tartar. Sp. Sal. Armon. Sal. Abfinth, Cort. Peruvian. Pulv. or Tincture; with Juices of Lavender, Sage, Thea (made,) Wormwood, Bawm, Succory, Tanfy; with Lixivial Salts of Eruca, Artimisia, Shepherd's Purse.

Saliva drops a Sediment with Lixivial Salts.

Chyle and Lympha coagulate with Sp. Vini, Vitriol, Heat, with the Air; Oil of Vitriol.

Chyle and Lympha remain fluid, with Motion, with volatile and fix'd Salts.

Bile coagulates with Sp. Vin. rectific. Oil of Tartar. per deliq. Crude Allum, Tincture of Cantharides, Cinnamon-Water, Sp. Nitri, Sp. Vitriol, Aqua fortis, Vinegar, White-wine, Fair Water; Sp. C. C. Sp. Salis, Oil of Tartar. Nitrat.

Bile remains fluid, with Sea-Salt, Vitriolum Martis, Salt Armoniack, and Sal. Abfinth.

#### SECT. III.

Of the Danger of drawing Conclusions in Pra-Elice, that are false, from probable Grounds.

THIS is now a-days too common; where the Gentlemen of the Faculty begin to suppose they have reason'd à priori, one would be tempted to believe they deem'd it an Abasement to stoop to notice the Essets: They may pardon me till they hear what I am about to say upon this Head, for that I perswade my self they will then, with me, pass Judgment upon such an unjust and pernicious

way of Reasoning.

Let me suppose, with Sir Isaac Newton, that the Moon does by Attraction elevate the Sea-Water into a Spheroidal: and thus when she is vertical to us (being nearer to us) does attract more strongly. There is not, that I know of, one Experiment to demonstrate that the Air is in any manner alter'd in its Weight by this Attraction. This a late Gentleman has own'd in Terms; and I shall add a Load to the Scale, if he believes it not sufficient to give Credit to the Testimony of one Witness; for having had the Opportunity of observing the Rise and Fall of Mercury in one of Mr. Hawkesby's 30 Inches Diagonals at feveral Tides, I found not any Change that was not accountable for by the present Alteration of Weather. Hence I look upon it as gratis distum; to affert against ocular Demonstration, that the Blood swells, because the Compression of the Air is lessen'd; for if the Blood rarefies for that Reason only, that being evidently false, the Rarefaction built on this Supposition, is but begging the Question: But this Supposition of Sir Isaac's, though it throughly

throughly explain all the Phanomena he would infer from thence; yet is not so certain, but that a late Treatise of Mr. B---w's on the Tides, does equally prove what he advances, tho' he proceeds upon an opposite Bottom, and affigns Gravitation to be the Cause of these Tides: These are the Quisquiliæ Philosophorum, and very little to the Purpose they are mentioned for; fince neither the Gravitation of the one, nor the Attraction of the other, produce any Alteration in the Air's Compression; but the Moon seems to work by a Magnetisim, and leaves it in the same Condition they found it in; nor confequently in our Blood in that Sense he speaks it. 'Tis true, a momentaneous Compression only, affects the Fibres; and they being constring'd, a Plenitude arises, and the Blood moves on faster; but a durable one, also compresses the Blood; fo that the one warms, whilft the other cools us. Therefore Indications drawn thus, appear to me too far fetch'd to rely too much on; and, I hope, when this learned Author does us the Honour he is graciously pleas'd to promise in his Preface to that learned Tract, he will lay afide those foreign Indications; because, to come to the Purpose, Nothing indicates, but what has a fix'd Being in or upon our Body. Now, to evacuate a Plenitude, where there is no Effects of one, would be to contrast with imaginary Evils, and such as have no Existence but in Notion. Had he prov'd by the Ictus, the Space, or Intervals of the Pulse (after fuch Tides,) or by any collateral Proofs, that there was a Rarefaction, or any particular Plenitude; then indeed his Treatife, tho' it would have appear'd a less curious Enquiry to the Vulgar, would have been built upon some Foundation. Nothing then can be concluded on from this Motion, that ought to oblige us to steer our Course by.

I shall add farther, that I look upon a Procatar-Etick Cause to be a slender Bottom for settling an Indication on, because not permanent: And if I may be allowed to fay it, they contribute no farther than to frame a Judgment; but not being any-where fix'd. cannot indicate; nay, on the contrary, these Causes often produce Effects in the Blood, remediable by the individual Thing that gave Rife to the Difease; as we see Dropsical Persons obliged to drink Wine, tho' Wine produc'd it; Persons with Rheumatick Pains from overwetting, are often cur'd by the Immersion in the Cold Bath. In fine, so many flagrant Instances of this kind may be produced, that a Practitioner can be at no loss to find them, fince they occur in his daily Vifits. Hence, by the way, I must take notice that what Baglivi Tays, p. m. 206. must be false: Aliter enim trastare debemus Febrim ab intempestivo frigore, aliter à crapula, venere, insolatione, animi pathematis, aliisque causis productam. And below, p. 206. Nonne in-Saniret Medicus, qui ardentem Febrim à nimia venere productam eadem methodo purgantium, venæ sectionis, &c. aggrederetur, qua ardentes aliis causis ortum debentes aggredi solet? I only answer, Amicus Plato, Amicus Socrates, sed magis Amica Veritas; for I shall endeavour to make it plain in the next Chapter, that all this is uncertain, fince our Indications may be the same in all or any of them, and therefore not always different nor variable, by reason of the external Causes.

There is another who has reason'd too much à priori, in his c. 3. of a Consumption: His Argument stands thus from Data in his Propositions; From any Suppression, arises a Plethora; from a Plenitude, arises a Relaxation of the Fibres; from a Relaxation of the Fibres, arifes a flow Motion of the Blood; from a flow Motion of the Fluids, arises a mucous and viscid State of Blood; from this

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this Viscidity arises a Paucity of Spirits; from this Penury, arises an Incapacity of Dilatation of the Thorax, (and a want of fufficient Air to compress;) from this Ineptitude to Dilatation, arifes a Stagnation; from a Stagnation, arifes an Inflammation; from an Inflammation, arifes an Ulcer, or a confirm'd Confumption And he draws his Indications from this manner of Reasoning, thus: Hence, fays he, the Humours must be render'd more fluid, the Fibres made tenser, and the Phlegm evacuated; fo that we must attenuate, contract, and evacuate. As for Balfamicks, he looks upon them as ufelefs; only they are Stomachicks, if mix'd with Salts. Let us confult fome Authorities upon fo nice a Point; and then I shall reason from Experience in a very different manner. Barbette uses in a Confumption Opiates, Spirit of Salt, and cooling Things, and advises to forbear Purgatives: And Dekkers, upon him, adds Pectoral Decoctions and Decoctions of Colewort, with Sugar of Roses. Sylvius advises Gum-Arabick, Roots of Althan, Liquorice, Comfrey, Leaves of Althea, Mallows, &c. the four Cold Seeds, Quince-Seeds, Almonds, Bar-. ley, Opium, Juice of Liquorice, all fat Earths, and fuch-like. Etmuller gives Milk, Spaw-Waters, Opiates, &c. Morton prescribes Milk, Spaw-Waters, Opiates, and smooth Pectorals, and thin Diet, oleous and mucilaginous Medicines. Sennertus advifes Hume&ants and Refrigerants, fuch as hinder the febrile Temper, fmooth Medicines, Butter unfalted, Milk, and fuch-like. Nicholas Pifo advifes Snails, and Snail-water, Milk especially, and smooth and mucilaginous Medicines. Hieronymus Cardanus commends Oil of Vitriol in Water of Maidenhair. Lucas Tozzi commends Storax and Cynogloss Pills. Borellus praises Butter of Woman's Milk, as a Secret. Valefcus de Tarenta commends Pulvis Haly. Rhasis, Asses Milk. Platerus advises Sugar

Sugar of Roses; so does Valeriola. Riverius advises Milk as the best Remedy, and such as answers all Intentions; Medicines that repress the Hestick and Coolers. Willis advises Flowers of the great Daisie, Snails, Liquorice, Milk, and such-like, Shavings of Ivory, Hartshorn, and China in Decostions. Mayern says the Acrimony of the Humours is to be obtunded, the Febrile Heat is to be temper'd, and Milk to be used. Chesneau advises a Decostion of China and Lungwort, and Milk. Horstius corrects

the Acrimony, and uses Opiates.

I have taken the Pains to bring fuch a Crowd of Authorities, to the End that Practice and Notion might co-incide; because whoever would be a just Practitioner, must go backwards in his Reafoning: And therefore fince I find, by fuch good and grave Men, Confumptions treated in a very contrary manner, 'tis my part to submit to their Judgments, where I have not fufficiently experienc'd the contrary: Let us then fee how, upon fo folid a Basis as the Experience of Ancient and Modern Learning, we can draw a different Conclusion from this Theoretical Gentleman. I fay then that any Suppression may occasion a Plethora; that a Plenitude occasions the Positions of the Vessels to be more direct; from the Tenfion and directer Position, arises a swifter Motion of the Blood; from the Motion encreas'd, arifes a Fluidity and Tenuity of the Blood and Juices; from this Fluidity, arises a larger Secretion of Spirits; from the Quantity of the Spirits, arife irregular Excursions of 'em into particular Parts; from this, arises a Crispation of the Fibres; from this, arises an Inflexibility of the Thorax; from the small Motion of the Thorax, arises a Stagnation; from the Impediment put to the Motion of the Blood, arises an Obstruction of the evanescent Arteries; from an Obstruction there, arifes an Inflammation; from this, arifes an Abscess, D 3 and

and an Ulcer of the Lungs: So that an Evacuation is requir'd; after which Relaxants, Incrassants, and such as clog the Hurry of the Motion, fasting from too spirituous a Diet, Opiates, oleous and mucilaginous Medicines, gentle Aperients of the cooler kind, Bleeding and Balsamicks are all the Requisites in a Consumption; which, whoever has either read or practis'd, cannot but be pretty sufficiently appriz'd of, to need any farther said on this Point.

Mention shall here be made of an Inference made by Pitcarn in his Oration to the University; after having made use of Arguments to shew us that Objects in the Eye could not be observ'd on the Retina (which was no Discovery, as I have hinted above; ) he gravely proceeds, and tells us, that fince it was evident to a Demonstration, that those Bodies that appear'd before our Eyes, had not their Abode where it was commonly fuppos'd, then it could not be agreeable to right Reason to apply Collyria to diffipate what had no Being, and concludes them useless. This, I conceive, (with Deference to the Manes of so great a Man) was a Conclusion too hastily drawn; for let us suppose that these Specks are so many Impediments to the Reception of the vifual Rays, and that they are a Consequence of some Fibrils of the Retina, being bung'd up and obstructed by some Viscidity or external Compression: Is it not certain that the Coats of the Eye are Expansions of the Dura and Pia Mater, and that the Retina is the medullar Part of the Brain? Is it not daily and good Practice to order external Stimulants to Palfied Nerves in other Parts of the Body? Is it not certain (at least ex concessis) that these are so many partial Palsies of the Retina, as there appear Specks? Is it not certain that a total Palfie of the Retina is a Gutta Serena? Is it not certain that the nearer we approach to the Part

Part affected, the more Effect will the Medicines produce? We may then, I think, fafely conclude, that Collyria well adapted are so far from being useless, that they are necessary to stimulate the Coats of the Eye affected, in order to occasion a brisker Oscillation in the Fibres of the Part, and so assist the shaking off of the Obstruction; and consequently when this is done, the Specks will ap-

pear no more.

A Critick is an unwelcome Guest; and if my Design had been to find Fault out of an Itch of Satyrism only, I deserve Returns made me; but the Good of my Neighbour being my sole Aim; and the Treatises mentioned being Works produced by the Labour of Men of Value and Reputation in their Professions, I consider that such great ill Examples lead the rest of the inserior World into miserable and wretched Mis-managements, which are succeeded by the Destruction of Thousands; because the their own Mistakes pro Re Nata; yet such as trust to their Demonstrations cannot: And thus we purchase at the Bookseller's, not the Art of Healing, but the Art of Destruction.

From this I would advise all Practitioners to avoid begging the Question, and affirming any thing contrary to known Experience, but would have 'em proceed with Reason, back'd by Experience, the

only Props a Physician can rely on.

#### SECT. IV.

#### Whence Indications are drawn.

I Hinted above, that nothing could indicate, but what was somewhere fix'd in or on our Bodies; for that external Procatarctick Causes did not al-

ways act on us as they might; and that however if they did, they did not always produce fuch Effects in us, as Conjecture had dictated; and that therefore, to know what Effects they did produce, we were obliged to have recourse to Observations taken from the deprav'd Functions of our Organs, the preternatural Change in the Qualities of ourFluids and Solids, and the Retentions and Evacuations of our Fluids. I would not have Physicians terrify'd from Enquiry into these permanent Effects; for that Mr. Boyle has affirm'd, that the Causes of Diseases are not yet affign'd, Philof. Experimental. On the contrary, with leave of fo great a Man, I do'nt find but they are; and whoever confiders what I am about to advance, will be fenfible they already are: However, the Diagnosticks of such Effects are not thoroughly afcertain'd, nor ever will. You will pardon my confounding the Words Effects and Causes; but I say with Mercurialis de Morbis Pueror. 1. 1. p. m. 13. Morbus dupliciter spectatur; Morbus ut Caufa, suos babet Effectus; ut Effectus, suas babet Caufas.

I shall begin with Plenitudes; and I take them in an extensive Sense, not as a Plenitude ad vafa and ad vires only; but where-ever there is any particular Repletion, any Stagnation, any Compression of and from Humours, I look upon them all to require the same Mechanism in their Cure; for that Quod plenum est, evacuari debet. Galen. i. I. Aphor. Comment. 23. Martin. Wendelinus, 1. 3. Axiom. Medic. Axiomat. 780. So that where-ever a Part or the Whole is loaded with a Quantity of Fluids, we must there evacuate. This holds true in external Cases, as well as internal; for in Gangrenes, where the Part is diffended with Humours, and there is an Impossibility to recirculate the stagnating Blood, we must scarify, to evacuate the Plenitude; which being taken off, the Remainder in the Part beyond

and below the inflam'd Member begins to obey the Motion of the propelling Impetus; and (if no great Alteration is produc'd in the Part) 'tis after this Method eafily amended. So if we discover the Head to be overloaden with Humours, as is commonly evident, because 'tis καρηβαρικόν, καταβριακόν, and κωματώσες, according to Hollerius and Duretus; we are then to confider whether this Repletion be from a pure or an impure Plethora, and we must accordingly fuit our Evacuations. We must then say, that there are two forts of Evacuations, Instrumental and Medicinal: To the First are referr'd the Paracentesis or Apertion, in any Sense: To the latter all the Stimuli, which not only have an Effect on the Stomach and Intestines, but also on the Vessels and secretory Dues; fo that the Shock and Irritation give an Uneafiness to the Glands, and squeeze 'em by their acrimonious Parts to Evacuations, as does the accidental Shock given to several of the Viscera, when, for Example, an Emetick given, opens Obstructions in the Gall-Bladder, and shakes off the Load of Phlegm from the Bronchia in Asthma's: To this Head is referr'd Riding in Afthmatick Confumptions; for, to speak Truth, Dr. Sydenham can mean no other, when he advises Riding in such as are even much spent. My Bounds will not allow me to expatiate farther on this Head at present.

An Atrophy is an opposite to Plenitudes; and I would be understood to take this in as large a Sense as I have done in the former Paragraph; so that where-ever there is any Defect of Juices in General or in Particular, the Business of a Physician is to fupply fome amicable Specificks, in order to restore the Want; where no Evacuations can take Place, but only fuch Alterations as are of the fame Nature with the Juice or Fluid to be Supply'd. So that here we are suppos'd to be Masters of the Nature of fuch Juices, or we can never all the

Part

Part of a Phylician, in amending we know not what: I would not, however, be understood to ask an Impossibility of any Agent; and therefore fince there are feveral of the Fluids in Human Bodies, whose Natures we are very unsensible of, à priori; because they fall not under the common Method of Experiment, fuch the Spirits are; yet 'tis enough to a Practitioner to know the Nature of 'em. à posteriori; and fince we find them recruited by certain nimble Agents, we are, however, look'd upon to be sufficiently appriz'd of the Nature of such, when we administer such as Experience has found out, by a patient Series of Tryals to Supply 'em; to that when they are wanting, we give all the Cordial Medicines, fuch are volatile Spirits, Aromaticks, and volatile Oyls, given in fuch Quantities as may fupply, but not add any Exotick Quality that may contrast with any Contraindicating Cause: So the Semen is supply'd with such Particles as anfwer its double Nature of Mucilage and Acrimony; hence we give Oysters, Pepper and Milk, Spanish Wines and Yolks of Eggs, Chocolate, and fuch-like Drugs.

The Defect of Ferment in the Stomach, is supply'd with Mucilages and Acids join'd; such are Elixir of Vitriol, and warm Jelly, and such-like. As to Old Age, whoever falls under a Decay of Spirits, are properly old; and therefore that mighty Ensmelisse of Mr. L' Febure's can be no otherwise serviceable, than that it is a great Restorative of the Spirits; which, however, I leave to every Man to judge whether it will do the Feats they pretend. The Difficulty of supplying the deficient Fluids is not so great a Secret as the Discovery of such Defects, which, if Time allow me, I shall endeavour

to illustrate in a proper Season.

3. The Blood is often stock'd with Exotick Qualities, which constitute the different States of Blood,

and which Justice has been done to, by the Ingenious and Laborious Dr. Floyer: In the depress'd States of Blood, where our Heat is below the Standard, if there is a Lentor, all the Bitters, Aromaticks, fixt and volatile Salts are indicated, Chalybeats are good, Mercurials are here proper too; Riding is profitable. I here wou'd Remark one Thing, because I have often found Practitioners in fome Mistake about it. When Pains seize a Patient and wander about the Body, but yet have no Heat along with them, that is, not Natural, or are not plainly Convulfive, I have feen difmal Confequences from Bleeding frequently in this Case; for that Dropfies have enfu'd upon it, and they have only chang'd a less Disorder into a much greater. If these Gentlemen would but give themselves the Leisure to reflet, that the Blood being fluggish, and resting at the Capillaries, gives Rife to these Pains, they would then judge, that volatile Medicines would cure the Patient very eafily, and fave them their Reputation

Retention of any Humour that ought to have been thrown out of the Body, we must give the Alcalines of all Sorts, whether testaceous, fixt or volatile, Chalybeats, and whatever will rob the Blood of this obstinate Guest, which generally attends the Hypochondriack Persons. 'Tis yet an easier Task to the Undertaker, when the External Causes have sour'd the Mass and Spirits, than when the Passions of the Mind have deprav'd them; because it is easier to deny them what is hurtful for them, and forbear to give them such Fare, than to bridle an irregular Passion which attacks them unseen and when alone; and it would not be easy to conceive how an invisible Form should so disturb Matter,

but that it occurs in daily Practice.

When our Blood is too Serous and Fluid, all Absorbents of the Testaceous kind are useful, Cerus of Antimony, all Diaphoreticks and Diureticks, all Bitters, Petasitis, Guaicum, Sassafras, Juniper-Wood, Mustard-Seed, Horse-Radish, Pulv. Æthiop. and such-like, are proper to correct the too watrish and lax State of Blood, and carry

them off by the Pores of the Skin or Kidneys.

Wind is the Produce of all vitiated States, and is carried off by the most powerful Inciders, such as volatile and oily Salts, Aromaticks in Pouders, Infusions, Waters, and Oils, Ginger or Castor in If the Wind is rais'd from an acid State of Blood, the State from whence it is produc'd being hard to get rid of, the Wind arifing from the Fermentation of that Humour in the Stomach is also difficult to cure. I remember a Lady of Note, who, for a confiderable time, had been troubled with a Swelling or rather a Fulness at her Stomach, which she could not be cur'd of by her Physician in Ordinary; upon Application to me, I did believe it was Wind, and proceeded on in fuch a Method for fix Weeks as I judg'd might have been effectual; but to my furprize, at the expiration of that space the was as full of Complaints as at first: By the Obstinacy of the Disease, I had just Reason to sufpeEt that this was an acid Wind, if I may so term it, and therefore I gave her Antimonium Diaphoreticum in Juleps, which in a Fortnight's time perfeelly reliev'd her, and she return'd better satisfy'd than I was.

I must here remark once for all, That all saline States, whether acid, nitrous, salino-sulphureous, salino volatile) or any species, whatever of them are cur'd, as Bohnius observes, by Watry Drugs, Terreous, Testaceous, Gritty, and Martial ones, alcalized Salts whether urinous or fixt, Aromaticks and Bitters, also by oily, mucilaginous and gelatinous Medicines:

dicines: fo that if we are ignorant of the peculiar nature of the Salt offending in the Mass, yet we are not at a loss to be doing somewhat to the Purpose, till some Chance let us into this Secret.

Hence when we labour under Diseases that can be afcrib'd to any one or more of these Heads, we must follow the Rules that are hinted at below in

the Edodia Medicorum.

If the Blood be hotter than it should naturally be. fo that the Laborants are always Hectical, by having their Pulfations more numerous in a Minute than they should, along with a preternatural Heat in their Bodies, but most perceptible in the Palms of the Hands and the Soles of their Feet; then we are to confider whether the fixt or volatile Salts reign most, or whether the volatile Acid is predominant; not that I suppose them really such, but I speak ad apparentiam; for that we find by daily Experience that Acids amend the one fort of hot State of Blood, and gentle Absorbents, as Pearl, Coral, Crab's-eyes and fuch-like are profitable in the other: But, as I observ'd above, in both the Diluents, &c. agree. by Dipolomes of Jahr of wer Rind tower

As to the Flatus produc'd by these hot States, as they are from a more volatile Cause, so are they more impetuous in their Effects. We suppose Convulsions, Mania's, Vertigo's, Incubi, and fuchlike Diforders to proceed from this Wind; we therefore give, in fuch Cases, Opiates to repress them. and in some Cases Spirit of Niter is a good Medicine: But 'tis enough to have hinted at these States in fo short an Essay. If we are guilty of that Ignorance Etmuller (Anotation. Practic. ad Institut. Medic. Physiolog. p. 82.) Itoops to acknowlege; I cannot fay how far his Advice squares with Reason. fince Patience and Vigilance perhaps would better

ferve the Turn.

Fevers are the Destroying Angel of Mankind; and a thorough Knowledge of them is a compleat System of Physick. They ape a Plenitude, in that they are not cured but by Evacuation, and the Medicines us'd in their feveral Species are but Preparatives to fit them for Expulsion. But I speak with reference to a precedent Concoction shew'd in the Urine after the State, whose dropping a regular Sediment (by which I exclude the segu avallapayμένον, and the κούς ασις κριμνώσης) is a good Sign, if it continue steddily so. I shall not expatiate here farther, than to divide them into a Causus, and a hectical or malignant kind. If the Blood boil, (pardon the Term,) and over-bear extravagantly, let the Time of the Fever be what it will, nay, let it be what fort of Fever you please, (always excepting a Plague,) you are obliged to give the cooling and diluting Diet and Medicines to allay the Fever, by disjoining the Salts; fuch are Barley-water, Juice of Lemons, Gas Sulphuris, Sp. Vitriol. Sp. Nitri dulcis, Emulfions, (unmix'd with Acids, for Fear of Precipitation,) and fuch-like. You ought not only to ascertain the Nature of the Medicines that alter this Hurry; but you are oblig'd also to be careful to fix on what Degree and Quantity you must not exceed. In which Affair I believe a Thermometer might be of Use, supposing we knew what was their Degree of Heat whilst in perfect Health; otherwife Experience only can be your standard Rule. I have binted this, in order to warn the young Gentlemen of the Faculty to keep in Mind, that in all Fevers (still excepting the Plague) you must reduce them as near to the natural Heat (they us'd to be of, when in Health) as you can, and keep them to it so long as till the Fever is dismiss'd through some Emisfary. Whenever the Fever is of fuch a Species, that the Blood moves on too flowly, respectively fpeaking, we then are obliged to steer another

Courfe,

Courfe, and in Proportion to the Degree of the defective Ebullition, we must advance it by all the Testaceous, Bitters, Fetids, fix'd or volatile Medicines. internally administer'd, or externally applied, till it arrive to a certain Standard, fitted for Expulsion. the Ignorance of which is the Bane of the Patient, and an Opprobrium to the Physician. In this Species then, Coral, Crabs-eyes, Pearl, Serpentaria Virginiana, (with Bole, &c.) volatile Salts, and the like. Blisters and Suppedanea externally, are prescrib'd. shall annex a short Explication of Hyppocrates's Aphorism 29. Section 2. and bid adieu to this copious Subject: Incipientibus morbis, si quid movendum videtur, move; vigentibus autem, quiescere melius est. Where there are any Signs of a Turgefcence, (as where the Humours [ op[80]] run impetuoufly, and are like to fix npon any noble Vifcus; where there is a Tenuity and Separation, where there is any Malignity or Pestilence, and where they are plentiful,) then Evacuations are requir'd; only remember that fuch Purgatives are not to be given in any time of the Fever, as may produce any Effeets beyond the Canal of the Stomach and Intestines. The Reason of which is so obvious to any thinking Person, that I need not annex it. You fee I have chalk'd out the Reason why I have always excepted the Plague, from the Management above named: But I shall add, that where the Humours in fuch a Difease are so thin that they will not cohere, the Spirits are in the utmost Danger of Evaporation; as in the contrary State, where the Humours and Blood cohere fo violently, that they are immediately render'd incapable to obey the Propulfion of the Heart, there is no leifure for Preparatives, and the limits of our Choice are wonderfully narrow'd; fo that the Procedure must of Course be hasty, and they are best expell'd with specificated Diaphoreticks, by the Consent of all Ages.

Ages. As to the particular Fevers, they are all terminated Criticando, (to use Cornax's Term:) So that each Place has its particular Port for Evacuation; the Head by Hæmorrhages; the Vessels by Sweat;

the Uterus, by the Menstrua, &c.

The Discovery of the Bark of Peru has furnished us with an Indication never till then dreamt on; which I may call a Period, though I mean the Remission of that Period only. So that not only Intermissions of Agues, and the Remissions of Putrids, but also periodical Disorders, such as Convulsions, dry Asthma's, and Epilepsies, receive Advantage by the Administration of this Drug; and all Evacuations of Humours that depend on a Febrile Ferment, such as Hamoptoe's, the immoderate Flux of the Menses, and such like. But this being so undoubted and so known a Truth, I shall proceed to another Head.

As the Laws of Circulation now stand, we often are obliged to have Regard to the Hurry of the Humours, (abstracting from all other Considerations,) with a wrong Determination.

Where they flow with Violence to any particular Part, so as to endanger the Patient's Life immediately; as we fee it happen in all forts of Irritations. fuch as Pains, Coughs, Eruptions, Convulsions, Diarrhæa's, and fuch-like. In all Inflammatory Obstructions, fuch as Pleurifies, Ophthalmia's, &c. In every Anomaly, fuch as Retreating Gouts, Itches repell'd, &c. In Insalubrious Metastases, &c. In all these, and such-like, one constant Indication is turning the Current of the Motion to an opposite Goal, which is done by the proper Stimuli applied or administer'd according to the following Standard, viz. by an universal or a particular Revulsion; when the Notion offends in a violent Manner, the larger Vessels are to be open'd on the contrary Side. the

the Motion is in some measure allay'd, Derivation (or Revulsion to a near, though contrary Part) is sufficient; and when the Humour slows in no more, but is impalted in the Part, we must then use particular Evacuation (such is opening the Vein of the Forehead in a Pain of the fore-part of the Head.) As to the Number of Ways this can be done; as to the Cause of this vitiated Motion of our Fluids; as to the particular and specifick Stimuli; as to contra-indicated Revulsives; as to the Seafon of using Revulsives; as to Rules and Season of particular Evacuations; I hope 'tis not expected I should now detail them.

There is an opposite Fault in our Fluids to what I come from mentioning; and that is, they frequent ly are defective in their Motion, and are suppress'd (Quiete & Motu Intermisso, peccant Humores.) This the Ancients call'd a Defect of the Expulsive Faculty. I shall not enter upon the particular Causes of this want of Irritation; but shall content my self to mention the general Methods of remedying this Rest, which is always perform'd by Irritation. But as each Part has fome Conditions annex'd to produce this Change, so one Specifick here will not ferve the Turn; but in Astriction, all saline, bitter, and other Encoproticks are requir'd. In a Retention of Urine, the different Species of Diureticks are to be given, and the continent Cause is always remov'd by a Catheter. In a habitual Vomiting Suppress'd, gentle Emeticks, or what will carry it downwards. In a Suppression of spitting of the Lungs, all the inciding Pectorals, fuch as G. Ammon. Flor. Benzoin. Extract. Croc. Milleped. Tinetur. Sulphuris, &c. In a Suppreson of the Menses or Lochia, all the Emmenagogues. In the Hamorrhoids suppressed, all the irritating Glandes; nay, sometimes gentle Causticks rubb'd on such as Fig Leaves, &c. In Ulcers Suppress'd, Causticks, Bli-**Iters** 

sters, &c. near the Place, as also Netling, &c. This I look on to be enough to give us a Notion of this Head; and therefore I draw my Hand from off the Board.

There is yet one thing remains unmentioned, and that is Adhasion of Humours to a Part: And as it proceeds from this, that whenever any viscid Particles expos'd to the Air lose hourly more of their Humidity, and turn into a Crust at last; so they are never loofen'd without the oleaginous Medicaments. This holds true in our Earwax sticking close to the Meatus Auditorius, where, by Injections of oily and emollient Medicines, 'tis at last loosen'd, and thrown out. So it often happens in dry Constitutions that the Faces stick close to the Plice of the Intestines, which are best and fafest loofen'd by oily Medicines, (by the Mouth and Anus.) This is yet most of all remarkable in the Lungs, where the violent Adhasion of viscous Phlegm requires vast Force and frequent Impulses to shake it from the Fibres it strongly adheres to, and which is not in this Case promoted one lota by the Inciding Medicines in the whole Materia Medica; nay, it were well if I could fay they did no Prejudice in this fort of Adhasion; but once let them take plentifully of the oily Lindus's: They glib the Orifices, and by leffening the Adhasion; the Spit, which before fatigu'd the Patient almost to Death, obeys each Shock of the Breaft and Lungs, and comes eafily up.

Having thus in short given you a Sketch of the Indicants that naturally arife from the Confideration of Fluid Parts, I shall proceed to give you a little

Detail on the Confistent and Solid Parts.

Though it be a great Truth that the confistent Parts only are vitiated secondarily from the Vitia in the Fluids; yet it is not my Business here to dispute how the Parts come to be affected by fuch depraved Juices, for that Physicians are never called on

to prevent fuch beginning Vitiations; and therefore

I shall here only consider them already bred.

When any Mouths of the Vessels are open'd, or even eroded, there arises an Indication to make use of all Stipticks or agglutinative Medicines, and if external, of Cathereticks, to shut and contract, or crispate the Orifices. Whatever Medicines have not some one of these Powers, their Operation then is only accidental: So that Crabs-eyes or (which is more porous, and more effectually works, as 'tis specifically lighter) burnt-Hartshorn can only curb a Diarrhæa, as they absorb the Humidities or Acidities that occasion this Irritation and Evacuation Having follow'd the Advice of a great Man in using a Suffitus of Calx viva on Vinegar in an Hamoptoe, (where all Medicines prov'd ineffectual, and where the Stream was fo copious, that immediate Death must have been usher'd in by it,) with a surprizing Success; I begun to make Inquiry whether the Steam were not some-what catheretick, or what other quality it acted by; I found that there was a Stypticity when Lime and Water were permitted to evaporate into a Recipient. And as to the Vinegar, there is no Question how much its Spirit, though diluted with its Phlegm, is stiptick: But I can hardly believe but the Ebullition had fnatch'd up fome small Particles of the Lime it self, which made it so immediately successful. If I am ask'd how Riverius's Mixture of Sal. Absinth. and Succ. Limon. as also how Opiates, and several other Arcana, made use of in Evacuations, produce their Effects, if the above named should (as they do often) fail? I shall answer 'em, That Diseases seldom are the fame in Individuals, and that I am now only mentioning Indications separated and abstracted from any complex Idea, and leave each to his Reason to guide him in the Necessity of Choice.

It sometimes happens that Fat or Some fleshy Substance, such as Polypi in the Heart or Arteries, bung up the Passages irremediably; for where they are External, if Discutients and Emollients fail of their Effect, corroding Medicines, or the Knife, or Fire, will eradicate them; which, however, are fafest neglected where they are affix'd to any Tendon or great Artery: So the Cauda Equina and Tentigo in Women are either dispersed; or if more fix'd, then Burnt-Allom or Agyptiacum are good, or the Knife (which is more eafily done, to the Timorous, by a Horse-hair ty'd a-round it.) If Fat stop the Circulation about the Heart, the only Relief, which is very small, is knocking the Breaft after a full Inspiration. Forestus commends in a Sarcoma of the Testis, Ciner. Sermentac. Nitr. aq.

imbut. & induct. L. 26. Obf. 18.

If the Parts unite that ought naturally to be difjoin'd, we must take a short View how far they are remediable. I remember to have feen a Child which I was call'd to, who pass'd the Meconium through the Vogina, the Anus being imperforated; I began to consider whether the intestinal Dutt was continued to the Foramen, or terminated at the usual Place of Perforation, which I look'd upon to be the Cynosura, to determine me: As far as I remember, I believ'd the Sphincler terminated at the Anus, and I did accordingly give the Surgeon Directions to observe narrowly whether the Aperture might not be made there : What was done I never had a fecond Opportunity to observe. But I must add. that whereas it is commonly faid (without any Restriction) such an Imperforation is not to be medled withal; I must beg leave to diffent from these Gentlemen; for if the Sphincler terminate at the Anus, and the Canal be no part of it, nothing can be safelier attempted; and if it be a part of it, yet 'tis not very difficult to contrive an easy Method to accomplish

accomplish the Task; which I shall mention, if ever I have farther Leisure to put my Papers into Order. Under this Head the Adhasion of the Lungs to the Pleura is to be consider'd, which can be remedy'd, if not too strong, by the violent Motion of the Arms, and Breast, strong Expirations, and oily Medicines internally; unless you are willing to follow Hyppocrates his Advice in the matter, in opening at the Point of Adhasion, and by thrusting in a Pipe, to which a Bladder is six'd, and blowing up the Bladder, to destroy the Coalescence: But having hinted at this, I shall pass to another Paragraph.

An Atonia, or a Laxity, is the Basis of many Diforders, as the learned Baglivi has fufficiently made out in his L. de Fibra motrice, 'tis reliev'd by all the Aromatick and Stiptick Drugs; the first of which evaporate the Humidities, whilst the others contract them into a narrower Compass: 'Tis upon this Head Biondi's Pills have been found a mighty Secret in the Vertigo: 'Tis for this fame Reason that the Tinctura Luna is so useful in the Loss of Memory: So in the Relaxation of the Phrenick Nerve, we find Stipticks advis'd, and even an Injection of them after Section. The Laxity of the Glands of the Uterus in the Fluor Albus is reliev'd by the abovenamed Medicines. The Turks. after their Bastonading, find Alcanet a sovereign Remedy. If a Softness of the Juncture of the Sutures in Children remain long after the Birth, 'tis amended by Aromaticks, Sulphur and Nitre. In a Tympany (which I take to be the Hydrops Epiploicus, and which I have upon Diffection feen,) where the Danger is in spilling the Contents into the Cavity of the Abdomen, which turns it to an Ascites; for as a Vomica is less dangerous than an original Phthisis, because the Cystis the Matter is contain'd in, is between the Lungs and the Pus; fo a Tympanites is less sudden than an Ascites, where the Tunicks E 2

nicks of the Omentum keep the Lymph from immediately affecting the Viscera. In a Tympany, I fay, to hinder this Effusion, we find Vitriolum Martis commended internally, as also Spir. Sal. Coagulat. in Aq. Ceras. nig. C. and externally cool Fomentations of Nitre and such-like; we also find Lusitanus L. 2. Obs. 48 commending the Spaw's near Liege, which, whether he means the Savinir or Paubont, have a Stipticity in them as they are Chalybeate; and modern Experience instructs us that our Tunbridge-Waters are useful in this lax Habit, which disposes to a Dropsy. But enough

of this Head.

The next Head is Obstructions, which was us'd (to any who has been vers'd in reading the Antients) to be the Afylum in all unknown Distempers, and to fay the Truth, modern Physicians fall little short of the same Fargon. It is to be own'd the commonest Cause of these Disorders, but not the only. The feveral Tumours depend on this Head; fo do Apoplexies, Palfies, and fuch-like: So that Volumns are compil'd on this one Indicant, all which are a Crambe repetita. In general, all the fixt and volatile Salts, all the acrimonious and bitter Plants, all the heavy mineral Preparations are here ufeful; fuch are Sal. vol. oleofum, Sp. C. C. &c. Sal. Genist. Funiper, &c. Rad. Raphan. rustican. Gentian, &c. Æthiops mineral. Chalybeates in Filings or Infusion, Antim. Diaphoretic. &c. Sem. Sinap. &c But as it depends on a State of Blood producing it, and in this fense is a compound Indicant; if then it depend, as Baglivi observes, on an exalted State of Humours, where the Fibres are therefore obstructed, because wrinkled by the excessive Heat, we are accordingly oblig'd to act with a complex Intention to open, yet cool; which in themselves are a feeming Contradiction, yet eafily reconciled to daily Experience. In this Case 'tis observable, that

that Spaw-Waters that are Chalybeate, cool; and yet deobstruct gently in Palsies from Bilious Cholicks; and I have in this Case seen promising Effects from Vitriolum Martis, Sal. prunell. and Decoctions of Santalum. In external Cases, Repellents, Discutients, Emollients, and Suppuratives are the Complement of Applications; but where the Impastion is strong we proceed to Sinapismi, Blisters, Causticks, Apertion, and Section; particularly where the Obstruction is total; so that none of the Juices can recirculate, as is the Case of Gangrenes. Should I annex all the Cautions hereunto belonging, it would swell into more Pages than I have Leisure to write; and it must be consider'd that this is

defign'd only as a Sketch of a larger Tract.

The Stone of the several Parts of our Body, is an Effect that deserves a serious Discussion; how they petrify we need only confult the feveral petrifying Waters, and confider what is observeable in them. I remember about 17 Years ago to have met with one of this kind in Northumberland, on the South-fide of the River Alne, over-against a Place call'd Hawkwell near Alnewick; where, from the South, there runs a Rivulet into the River; 'tis towards the East-fide of this Brook, about One hundred Yards or two and upwards on the Bankfide, there I remark'd the Fountain perfectly clear and fweet, and in running down it leaves jelly'd Icicles, and all the little Plants in its Way are crusted. with Stone: If the Particles of Stone in this Water were not very minute, they would fubfide and be visible; but being, as I may fay, in folutis principiis, they cohere in their Course into a Substance, which, when the Humidity is perfectly exhal'd, is Stone: Upon Coction of two Quarts, there were not a Grain or two Weight of a white Sand at Bottom. 'Tis doubtless thus in human Bodies that Stones cohere, and as the Heat in Bodies E 4

dies helps to exhale, and the Remora's to Motion make them approach, they fooner harden, and turn to Stone. I can fay little farther to the Preservative's, than that Bitters, and fuch as will hinder Congelation, may probably concur to make this Lapidifick Matter pass off in Solutis principiis: 'Tis faid the Indians never heard of fuch a Difease, and that this is owing to their drinking of Thea; but I believe I may add that there may be fome Doubt that our Waters even in Thea-Drinkers are not quite fo clear of stony Particles as theirs may be; but this being Conjecture, I leave it. Whenever the Stone has no Pallage for its Expulsion, nothing can follow but inevitable Death: But in fuch Places as we can reach it, a double Indication arises; the one is glibbing the Passages, and the other is giving a shock to the containing Parts. But the first belonging to another Head, I shall not anticipate my Observations, but here shall remark that Emeticks, Catharticks, and Diureticks, Sneezing, Riding, Jumping and fuch-like, are what expel it from the Kidney's; in the Bladder, Diureticks or Lithotomy; in the Stomach, Emeticks, Catharticks, and acid Lethontripticks; and in short, Expellents in all Senses. I cannot pass by one Observation of an ingenious Phyfician, whose Practice my Father had for some Years the constant Infight of; he told me that the Doctors Preservative against the Stone. was, common Salt for Breakfast; which Helmont alfo praises.

Many and dismal are the Essets of Worms; so that Pecblin, p. 160. says, Nullum tam peregrinum esse symptoma, tamque Daipwianov, quod vermes excitare non possint; the Cure of which Morellus tells us, is thus perform'd, Quacunque qualitate vel manifestà ut acrimonia, amaritudine, salsedine, vel aciditate, quos sapores lumbrici fastidiunt, vel occultà potiuntur, are such as kill them: Hence Juice

of Lemons, Sp. Sulphur, Salt, Sem. Santonic. Æthiops miner. Corallin. Ens Veneris, &c. in what Forms best please the Patient; after which expel them with proper Medicines. It would be proper under this Paragraph to mention the peculiar Remedies, but that the Brevity of this will not allow of it: For other Live Animals, such as Leeches anywhere, they are best kill'd by Salt-water: For the Ton and Dracunculi, they are not the Produce of our Clime, nor can I stay to instance farther of them.

The next Head I am to mention, is, Extraneous Bodies plac'd within us, or on the Surface of us: And altho' I spoke against Indications taken from Procatarctick Causes; yet, I must here add, that I then only spoke of the external Procatarctick, and not the internal. I am fenfible that Poisons have a complex Indication; yet, I believe it will be pardonable to omit that Nicety, and speak of 'em all under one Head, and not separately, as I design'd to have done. It is remark'd in general, that they are carried off by that Port they entred at: After which you are to specificate the Antidotes, so that Antimonials, after sufficient washing of the Stomach, are to be precipitated by a little Salt, which effectually curbs any farther Effects from them: Arfenick requires Sal Tartar; Mercury Sublimate alcalines, but more especially (being soluble) in warm Water. A good quantity of that given, washes it off, and takes off all Effects from it. I must add, that great Haste must be made in such Cases; so that Arsenick, after 3 or 4 Hours, is irremediable, as I had the Experience of, in a poor Miscreant, who believing the World was weary of him, took a Dose of this Poison at Nine in the Morning; the Apothecary who fold him it being call'd, defired I would favour him with my Affiftance, at One: We gave him Diluents, Oils, and whatever we had near to us, to make him vomit plentifully, which he did; and having

having view'd narrowly what he threw off, and having not been able to observe any Particles subfide; we then gave him Sal-Tartar in Water, and made him drink of it in a plentiful manner, but in vain; for he began to have violent Tremors upon him, and dy'd convulfive at Nine next Morning. Upon Opening him, 'twas observable that the Stomach and Intestines were so tender, that they would hardly bear the Touch without tearing; and the Vomiting and Washing made it plain to us that there was not the Quantity of a Grain of the Arfenick on the Stomach and Intestines; but they were gangren'd in many Places to the breadth of a Shilling, which appear'd the plainlier, because all the Mucus was thrown off. There is one Quare to be propos'd; I remember that Konig, in his Regn, Mineral. fays of Arsenick, that 'tis soluble in Water; if so, 'tis much this Fellow should not have been cur'd, who, immediately upon taking the Poifon, laid himself flat upon his Belly, and drank what he could bear from the River itself. As to the Bites of Poisonous Animals, you are oblig'd to fcarify, burn, and whatever will call out the Poifon, fixt then only on the Surface, and give all the proper Alteratives internally.

Whoever have the Misfortune to have only Share of the Poison evacuated, often suffer for it all their Lives afterwards; an Example of which I remember to have seen in an Italian Soldier at a French University, who had been bit by a Tarantula; every Summer he was seiz'd with a Return of the same Symptoms, as if he had been newly bit; so that in the Year 1693, he sunk down as dead, whenever the Guitarr was not play'd on; and at beginning of the Tune again, he stretch'd himself, and gradually rose, and frisk'd and danc'd after an odd and awkward manner; which, I do assure you, little pleas'd me; and thus he continued for Seven or Eight

Eight Days, till a Jaundice appear'd, and clear'd him of his Malady for that Year. As to other extraneous Bodies in the Eyes, Ears, Nose, Vagina, and other Parts, I hope the intended Brevity of this Book will plead me an Exemption of farther Trouble on these Particulars: Only I shall note, that Essets of venemous Fumes are here also to be amended; so that we may correct Mercurial ones, by six'd and volatile Salts; those from Lead, by a Tincture of Hadera terrestris, says Mr. Boyle; those from Coal-Mines are prevented by a plentiful Assusing Assusing the Salts, and so of the rest.

As for the Want of any Member, there is no Remedy, fave fome mechanical Inventions for fome few Cases, such as Glass-Eyes, Spring-Arms and Legs, unless some Talicotians will plead for farther; but where any internal Part is cut, such as a Nerve,

there is no Remedy.

Where-ever the Parts are larger than naturally they should, where I would be understood to take the Word large to denote any Increase of Dimension; in such a Case Stipticks, Ligatures, and such things are made use of: So in a Mydriasis, Forestus advises Roses, Mint, Spikenard, &c. Pomphilix acacia, &c. for Troches; so in the Pñyma an Injection of Stipticks are advis'd; internal Aneurisms, whether of the Lungs, Neck, Testes, or elsewhere, Terra Japonica is commended. In the Cole longiori, Hildanus commends an Invention which you may see c. 6. obs. 61. So in vagina largiori, Nascalia of Stipticks are of Use to hide a Crime, or add a necessary Condition for Propagation.

The Teeth are fil'd if too long; and Faults of the Eyes fall under the Confideration of Spectacle-Makers; and Dr. Musgrave well observes, that Apoplexies arising from the Vessels of the Head larger than

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than by Nature they should, are help'd by Stip-ticks.

But where the Parts are less, shorter, tenser, harder, or thicker than they should by Nature; soft, oily, and emollient Medicines are here requisite; so that the Density of the Membranes of Infants is to be aided by giving internally oily Medicines, (and sometimes the Nails and Knife.) The Hardness of the Skin often hinders the full Eruption of the Small-pox, in which Case, whoever will give himself the Trouble to turn over the Antients, will find 'em advising softning Internals and Topicks.

A Hardness of the Veretrum (Cornu instar) is cur'd by Emollients and gentle Discutients in Lusitan. 1. 2. Obs. 106. The Crispature of the Lungs in Hereditary Consumptions is best provided for by oily and smooth Medicines. The Hardness of the Os uteri internum is amended by greafie Unguents and emollient Fomentations. The Constriction of the Glottis is help'd by an Application of Milk, Yolks of Eggs, and Sugar, according to Barbette, Anatom. Practic. c.4. The Inflexibility of the Os Coccygis in Old Women, which much impedes an eafy Labour, is, according to Sylvius, p. 552, amended by a Suffitus of Roots of Althra and its Leaves, Mallow-leaves, Tops of Melilot, Fanugreek, and Line-feed in Water. The Smallness of the Ureters is affished, as I have often experienc'd, with emollient Baths, Glysters, Linetus's, and external Unctions; and if the urinary Passage, or the Orifice at the Sphintler be less than usual, if these Medicines have not their Effect, then Recourse may be had to Mayern's or the Egyptian Method. If the Parts be so tense that they are us'd to crack, as it often happens in fiffur'd Breafts, or in Women with Child, then oily Medicines are the Advice of Bonetus and Etmuller. Thus I have given a Sketch of this Head.

When

When the Site or Connexion of the Parts are chang'd, Reduction is to be attempted by feveral Methods; so in the Iliac Passion the Complication is unty'd by Mercury in Substance, or the Bellows. or the Operation; so the Lordosis and Cuphosis are cur'd, if fresh, by Extension, and as in ordinary Laxations: This being mostly the Province of Surgeons, I shall only add some few, but useful Remarks on the Variety of Births. In all Postures from the Vertex to the Acromium, you are to deliver by the Head: In all Postures from the Acromium to the Feet, you are to deliver by the Feet. Whatever the Posture be, if the Funiculus or Placenta are hanging out of the Vagina, you must deliver by the Feet, unless the Child is fix'd. The Nose of the Child must look to the Back of the Laborant. Whereever the Fatus is to be thrust back into the Uterus. whatever the Posture be, or whatever Part presents, the Nates are to be plac'd above the Head and Breaft.

Irritation is what gives the Physician double the Credit to what any other Indicant does; for under this Head fall Vomitings, Coughs, Diarrhœa's, Pains, and many more troublesome Disorders, which are not suppos'd or dreamt of, by the ordinary Herd of the Faculty, to retain to it. So we see that excessive Hunger is allay'd by Opiates; so is Salacity an Irritation which is most effectually allay'd by Smooths, and at last Opiates. I shall in another Place recount the Reason why the Turks, at the Battle of Levenz, dy'd Hastis erectis. Convulfions are not allay'd without Opiates, but they being compounded of many Causes, I may have an Opportunity, in the Close of this Discourse, to mention more of them. So mostly, in this Case, Opiates are requir'd, which have different Names given 'em, as the Species of Irritation they are to allay, will allow of: Hence they are called Anodynes,

when Pains are to be allay'd; Narcoticks, when some Part is to be benumb'd; Paregoricks, (ab àyoqéw, concionari & consolor, in a Metaphorical Sense;) Hypnoticks, when Sleep is to be their Effects. To expatiate on this Indicant would be too tedious for my present Aim; and therefore I shall only remark, that some Irritations being critical, cannot be supposed to belong to this Paragraph, unless they be unbearable; such are the Pains of Labour, Pains of the Gout, &c. which require such Things as will promote, instead of allaying them. As to many other Indications arising in the Cure of Irritations, they belonging to other Heads, are not the Conside-

ration of this Remark.

Ulcers, are what require in general four Indications; Evacuation, Mundification, Exiccation, and Cicatrization; and internal Corrigents of the peculiar Acrimony reigning in the Juices: All which are a complex of Caufes, and ought to be referr'd to other Heads; but my Leisure not allowing me to be so nice at present, I believe it sufficient here, to mention some few Examples, to illustrate what I have advanc'd, and so take leave of this Compound Indicant. In a Gonorrhéa virulenta, we give Purgatives of Cassia, Rheubarb, Cream of Tartar, Mercurius dulcis, and fuch-like, for three or four times; after which, we use, for a Month or fix Weeks, or longer, if occasion require, Balfamicks of Turpenrine, G. Guaiac. Balf. Copaibæ, Rheubarb, and fuch-like; the first deterge and cleanse the Part; whilst the latter dry the Ulcer: For the latter Intention we often use Injections of Mercurius dulcis. Lime-water, Honey of Roses, or the Decoctions of Roses, Sac. Saturn. and Mel Rosar. In Ulcers of the Kidnies after due Evacuations, I have found Sydenham's Pills of Flos Unguentor, along with if or iii Grains of Mercurius dulcis every Day in Rosewater, effectual. In Ulcers of the Bladder, Groenwelt's

velt's Method of Cantharides deterges; after which Terebinthinates, and gentle Medicines of Coral, Amber, and fuch Exiccants, are advisable. In Venereal Ulcers of the Mouth (where the Palate is not Carious) after proper Purgatives, either touching 'em with Mercurial Water, or a Suffitus of Cinnabar, to dry them are useful. I have known a Salivation rais'd by a Suffitus with Cinnabar, cure an Ulcer of the Uterus. In Fissures of the Breasts, Minium and Nut-Oil was made a Secret of by a Midwife I communicated it to. In an Ulcer of the Intestines, Terebinthinates are in use. As to Abscesses, after they are open'd, you treat 'em as common Ulcers, tho' the condition of the Parts as to Moisture, oftentimes makes us change our Mundificants for Exiccants; all Critical Tumors being an evacuation of Venenous Particles, are to be promoted to break; and if they lie out of our Road to get any thing apply'd to 'em, as they do in the Body of the Uterus, we however can treat 'em with a plentiful Diet, and Sternutatories conduce much to this End. Excoriations, are healed by Exiccants only; fo those of the Scrotum, Forestus, L. 7. Obs. 39. in Scholio, Cures by Unguent de Ceruff. and Lithargyr. External Ulcers are treated in the same manner.

Wounds, have a double Indication; for either they may immediately be united by the Suture, or the dry Stitch and an Emplaster notch'd for that End; or by Detersives, Mundificants, Sarcoticks and Epuloticks: Difcreet Surgeons chuse the latter Method, not because it's safer only, but for other Reasons best known to the Operators. The Medicines made use of for these Ends, being repeated in every Author ad Nauseam, I shall only hint at a Wound of a Lymphatick, which ordinarily turns Sinuous, as was evident to me in one I was call'd to; every Dressing, the Surgeon took out a Spoonful or two of Felly; but at last with great Care and many Operations, it

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was heal'd in a quarter of a Year. For any Case in this kind, G. Lacc. and Moss of a Man's Skull mix'd

and thrown in, are look'd on as a Secret.

Lastly, It happens there is a Scurffiness and Roughness of the Parts, which after due Evacuations, (which are to be proportioned according to the degree of Obstinacy) and the application of some gentle Stipticks, Vitriol, Allom, Juice of Limons, Litharge, Vinegar, Lapathum acutum, and Mercuri-

als, &c. externally, are carry'd off.

Having run through all the vitia of the Fluids and Solids, I can't in Justice omit one Thing, which yet I believe very rare, and that is Fascination; 'tis according to Zacutus Lusitanus, L. 3. Obs. 134. call'd Morbus trans Naturam: Whatever my Opinion is on this Affair, I can only add two Things, and that is, should I ever find any one performing Actions beyond the reach of Nature, either as to the Affections of the Body or Soul, I must conclude 'em under the Power of something beyond the reach of Nature: So that when the apilosopoi, or the auson talk Wifely, and discourse Nervously, or when the animal frisk and move themselves heyond the ordinary. Actions of Mankind, we may conclude 'em (and then only) under a Fascination; but what Medicine has to do in this Affair, I frankly confess, I have never learn'd: If indeed the Effects produc'd by fuch a Case, are the alteration of the Juices, I believe Drugs may then produce great and good Effects; but when the Fancy is Obsess'd, 'tis Folly to stretch the Medical Art beyond its Limits: and therefore Natural Religion obliging us to acknowledge a Supreme Being, we must necessarily fubmit to own the Permissions of that Being give rife to surprizing Phanomena, not at all falling under the confideration of Art, and therefore necessarily the Province of another and very different Species of Jurisdiction, and (to be fincere) under the Direction

Direction of the Divine Ministry; where the Hand of Man is shortned, and the Glory of the Highest is exalted: In this we do but follow the Steps made in Scripture, where the Adjunitatos was not Cur'd but by the Hand of our Bleffed Saviour. I am not ignorant the Divines fay it was an Epileptick Perfon; yet we must believe the Expression, and Justice can be done, by believing it rais'd by the Devil.

Thus have I in a short Sketch, given you an imperfect Index of Indicants; to which, if I should add the Eucolia Medicorum, I shall have given sufficient Proofs of the Usefulness of this Method, beyond all the imaginary and fancy'd ones of the Students of Physick and Astrology: But as my Design is no other than to whet the Reader to a further Enquiry, it must only be expected that I shall just hint at the Particulars I referve for a fitter Seafon; where what I have advanc'd, shall be made evident to Demonstration, through the whole Body of Pra-Etice.

All Cures, fays Hippocrates, are done by Addition and Substraction; and that Contrariety is the general Basis of the Art of Physick: and this the fame Divine Coan terms Evan liwors, which he understands as well in Diet as Drugs, Aphor. 22. Sect. 2. and L. Epid.6. Sect. 8. §. 46. This Addition of something wanting; and Substraction of what is too much, is an Argument that the Causes are to be taken away in the Cure of Diseases. Let us take a short View then of the Causes that are to direct us in our Courfe.

There are three Causes; first the External Evident; or Procatar Fick (call'd also the wegn surve); which having left nothing fix'd upon us, only requires avoiding of 'em; fo in a furor uterinus, we must take care that the Fire be not fed by the Presence of what is the Subject of the Appetite. for in The Sear yive) to ieav. So in Pestilential Cases, we must avoid

void the occasion; cito, diù, tardè, eundo, morando, redeundo. Having shew'd above, how little this Cause is to be regarded in guiding us how to Cure,

I shall proceed to the rest.

The next Causes are the Antecedent, by which I mean the depray'd Humours in the Body, endow'd with a Power upon any occasion given to produce very dangerous Symptoms; and such is the Viscid in a Pleurisy; such are Bilious Humours in a Colick; such are Salt Humors in a Consumption. The Continent, is the Antecedent asting; so the Salt Humours six'd in the Lungs, are this Cause; Pus in an Abscess; Water in the Cavities in Dropsies; Venenum lodging in the Stomach; and Urine in the Bladder in a true and genuine Ischury; all these, I say, are Continent Causes, or in other Terms, the Immediate Cause.

In general then, Diseases must be cur'd by remedying the Caufes in fuch order as they began, unless some great Reason oblige us to alter this Method: The Internal fix'd Caufes are remedy'd by Evacuation, (under which Head I reckon Translation) and Alteration: Evacuations are Emeticks, Catharticks, Diaphoreticks, Diureticks, &c. Translations are all the Revulfions we make use of. Alteratives are of two forts; but both being contrary to the Caufe, I need not now mention their Difference: But it sometimes happens that Diseases are irremediable; and yet we are, for the Comfort of the Sick, oblig'd to Patch for a while, by remedying fuch Symptoms as wou'd destroy the Patient of themfelves: So in an incurable suppression of the Menses from a Tumor, we are, according to Sennertus. L. 3. C. 3. oblig'd frequently to Bleed, to prevent the real or metaphorical Plenitude in the Blood, from whence many dreadful Symptoms arife. When I speak of Alteratives, I would not be understood to confine myfelf to the Internal ones only, but wou'd have my Views extended to Topicks. too.

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This general Order holds good where the Symptoms Supervening are gentle and slight, for then the taking away the Antecedent Caufe, relieves, nay cures; but when the Symptoms, proceeding from the immediate Caufe, are Violent, then are we oblig'd to have regard to these Symptoms by remedying their Causes; thus Agonifical Crifes are not to be suppress'd, tho' not promoted, for that they often Cure, or pave the way for it; but we are often oblig'd to have regard to the Symptoms when Violent, even before we can remedy the precedent Causes. So that in an Iliack Passion, before the Obstruction of the Intestinal Faces can be remov'd, we are often oblig'd to amend the Vomiting by allaying its immediate Cause (viz. the Irritation.) What I here say of one immediate Cause, I would be alike understood if there be more, as in an Hamoptoe from acrimonious Humours, the Acrimony and the Meatus apertus, are two immediate Causes or Effects (for I have hinted at my Reasons for this above) the first of which require smooth and obtunding Medicines, the latter Stipticks and Agglutinants. And as an immediate Caufe requires our Care sometimes even to the neglecting its Original; fo one immediate Cause sometimes over-ballances another in like manner: From the imminent Danger of which, we are to steer our Courfe.

I should, to the general Method, have added the measures us'd in Crises, for that they appertain to Evacuation, or Translation: They are to be promoted so long as they are Critical only (then Liberali ac Libera expurgatione abrophatus quiescunt) for when they cease to be so, they deservedly lose that Denomination, and are then Symptomatical and remediable by proper Methods nam'd above: But as to the particular Rules they are to be manag'd by, also as for mix'd ones, and as to the several Metastases, whether

whether Salutary of not, it cannot here be expected

I should enter into a Detail of 'em.

So far have I hinted at the Ένοθειπνεύμενα; I have only one Word or two to add about the Συνενοθειπνεύμενα, and I shall close my Discourse.

Causes, we see (for I mention nothing of Diseases, or the Reasons of those Causes) sometimes Concomitate and Coindicate; fo that I have feen in a certain Lord a Tertian Colick from an imprudent suppression of the Gout; the Causes I look'd upon to stand thus; by an application of cold Water to the pained Part the Humours were repell'd and retain'd in the Blood, part of which ranging there, produc'd this Ague; and another Parcel of it fix'd on the Intestines produc'd the Pain: This I take to be the "Οτι, (as for the Διότι, I leave it to trifling Enquirers) of the Malady. Let me now proceed according to Methods I come from mentioning: The stuffing of the Blood with an impure and bilious Plethora, requir'd Evacuations: The Infarctus of the Intestines with Bile, also coindicated Evacuation: The Shifting and Period, requir'd the Bark; the Pain requir'd Opiates: And Lastly, The Gout's lurking in the Body, requir'd all the convenient Stimulants to invite it to its proper Station. I look'd upon these Heads to direct me in my Course I was to take, and having follow'd 'em, I accordingly succeeded: Upon confulting Dr. Radclyffe on the Case, tho' I recited him every Particular, yet his Answer was, that we should forbear any manner of Evacuations; but the lucky distance of the Place, made it only evident I fhould have endanger'd my Patient by fuch a Method as he was pleas'd to order; but Quandoque bonus dormitat Homerus, and his Civil Treatment of me whilst alive, will oblige me to believe, that 'tis as hard to take a Cafe as a Face, at a distance.

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When Causes Clash with each other, and there is a Contrariety in 'em; I shall only mention, 1st. That they are sometimes so far on a Level, as that you must take 'em both off equally: So in a Palsy, and the immoderate Flux of the Menses; If your Intention is to Cure the Palfy, you increase the Flux; if, on the other hand, you Cure the Menses, you render the Palfy irremediable; in fuch a Cafe you must blend your Medicines according to the most exigence: I remember Schmidius mentions the Bark of Seville Oranges unripe, boil'd in Water, to curb the Menses; (in which, Dr. Hamilton follows him and Etmuller); but this Fruit being also aromatick, is an Aperient, and did fometimes alone answer the End in this Case mention'd: So careful has the Divine Providence been over us, as to blend contrary Qualities in one Plant to contrast with such contrary Effeets in our Bodies.

2dly. Whenever they are Contrary, and there is any Excess on either fide; if this Excess be small, we must have regard to the most urgent, and to that which Cures the most urgent, tho' they suffer a little by it; however, having some Eye to the contrary Cause. So I remember to have been call'd to a Lady who had a Dropfy in the Abdomen, which was of Sixteen Years standing, or more; she was on a sudden feiz'd with a violent Fit of the Stone; having pass'd a large one, and fuffering more fince the delivery of it than before, with Syncope's, and cold Sweats, she had reason to believe another was also passing. I had not much to fay to that Head; but argu'd that she was yet more dangeroully held than she imagin'd, and that another species of Disease had seiz'd the Part, which was a beginning Inflammation of that Kidney, and that without Bleeding, it was impoffible to relieve her; which she yielded not to for an Hour; upon this Head, that she had a Dropfy upon her: But having perswaded her of the immediate

diate Hazard she was under from the Inflammation, and the little Damage I should do her by so small a quantity of Blood drawn off, she consented; and the Apothecary had not drawn off two Ounces till she cry'd aloud she was easy; and by four Ounces taking away in all, and keeping her from heating

Diet and Cordials, the recover'd perfectly.

adly. But where the Excess on one fide is so apparent, that we must, by indulging 'em in it, kill 'em; tis reasonable to give Eye to the most urgent only, and which acts as a Caufe, and totally neglect the one. So in a Lues Venerea and a Hellick (and even Confumptive Cough, where there is no Ulcer) the curing the Hellick avails nothing to the curing the Lues, which yet ranges and re-produces the same dire Effects; all which I have taken off by a gentle Salivation, without any regard had to the Hectick. So in an Hamoptoe, where there is danger of Suffocation; in this case alone, it is lawful to cause an Expectoration of the Blood, tho' the Suffocation be of surepus, agens, yet it is the most urgent; and in this we follow Galen's Law, ut Pracedat fanatio ejus quod Caufa eft, vel magis urget, vel fine quo alterum tollirequit.

Thus have I, in as short a manner as I could, made it plain, that the Heads I mention are the only Bases to proceed on; and that whoever will range beyond these Bounds, is bewilder'd and plung'd in all the Difficulties that can befall a missed Traveller: Whoever has the Fortune to know what Cause does affect us, many of which are evident to Sense, is the likeliest Person to serve the Republick in his way; but shall conclude, that Prudence must be the Portion to distinguish the Physician from the Empirick, since La vera Regola, è sapèr romper le Regole à Tempo & Luogo.

Thus have I with some unwillingness, trod a Path for the good of my Neighbours, which puzzles the Heads of the Thinking World, and yet is in it felf Easy and Conceivable to the meanest Capacities: Why is it otherwise that the most Learned are not the Best and Successful Physicians, but that they bufy themselves in many parts of Literature little, if at all, to their purpose? Whose good Parts, if employ'd in the advancement of their own Arts. would be sufficient to build a Profession, much more to give Additions to one long fince begun. But having fufficiently tir'd myfelf, I cannot but believe I shall give my Reader a Distast to add to what I have already advanc'd, especially fince I resolve, some time or other, to Publish the Practical Observations, of which these are only an Abridgment.



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Criticon

MOUTHOUTCOUT MESSE

Rath for the good of toy I seignbourg, we subspaced a rice lighed or the Thinking Werd, and wer as in it fell fally and Conceivable to the meaned Capatities. Where the set of the receivable to the meaned Capatities. Where the set of the receivable to the most Learned are not the fall and Succeival Playficians, but that they butly themselves is many parts of Literature they butly themselves is many parts of Literature if employ d in the advers onen of their countries would be inflicient to build a Profeshon ranch more would be inflicient to build a Profeshon ranch more than give a deficiently the dayfelf, I cannot be believe it as give a deficiently the dayfelf, I cannot be believe it have been the seedy of vanced, especially inceed to what I have already of vanced, especially inceed to what I have already at the gree cally on Auditalian Gelevianous, et other, so Indiah the arafand Gelevianous, et

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### Criticon Febrium:

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## Critical ESSAY

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## FEVERS.

# CHAP. I. Of FEVERS in general.



HE defign'd Brevity of this Trast cannot be supposed to allow me to expatiate upon the usual Divisions of Fevers: In which I fear much Time has often been spent to little Purpose; since it will ap-

pear that these Names brought no new Methods of Cure along with them, but lest many Doubts upon the Practitioners; and those, when they come to be seriously weighed, very trisling, and such as prove an Amusement to the Tyro's, but are nauseous to the Grave and Thinking Part of the Profession. Tis an Undertaking which has employed the best Heads of all Ages: And I hope the Reader will do

me the Favour to excuse the Attempt by so barren a Capacity as mine is, for the sake of having wished well. I am not for coining sine fram'd Hypotheses, nor for advancing any Thing I dare not rely on as Fact, and such as has been the Result of a patient Series of Observation for many Years; and, if I should have added, a successful Practice, I believe I should not want the Suffrages of such as I have had the Honour to serve.

An Unufual or Preternatural Heat along with a Frequency and Quickness of Pulse, detect a Fever; though as to the immediate Causes of one, all are not agreed, as will appear anon, each liking to prate in a Jargon of his own. A to Oeiov was the Language of Hippocrates; and 'twas a Frankness our later Hypothetical Gentlemen have not sufficiently acquiesc'd in; where, however, the Reasons given in have little more in them, than also calling it a Divine Cause. This frank Manner would have sav'd the Practitioner much useless Enquiry after the Διότι of Fevers; and yet he would have been far from being left to Chance to have founded his Indications on; fince in the Discovery of the Erring Motions of the Fluids he has his Senses to rely on, to descry fuch Symptoms as give Rife to the different Procedures, which is the "Ort we look for.

The first Criterion then by which we discover any Feverish Disposition, is a Frequency of Pulse; and therefore the Motion of the Blood is supposed to be accelerated in Proportion to the Frequency of the Pulsation. However, the Frequency of the Pulse alone does not constitute a Fever, till it degenerate also into a Celerity, which naturally happens when the Pulse rises to high Numbers. To ascertain the Nature of a Frequency and Quickness, and their Disserence, the Space, the Istus, and the Interval of the Pulse are to be well remark'd. By the Space, we judge of the Strengths of our Laborant:

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By the Ittus, we pass a Judgment of the Modality of the Stroak or Pulfation; but in our present Case, whether it make any Demurr on the Finger, which denominates it a flow Pulse, or whether, on the contrary, it immediately recedes in a Syftole, which gives it the Appellation of a quick Pulse: And lastly, by the Interval, we measure the musical Time of its Return, which if small, 'tis a frequent Pulse. Hence Frequency and Celerity are eafily distinguish'd in Notion, but not often too well in Practice.

We may, for Curiofity's fake, fee below, whether fome extraneons and irritating Principles in the Blood don't give Rife to this Frequency and Celerity, as also the unusual Heat, and how well-grounded it may be to conclude from hence, that the Circulation is hasten'd in Proportion to the Number of Impulses, as is a common Observation among fuch as have confidered the Laws of Hydrostaticks, abstracting from Resistances, which are not the Business of this Head.

### CHAP. II.

The various Sentiments about the immediate Causes of the Heat, and the Frequency and Celerity of the Pulse in Fevers.

THE Ancients suppose a Putrefaction of some Parts of the Mass; and that these appear in the Urine of Persons in a Criss, and pass off by the Bladder and the Pores of the Skin in critical Sweats, and so determine the Struggle between Nature and the Disease by the Load extirpated.

Others believe it consists in a preternatural Fermentation; and that an 'Ausleia of its Principles occasions it; and that the Effects of this Fermenta-

tion are Diffolution or Coagulation.

Some place the Cause in a Turbatá sanguinis Missurá; for they find the Urine generally is muddy before Concoction. And when it begins to drop a Sediment, there is Hopes of a Recovery; this being a Sign that Concoction is begun, and that, if we can manage well, Affairs may succeed.

Many believe an Acrimony of the Juices to give

Rife to a Fever.

A late Gentleman has advanc'd, That the Breach of the Globules occasions the Spilling of a venenous Air into the Mass, and so disturbs its Order. But this being the Phantom of a luxuriant Brain,

'tis the Subject of Ridicule.

Many more are the Opinions of Authors, which the Reader, if he delights in such Trisles, may take the Trouble to consult at his Leisure. But none have been so lucky as the Learned Bellini, whose Sentiments are confirmed by Practice: For the Pulse is not vitiated but from the Vitiation of the Blood; that the Blood offends in its Quantity, its Motion,

or its Quality, in some or all of these.

The feverest Mathematician never will or can deny, that there are some peculiar Affections of Matter in the Mass of Blood, which irritate more or lefs, and create or refift Cohafion. The various Qualities the Secretions are stock'd with, are but the Consequence of a material Pre-existence of them in the Mass. What other are the odd Phanomena upon Mixtures, and their Effects, but the Refult of these Qualities: How otherwise happens it, that we have known the Urine of a convulsed Person, burn the Shirt almost as readily as an acid Spirit? Many Instances are needless upon so evident a Case; nay, I shall add that these very Qualities are the and the coniticonstituent Principles of Frequency in the Pulse; and that their Valores encrease or decrease, as they are more or less active.

Among one of the most noted Qualities in the Blood, is its Rarefactive Power: For as all Fluids are more or less porous, and consequently contain less or more Matter in their Bulks; so may they be rarefied in a Ratio to their Densities. But the Blood being compounded of Globules including an Aërial Substance, must in the first Place only touch in twelve Points, and confequently have great Vacancies interspers'd. Now if the Air's Pressure be diminish'd by Heat, or some other Accident, the Air without these Globules, and that which they contain, must expand reciprocally to the Rarefa-Etion of this External Air, till they arrive to an Aguilibrum, which often happens in our Blood to a Rupture of the Vessels: But also in our Blood there are certain Principles of Heat discoverable; for by the Torture of the Fire we find a large Quantity of an Igneous Substance, which our Chymists are pleased to term Phosphorus: And fince nothing is required to be mingled with it that may afford this Matter, therefore this Inflammable and Burning Phosphorus is materially pre-existent in the Mass. And hence in Fevers we become hotter, because there may be a larger Quantity of this Matter in the Blood. For thus we only follow the Footsteps of the most Ingenious and Learned Sir Isaac Newton, who, accounting for the Effects produc'd by the Sun. supposes it a great Body of Earth heated to a certain Period, and that all these Effects of Heat depend on its Fire. I cannot, by a Parity of Reason. fee a readier Way to explain Heat in our Blood. than to suppose (what is but Truth) that it contains Fire in it: What other is it than this Fire that causes the Thermometer to rise to the same Height. when applied to the Blood or Hand, as if it were Boiling Boiling Water? And if the Authority of the Hebrews or Hippocrates will add any Force to the Argument, the first call it not a first call it which fignify Heat and Fire; and Hippocrates calls in Morb. Epidemic. Febris vehementissima, Tive, or

Fire in agroto secundo, nomine Sileno.

It may be objected, that the serous Parts in the Blood would quite extinguish this Phosphorus, and consequently our Heat. If it be scanty, it does in effect often do so. Again, if we supply the Decumbents unwarily in Fevers with too abundant a Quantity of watry Liquors, we find that, in ef-

fect, it often does fo.

But I see no Contradiction, to suppose that it may live in a humid, as well as the frigorisck Mixtures can even freeze Liquors into Ice upon the very Fire; or as well as Camphire Flame under Water; as does Gun-powder blended with Charcoal, Sulphur, and Salt-petre. What wonder then, if the Blood being a Fluid, being capable of Rarefaction, and having an innate Principle of Heat in it, that so various and stupendous Effects are produced by it? What Wonder if the Moments encrease or diminish in a Proportion to the Degrees of the Heat and Rarefaction?

Having said enough to convince us that the Mass of Blood is stock'd with Qualities of very various Natures, the Thread of my Discourse leads me to assert, with the aforesaid Ingenious and Learned Bellini, that there is nothing farther contained in the Blood, save its different Quantities of Matter, by which it fills the Vessels to a certain Pitch, along with its Degrees of Velocity, which are but the Result of the more or less active Qualities contained in the Blood: And hence has the admirable Newton coin'd standing Laws to measure the Moments or Aggregate of Motion in moving Bodies: From him 'tis evident that the Degree of Celerity

is but a Quotient of the Moment divided by the Quantity of Blood, which all know. The Increase of the Moment will hasten the Pulsations; for if 150 lb. of Blood and Juices (which Keil Supposes to be in a Body of 200 lb. Weight) be the Quantity of Matter in the Vessels, and the Degree of Celerity is equal to 2, then the Moment is 300; if only equal to 1, then 'tis only 150. Now suppose the Moment 150 give 70 Pulsations in one first Minute, then the Moment 300 will give 140, which is called the Coacervatus; and I have found it in Persons dying in a Fever; so that doubled Moments give doubled Pulfations. But whether 'tis possible for a Physician to discover by the Pulse that the Fever proceeds from the Addition of Matter, as from Drinking, or from the vitiated Qualities (which, as I've faid above, are what give Rife to the different Velocities) is not eafily determinable. The Learned Bellini hints, that the Magnitude of the Pulse arises from the Quantity, nay is reciprocal to it, when he tells us that Momenta distilitionum sunt reciproce ut resistentia à sanguine; from whence it might justly be inferr'd, that Inflammatory Fevers, from catching Cold (where the Quantity is encreas'd by the Perspirabile obstructed) or those from Surfeits (where we are fure of vast Encrease over and above the exotic Qualities ingested) may claim the Title of strong and full Pulses, if this Gentleman make the Advance upon Experience. I may farther add, that as the Motion of the Blood is compounded of a direct and a lateral one (as all the Fluids,) it may be own'd that the Velocity wou'd drive the Blood to the fame Space forward; but the Quantity would not only drive it fo far forward, but also farther outwards, and make the Veffels more turgid: Which feems agreeable to Borelli's 60th Proposition in his O Econom. Animal. p. 943. If these were Facts, the Discovery would be of use

to direct us in the Species of Evacuation with a feeming Dexterity: But 'tis much fafer to stoop to Enquiries to affift us in judging, in which, Caution is a pardonable Fault; fince I cannot practically affure you, whether the bare encrease of the Velocity of the Blood's Motion may not rarefy its Particles, and fill each Section of the Vessels in an equal Degree, as if the Quantity had been really added.

From all that is faid, this Corollary may be inferr'd, that the Mass of Blood contains some unusual mixture of extraneous Qualities and Matter, which makes its Motions irregular, and keeps it out of Order, till it is separated from it. 'Tis this which gives Rife to all the Symptoms that, in Fevers, fo grievously afflict our OEconomy. This Matter is contain'd in the Sediment, and is dissoluble in the Urine; for when 'tis newly made 'tis transparent, and after Secession may be made to reunite to it by any adventitious Heat, so the Degree be of a certain Standard; which is Conviction that a certain Degree of Warmth in human Bodies is requifite to a Separation (of which Experience is the properest Judge, and may in part be guess'd at from ill Symptoms supervening over and above the Fever; and this is the best Standard of the Fever's Excess of Heat and Slowness) What hence may be deduced, is, that these Contents that take what Place their relative Gravity allots them, may either be faline or fulphureous Bodies, or a Combination of both: Hence it is that Fevers which are accompanied with a violent Heat and strong Pulse dissolve it too much, and the rapid Motions hinder its Secession: And on the other hand, those with little Heat and weak Pulses argue this Matter too gross and viscid to pass the Emunctories, and the Spirits are too few for the Quantity; and fo it falls out, that neither way the Ferment precipitates.

I shall

I shall hereafter have leifure to shew, how Symptoms arifing from the different Causes, give very different Views in the Cure, and that neither a Fever, nor its Symptoms, are to be handled by fuch illiterate Persons, who treat the Decumbent in a Road of trifling or dangerous Practice: And I hope to make it appear anon, that Symptoms are as the Fevers they proceed from; (either from too violent or too weak a Motion in the Blood) forcing the morbid Particles upon a Part, or by accumulating em on the Organs; for when they are Viscid, their Trajection must be difficult. But when I speak of too flow or too weak a Motion, I don't thereby understand that the Motion of the Blood is slower than in Health; for I have hinted above, that the flowest Circulation in a Fever, is almost 1d quicker than in a healthful Constitution; but 'tis meant with refpe& to the Morbid Particles, which by this Motion, as failing of the just Standard, can never be excluded from the Mass.

#### CHAP. III.

Of the two Generical Divisions of Fevers, and the Differences of them; with some farther Proofs of their immediate Causes.

Many are the Specifick Divisions of Fevers, which I shall not stay to Dilate on now, but shall proceed to shew, that all Fevers that afflict us, are no farther usefully heeded, than as they are one of these two: And all the Cures of Fevers would be of no use, if we did not regard these Divisions.

If we are feiz'd with a Fever, and if our Strengths be fufficient, and the Heat be of a just Standard, the morbid Particles will be gradually attenuated, fo as

to

to pass the proper Emunctories of Separation in a due Seafon, and the Fever will ceafe in a longer or shorter time: But if the Blood be in any extraordinary Commotion, or be less active and warm than this Standard, then we either burn and fcorch with Causi, or ardent Fevers, or we are afflicted with Hectical Fevers, or fuch as are much below the Standard for Separation; and these Extremes are the only occasion of all the supervening Symptoms, if we add some Qualities conjoin'd, from whence

these Two Kinds have their Esse.

If the fiery and acrimonious Particles in the Mass be plentiful, in regard to the Humid ones, the Blood will be hotter, and the Ardent Kind will hence arife; but if these Particles be overstock'd with Serous and Humid ones, then the Fever is of the Slow and Hellick Kind. To give a perfect Judgment, how far they deviate from the Natural Heat, can no otherwise be demonstrably determin'd, than by the Person's having often before such a seizure try'd with a Thermometer the Standard of their Natural Wainth; but this not being as yet practis'd (which yef I look upon to be a Fault) we can only keep the Patients at fuch a Heat as that all Symptoms abate or quite vanish; only that of the Heat, and Celerity of the Pulse.

This is the most useful Division of Fevers for Practice, and ought to be the first Question enquir'd after; fince it is the most General Guide in all our Indications, and leads us to know, whether we must Evacuate, and in what manner; as also what fort of

Alteratives are convenient, what dangerous.

Under each of these Species are contain'd the Intermittent, Remittent, and Continual; which last is subdivided into the Malgnant, Pestilential, and Pestis; or as some please to term 'em maligna, malignior, malignissima, as only differing in Degrees.

Bellini reckons, that fome viscid Particles sticking in the Capillaries, produce a Fit, thus; When these Particulæ frigorificæ fix in the extremities of the Arteries, then arises an impediment to Motion. whence arises a sense of Cold: But when this Obstacle is shook off by the moment of the Liquids pressing on from the Heart, Heat follows, and lastly. Sweats, which take off the Fit or Fever. But what may produce these Particula frigorifica (or viscidoliquida, as he terms them) is not fo evident: however, in Act. Philosophic. Lond. No 150. by a mixture of Sp. Æris virid. and Jang. human. Dr. Slare produc'd so much Cold, as caus'd the Spirit of Wine in the Thermometer to settle, in Summer, almost to the degree of Freezing; and this he thinks to be a pretty good Method to folve the Phanomena of the Cold Fits.

I am not ignorant, that fome later Authors deny any Acid in the Blood, tho' tortur'd by the fevereft Tryals of the Fire, and confequently will grant no Effects in the Blood from them: But first, Vieussen's Experiment afforded a Dram of Acid more than the Bole cou'd have done; and every one knows, how capable an Acid Spirit is to produce stupendous Effeets in the Mass. 2dly. A Saline Tast is not made without a mixture of some Earthy or Alcaline Body; and a confiderable Quantity is requir'd of this Acid, to make it tast Salt; so as Spirit of Salt 3 to Sp. of Hart's-horn 3ij. make a Muriatick Tast, according to Floyer: Also Urine, as an Acid Salt, corrects the Bitterness of Coloquintida: And Mr. Boyle præcipitated with a Solution of the fix'd Salt of Blood, in Water, a Solution of Fine Silver in Aqua Fortis; which is an Argument of its being of the Nature of Sea-Salt. Mr. Boyle owns the same fort of Salt in in the Blood: The Bilis atra makes Syrup of Violets Red; and Rheumatick Serum of the Blood, makes the Syrup Green; therefore the Blood is stock'd with G 2

with Salts of different Kinds. 3dly. Many of the fecreted Humours tast very acid, and produce all the Changes that Acids do, when they are blended with such Things as convince us of an Acid in a Mixture. From these few Arguments, I hope we will not deny our Senses, the only Criteria we have to judge, of Medical Affairs, by. Hence then, it may safely be concluded, that Acids are materially existent in the Mass: As to our being supply'd with em, we can be at no loss to know; nor, by consequence, how our Blood can be Coagulated by em, so as to cause this Sense of Cold in Horrors.

Another Difficulty yet remains; which is, Why we should grow Cold only at such certain Intervals and Distances, so regular, as if we were a piece of Machinerie? Willis looks upon a certain Quantity of the depray'd Juices to be necessary to produce the Paroxysms; and this he proves from the possibility of hastning or retarding the Fits, by Over-feeding, or Fasting. I shall not stay to reckon up the various Opinions on this Head, but shall frankly deli-

ver my own Thoughts.

Experience convinces us, that Fevers are not of equal Duration; And confequently the Matter which passes off Critically in the different Individuals, cannot be capable of equal Attenuation in equal Times, some requiring Four Days, others Ten, and others Twenty Days, or more, before the Matter be fully ripen'd, or the Fever come to its Critical Period: This holds true in Continual Fevers: And fince Agues are but repeated Fevers, we may conclude the Blood's mixture so very Heterogeneous as to contain feveral Quantities of this Matter, each of which has very different degrees of Cohasion, altho' the same Species of Matter; one Parcel of which is already fit for Exclusion; another, not till to Morrow at the fame time, or longer. Hence the exactness of Turns, and the the due distance of Fits; hence also Tertians

are often chang'd into Quotidians, and vice versa. Hence it is we often have seen six or seven Fits, and no more; hence also its longer Duration from a greater Quantity of these unequal Cohassions, that require exactly so many Circulations before their Maturation; so that if we suppose a Person seiz'd with a Tertian, and that the Quantities of Matter be express'd in the following Letters, viz. a, b, c, d, e, f, g. let us suppose the particle a to begin on Monday, then the particle g will produce a Fit on the Saturday Se'nnight after: If they are cur'd at g, then g has requir'd 15 Days Maturation, and therefore must a too; hence it is we are often for some Days disordered before Fevers and Agues.

Having answer'd this Question, I shall proceed to shew you how Fevers differ among themselves in

Degrees only.

An Intermitting Fever, (whether a Quotidian, Tertian, Quartan, or any other) begins with a Coldness seizing on the Region of the Loins, along with Horrors; the Nails grow blew, the Head aches with gravative or tensive Pains, the Pulse is flow and oppress'd, and the Urine is clear without Sediment: In the middle of it, comes on a troublefome Heat; various and irrefiftable Fancies infest us, the Pulse grows quick and strong, the Urine is reddish; Thirst and many other Symptoms arise. When the Fit declines, the Pulse becomes undose and stronger, the Urine settles, they sweat plentifully, all the Symptoms abate, and at last an 'Aπυρεξία fucceeds; and then too, the Appetite returns, and we are now no farther in a Fever, till the Return of the Paroxyim.

A Remitting Fever also begins with an Algor and Horror, after which they grow hot, with a quick and frequent Pulse, various Symptoms come on; at the decline of the Fit the Symptoms abate, the Heat lessens, but never quite leaves us till the last Fit;

G 3 the

the Urine fettles, the Pulse grows milder, and they fweat: And thus feveral partial Attempts are made,

till the Grand Decline.

A Malignant Fever begins too with a Rigor, if of the Hectick kind; but a Horror, if of the Ardent kind; after which, from the beginning of the Fever to the total decline of it, (for I here abstract from confidering it, as turning Remittent or Intermittent before it ends;) 'tis equable, and without any Paroxysms; the Urine is clear or strawy, the Tongue dry, brown, or black, with the Aphtha;

and the Spirits fail.

Tis then plain, that all Fevers begin first with Algors, Rigors, or Horrors; after which, come on afflicting Heats along with a train of Symptoms: And at the decline, Sweats or some Evacuation of equal Force to them, which abate the Fever or quite take it off. The Difference then is only that in Agues the Horror, Heat, and Sweat, terminate in few Hours in a perfect Calm, 'till the next Return. In Remittents the Horrors are only at the beginning; the Heat is constant, but not equable; the Fits terminate in Sweats, so partial as only to abate, not extinguish the Fever till the next Return; and thus it continues decreafing till the Grand critical Evacuation. In the Malignant, the Algor is not very remarkable: The Heat continues equable many Days; and what Sweats Supervene at first, are sometimes the Effect of the ill Regimen; but those Sweats that come upon a digested Urine, after the State, are deciding, and terminate the Fever. The Algors are the Arguments of fick'ning Nature; the Heats and Symptomatical Sweats, of her Struggle; and the critical Sweats, of her Victory.

From what has been faid above, and from what appears, it may be concluded, if the Quantity of Matter or its Qualities (from whence arife the different Degree's of Velocities) were always the same, we never should be affected but with one fort of Fever; but as they vary infinitely, so do their

Effects, so do Fevers.

In the beginning then of all these Fevers, the Principles that constitute them seem to be as yet in the Oar; and the Blood is so obtunded by this Mass (and the Pulse observes the Motion of the Blood) that the irritative Particles are not extricated but by reiterated Circulations; and then the Mass begins to be more open in its Texture; then the Heart begins to be vellicated, and the Pulse in Proportion grows quicker and stronger; the Skin grows hotter, (but much more fo in the ardent than in the hectick kind;) and at last (all at once, or by degrees,) whatever is noxious begins to be thrown off, and to be expell'd through some Emissaries, and then the Fever, of what Denomination foever, abates or ceases. The Matter and Qualities of Blood which make an Ague, must be different to these that constitute a Remittent Fever; and both must infinitely vary from what gives rife to Continual ones: But as it has been proved that nothing but Quantity, Motion, and Quality can give rife to any of thefe; 'tis confequential that their productive Principles only differ in Degrees.

Fevers then are properly divided into Ardent and Hectical, and they into Intermittents, Remittents, and Continual; (which are either Malignant, Pestilential, or a Pestis.) There are also Subdivisions of Fevers, as Hecticks seem referrible to the Remittent kind: And some may properly enough be term'd the Neutral, for they may belong to any of the Species, and they frequently do, (such are the Measles, Small-pox, Rash, Scarlet, &c.) for sometimes they become Epidemical and Pestilential, as they have been for these five Years; and other

Years, are left to the Care of the Nutricula.

Thefe

These Fevers are known frequently to change Hands with each other: So that what to Day is Continual, to Morrow may turn Remittent; nay, Intermittent, as the Quantity of offending Matter is extruded: And, on the other hand, we frequently find that Diaries, by the wretched Mismanagement of Pretenders, are too often heightned into some of the former; which still plainly proves that all these Fevers differ secundum majus & minus.

### Of an Ephemera; its Causes and Signs.

I shall not dwell upon this Head, but shew you the Procatarctick Causes of them, in which the

other Fevers share in common.

Cold is the most common evident Cause of all Fevers; and the Pores being obstructed by it, the Blood-Vessels become much distended by the Addition of the Perspirabile, which occasions a larger Pulse, in Proportion to the Quantity added; for Cylinders of equal Altitudes being to each other as their Bases, a larger Diameter argues a larger Base, and a larger Quantity, and therefore a larger Pulse.

Woody Places have been found to occasion Sicknesses, and particularly Fevers, from the same obstructive Power: And the ingenious Dr. Woodward has, in the Act. Londin Philos. given us a most accurate and laborious Account of the Reasons of the Unhealthfulness of Woody Places, as in America, (particularly when our Plantation first settled.) Having found by Experiments that a Plant wou'd augment but as 1 to 46 (or 700) of Water; and that the Growth was to the Evaporation but as 1 to 46 (or 700.) How Dampy must a Place stock'd with Trees be then, and how dangerous for Health? Under this Head comes moist Weather, which also lesses the Air's Weight so much that the Blood must

must rarefy in Proportion, as has been faid above:

Hence in England we are so Healthless.

The Heat of the Sun sometimes rarefies our Blood into an Ephemera; but our Northern Climes knowing few labour from this Head, 'tis enough to have hinted at it, and proceed to one more, nay, most common Cause of them, I mean Excess of Drinking; which both adds Matter enough, and Qualities sufficient to fire it into Commotions.

Most other Causes depend on some of these, and

therefore I shall proceed.

The Signs of an Ephemera are the numerical Symptoms that point out other Fevers; and I know no Difference fave the Duration, which I have fufficiently prov'd to depend on the greater Excess of Quantity or Qualities: For they begin with Rigors, and Heat; and all other Symptoms, common to other Fevers, follow; and it terminates with Sweats: Sometimes it lasts only one Day, often two, sometimes four Days. But the most distinguishing Sign I know, is, That the Urine Settles at the very Beginning of it; which also is common to Eruptive Fevers: But they are also distinguishable by other collective Signs, and may be better guess'd at by them. Sennertus only fays, This Fever did not proceed from a Procatarctick Cause, therefore 'tis no Ephemera: But he tells us he cannot argue vice versa. And Walschmidt says, We may guess it to be an Ephemera, or Diary, if the Person were well constituted before the Seizure. No Time nor Place is exempt from the Attack; for we have known them feiz'd in Bed, as well as out of Doors.

As to the Danger of a Diary, there is none; for it presently terminates in a Mador: But Mistakes or Mismanagements cannot be answered for; and 'tis easy for it to be advanced, as I have shewed above, into, even, a Continual. Vid. Coberi Decad.

Obf. I.

The Cure of it is so easy, that Physicians are seldom consulted about them. However, if any are afraid, by the Violence of the Heat, and Strength of the Pulse, along with Headachs, that it may degenerate into Surexin; or, if the Person seized be of an Athletick or Plethorick Habit of Body; Bleeding is advisable to abate the too vigorous Motion, or prevent Ruptures of the Vessels, along with a diluting Diet of cooling Things: Such are Oatmeal-Gruel, Panadoe, thin Broth, Sack-Whey, Posset-Drink, Small-Bear and Toast with Nutmeg, Wine and Water with a Toast. (Claretum Coberi, viz. Aq. font. Cinnam. Sacch. cost. & per Manicam Hippocratis transcolat.) Abstinence from Flesh-Meat till the Sweat carry it off.

If they be not burning, but are rather hectical; warmer Diet may be allowed to bring the Fever to a Balance, till they fweat; fuch may be allow'd Caudles of Wine, Broths, (but no Flesh-Meat,) and even, in Pestilential Cases, Wine. River.

If they are infested with Sickness, either a gentle Emetick or a Cathartick does well, especially if 'tis from Drinking or playing the Gourmand; or at least a Glister may be administer'd to evacuate

Share of the offending Matter.

Blisters are of use, if they are catarrhous and hestical; and that they may turn such, whoever see any Examples of our Feverett, &c. in 1712. can

be at no Loss to imagine or know.

In general; what is given in this short Fever ought to be lukewarm, (if nothing contraindicate;) because the Crisis being at hand, Perspiration is to be promoted, and no Pore ought to be shut up from being a Salley-Port to the Perspirabile retain'd. Whereas, if the Liquors are given cold, the Pores of the Glands of the Stomach might be obstructed, and endanger an Inflammation of that, or some other Part; as is com-

Mass.

mon to Persons over-heated, and immediately

drinking Water upon it.

Give me leave to remind you, that Baglivi is of Opinion, that in the Cure of Difeases, great Regard ought to be had to the Procatarctick Causes: Si Febrim, fays he, ex Infolatione vel hujusmodi externa Causa productam curandam quis susciperet, nullog; babito respectu ad Causas procatarcticas; per præconceptam Recentium Medicorum Hypothesin non tantum Febres verum etiam morbos omnes ab Acido pendere, alcalia volatilia uberiori dosi prascriberet. ut presuppositum febrile Acidum infringeret; & per Diaphoresin eliminaret, nonne profesto toto erraret Calo? Cum Ebullientis ab acceptà Insolatione -Sanguinis Motus Componendi potius sint per amica Remedia, quam addendum Calcar per furentia alcalia? Apparente Igitur pro diversitate Causarum procatarcticarum & antecedentium diversa facie Causa immediata & proxima, in bauriendis Indicationibus morborum ad illas semper respiciendum erit. Aliter enim tractare debemus febrim ab Intempestivo frigore aliter à Crapula, Venere, Insolatione, animi Pathematis aliifq; Causis productam. And below, Nonne Infaniret Medicus qui ardentem febrim à nimie Venere productam eadem Methodo purgantium, Venæ Sectionis, &c. Aggrederetur, qua Ardentes aliis Causis, Ortum debentes, aggredi solet.

I am forry to diffent from fo learned and laborious a Person as Baglivi; but Amicus Socrates, amicus Plato, at magis amica Veritas. Indications are to be taken from Permanent Effects: So that if Cold has alter'd the Pores; if Liquor has relaxed the Fibres of the Stomach, or over-crouds it; if the Sun by its Heat has curl'd the Fibres too much, or have straiten'd the Pores; if Venery has exhausted the Spirits; the Faults must be amended, because they are Permanent Effects. But it often happens that the External Causes produce such Effects in the

Mass, as require the Use of that very Thing that gave Rife to it: As is frequent in Dropfical Perfons, who are enjoin'd the Use of Wine, when perhaps 'twas caus'd by that very Liquor: Cold Liquors drank by a Person over-heated, will often produce an Inflammation in the Stomach, which all know requires cooling Medicines: Rheumatick Pains often arise from Rain wetting us through our Cloaths, which, after proper Evacuations we have known cured by Immersion [the Topphsoia.] Ardent Fevers frequently depend on this Cause; and vet we must cool them. Many more Instances may be brought to convince us, that the Procatar-Etick Cause ought not to mislead Practitioners so far as to neglect any Remedy contraindicated by the present Circumstances. However, 'tis, generally speaking, helpful to judge of the Effects produc'd: But our Indications ought to be farther fetch'd, and from a surer Bottom than it, I mean from the: Vitiations of the Blood and Fibres, which are best judg'd of by proper Symptoms. Vid. The Introduction.

Of a Febris Putrida, Remittent, Zuvexn's; Hedicks, and Intermittents.

A Synexh's is a Fever with Remissions, i.e. a Fever where there is constantly a Febrile Heat, (after the first Horror is over,) constantly a Quickness, and Frequency of Pulse; but when the Paroxysm or Exacerbation comes on, then these Heats encrease wonderfully more than in the Remission, and then the Pulse grows stronger and more frequent, and the Quickness is more perceptible. At this Time too, all Symptoms, whether Pains, Fluxes, Vomitings, or such-like, recommence and revive. So that when the Fever continues, and yet the Blood suffers Tides, and shifts from Ill to Worse, That we call a Remittent Fiver, or a Synexh's Putrida.

As I have hinted above, it may either be of the Ardent Kind, or of the Hectical: For if in the Fit the Heat be very violent, and the Pulse be very large and strong, Bleeding is absolutely necessary, and ought to be proportion'd to the Strength and Age of the Patient, nay, and must be reiterated, if Occasion require it. And I say of the Remittent Kind, as Dr. Cole says of the Intermittent, that Blood ought to be taken away in the Paroxysim; for then we can best judge of the utmost Heat, and may better proportion the Evacuation thereby.

After which you may give all the Diluent and Acid Remedies to cool the Blood, and so impede its too rapid Motion, that it may not endanger Inflammations or Hamorrhages: And thus you prepare a readier Way for a regular dropping a Sediment, and to a Decisive Sweat: Or if a Remission happens, which is not so easy to obtain at first, in the Ardent Kind, when it happens distinguishably, then give the Cortex peruv. at due Distances and Doses, and continue it to a perfect Cessation of the Fever. In such Fevers the Patients may sit up often in a Day,

or in Bed.

I know several Practitioners, who upon the Complaints of Faintness, heap upon their Patients Cordials of a warmer Kind. Tis true, as will appear more at large hereafter, that Deliquia may require for the present warmer Cordials: But a Faintness being only a Disposition to a Deliquium, ought to be handled in these kind of Fevers by lessening the Cause of them; and by these Medicines you are so far from helping this, that it will be found destructive, by causing an over-bearing Motion; and by over-distending the Vessels, you would Cause very dismal Symptoms.

You must then give them, in their ordinary Drink, some Drops of Sp. Sulph. Vitr. Nitri Dulc. also Syr. Limon. or any other Acid, to such a Quantity as

may gratefully acidulate the Small-Beer, Barley-Water, Wine and Water, or any other small Liquor, by which you calm this violent Commotion; and at last the Urine, by this Management (for I am now only talking of the Cure, without considering the noble Effects of the Cortex, and which I believe no Practitioner ought to neglect) will separate; and then, and not till then, if Occasion require it, venture a little thin Broth, so far as to support, but not heat, till a regular Criss. Though I have often known lucky Mistakes at the State, by drinking strong Liquors; yet this cannot be drawn into a precedent by prudent Men, since there was no equal Chance for so good an Event.

If the Pulse be weak, and the Heat be moderate, both in the Paroxysm, and out of it, all we can do is to give the Testaceous Medicines, to advance the Febrile Heat to such a degree, as Experience makes it evident a Crisis will follow; to administer gentle Cordials and Alexipharmacks to support the Spirits; and also

Blifters, to rouze the drooping Circulation.

If I should here undertake dogmatically to affert the Manner of Operation of the Testaceous Medicines, I should hazard to answer a difficult Question. Tis doubted, however, and not without some Reafon, that they feldom pass farther than the Stomach and Intestines: And if we consider, that though these Powders be reduc'd to be impalpable, and till they can be reduc'd into no larger Surfaces physically; yet if we then mingle them with Cordial Waters, nay, with Syrups or Oils, (which buoy them better up,) they will in a very little Time subside. Which makes it probable, these Sort of Medicines feldom mount up the Thoracick-Duct. And accordingly I have found them lodg'd in the Receptaculum Chyli in a Person under an Empyema, who, by the Prescription of a great Man, had taken plentifully of them; and they had harden'd into fo ftony a Mata Matter, that I was some Time e're I was satisfied what they were; for what the Knife would hardly

enter; in some Time, dissolv'd in the Water.

If there were no Difference between the relative and absolute Gravity, it would be easily granted that Pearl would fettle presently; because the Mathematicians shew us that a Body gravitates with its Excess of Gravity above the lighter: So that suppose with them x+y to be the heavier, and x to denote the lighter; then  $\frac{x+y}{x} = y$ : So Mercury is specifically heavier than Water, as 14 to 1, therefore it gravitates by an Excess of 13; so Pearl is to Water as 2, and 51 to 1, therefore it gravitates with an Excess of Gravity of 1 and 51 above Water. Enough of this may be seen in Dr. Wallis, Pere Thomas, and F. Rohault. p. 194. Part 1. c. 16. De Corps durs plongez dans des Liqueurs: But if we to this add, That the Resistance to Descent encreases upon dividing a Body into larger Surfaces; so that Gold-dust itself will swim for some time; we may, upon this Head, grant that these Pouders are long a fettling to the Bottom; yet I must frankly own, I hardly believe they ever reach the Blood; for that we see they are never pulveris'd so fine as to make the Refistance equal to their absolute Gravity: Hence, before they pass from the Stomach, they fubfide, and are carried through the Commonshore of the Intestines.

It may then with Reason be asked, How Steel, Mercury, and such heavy Bodies produce their Effects in the Blood? We are certain that wonderful Effects are produced by these Medicines given Inwardly. Tis not sufficient to say that the Gravity of the Fluids increase upon the giving these Medicines; because I know no Trial as yet made on these things: Indeed, where they may be dissolved in the Stomach or Liquids taken, I find no Difficulty

ix relu.

culty to yield they do: Nor do I here talk of particular Menstruums that can make 'em liquid; but the bare Tincture drawn by the Juices of the Stomach from these Medicines, may sufficiently produce these stupendous Effects. So that, without pronouncing, we may probably fay, that perhaps these Medicines rob the Contents of the Stomach of their offending Acidities, as we fee they do in Vinegar; and these Contents constantly taking Journey into the Mass, may thus prevent future, and dissolve the present Combinations which prove a Bar to fuch a Motion as will be fufficient to throw off what is noxious, and fo are preparatory and remove the Obstacles that hazard a good Separation, and thus eventually contribute to a Crisis; for the Juices of the Stomach being impregnated with them; thus chang'd, they may invigorate the Fibres and Blood; and supply Matter for Sweats; or perhaps the active Principles may be too far divided by too great a Quantity of Serum, and they may absorb so much as to make 'em attract each other more forcibly; and thus the Blood will move on in a just Tenour of Motion, and exclude the noxious Particles thro' the Pores. But 'tis trifling to enquire fo nicely into the Particulars, which may remain a Secret never revealable, and therefore I shall proceed.

The Remedies are the following: Margarit. Pulv. oc. 69. Bezoar oriental. occidental. mineral. Lap. de Goa, Contrayerva, Antim. Diaphoretic. Pulv. E. chel. C. Corn. Cerv. Calcinat. Corall. Rub. Cinnabar. Nativ. artificial. Antimon. Diaph. and such-like, which are to be varied according to the Patient's Palate.

Re Pulv. marg. ppt. Jj. oc. 69. Jß. Bez. orient. gr. vi. Conf. Alcherm. sine mosch. zj. Syr. Caryoph. gr. m. f. Bol. quem repetat intra boras 5, vel 6. superbibendo Cochl. iv. Julap. cujusvis Perlati.

Re Pulv. e Chel. C. Jj. Sal. vol. C.C. gr. j. Conf. Al. cherm. fin. adorat. vel Theriac. androm. (mod) nullo Symptomate Comatoso contraindicetur, 38. Syr. Aurant. qs. m. f. Bolus Capiendus ut supra.

The Practitioners in Holland make much use of Antimon. Diaphoretic. in their Bolus's; for they living in low and wet Grounds, may make freer with fiery Absorbents than we dare.

R. Aq. Last. alex. Ziij. Meliss. Zvj. menth. ZB. E-pidem. ZB. Ceras. n. Zj. marg. ppt. Zj. Sacch. Crystal. qs. m. f. Julap.

R. Aq. frigid. Saxon. Ziij. Borrag. Ziv. Cinnam. b. Zj. Conf. Alcherm. Zj. marg. ppt. Jij. m. f. Julap.

Re Aq. Fragor. ulmar. à Ziij. Theriac. s. Zj. Scord. Comp. ZB. Syr. aurant. ZB. m. f. Julap.

After we have given these, or such-like, for some time, and by 'em have rais'd the Pulse, recruited the Spirits, invigorated the Motion, and advanc'd the Heat to a sufficient degree, 'tis then our Business not to tamper farther, but to keep it up to this pitch, without letting it fall or rise, till the State: when the happy Minute comes to dismiss the Fever through some of the usual Outlets, and reinstates us.

After the Administration of these Medicines, 'tis pleasant to observe the Varieties of the Pulse and Urines; as the one advances to a just pitch, the other changes at the State, from Turbid, Milky, Thick and Muddy, to a good and laudable Sediment; and the Symptoms, in Proportion to this, vary, and either diminish or cease.

ther diminish or cease.

Some Fevers are of a mix'd kind; for at first they have weak Pulses, and moderate Heat; and yet a little after they turn Ardent, with Phrenzies: We may guess at these Fevers from these Collective Signs, viz. Surfeits, Youth, oppres'd Pulse (viz. sometimes Great, sometimes Small; now Weak, then Strong; now Quick, then Slow;) a particular warmth beyond the Standard; violent Head-achs, Red Eyes, Sanguine Complexion, Red Urine, a Plethora, a strong Locomotive Faculty, and nothing has preceded, that could Weaken; and thus we may venture to make use of Evacuations by Bleeding, and what is indicated besides, as above. I much fear, the neglect of understanding this, has given occasion to many fatal Mistakes.

This may farther be added, That Putrid Fevers are not Mortal, till they turn Continual, which any Mismanagement will easily do; and therefore prudent Care ought to be taken at the Beginning, that proper Evacuations then be made, the neglect of which they too too often suffer for, in the Progress.

As to the Administration of the Cortex Peruvianus in these Fevers, no Body ought to be startled at Baglivi's ill Character of it; for it as certainly Cures Remissions, as Chalybeats a Cachexy; but I hope no one expects an Infallible Remedy: And as it is not useful in the Ardent kind, at the beginning, more than 'tis in a Malignant; so perhaps he may say truth, in crying it down in Italy, if their Fevers are always Ardent: But if Experience be a fufficient Argument to reject it, the same will be proof enough to retain it. In short, if the Cortex be well chose, be given regularly, and to a due Quantity, there is not a nobler Remedy in the World for all Remittents hitherto: Indeed, if we fail in any of these Heads, I don't much wonder the Success be proportionable. I have in this far'd as many of the Faculty have; and upon Change, have succeeded accordingly;

ingly; but in none more conspicuously than in the Eldeft, and then only Son of the Lord W\_\_\_\_n; who being feiz'd with a Synexis, with very fair Remissions, in which he was Comatous in the Fit, with an augment of his Heat, and quicker and stronger Pulse: After some Evacuations before my Arrival. I gave him about 3vi. of it, (which, to a Child of Eight Years, was a large Quantity) to no purpose; but finding his Remissions darker, I suspected the Cortex, and therefore fent to the Apothecary for a Quantity to chuse on, which he and myself chose; Pouder'd it, and 'twas given to Di. at a time; the Fits immediately return'd flower, and with 3ij, or little more, went off quite, to the pleafing Admiration of the Family, and conviction of the Cause; which I here the rather take the liberty to mention, because a Gentleman of the Faculty of our own Nation, feems, in a Tract, not to matter whether it be Putrid, Annose, or not, which is evidently a great and dangerous Mistake. I shall only take the Liberty to annex one History more, tho' tis now felf-evident, by every Practitioner's Observation, how useful it is. I was call'd to a Gentlewoman who had a Vertigo, a quick Pulse, and Heat upon her; she was Vomited by her Surgeon with Vin. Benedict. and Sal. Vitriol (after 8 Ounces of Blood drawn off:) The following Day ( June 4. 1701.) I was call'd in, and found her a Vomiting every thing she took; her Pulse was weak, tho' quick; her Heat was moderate, and Urine Red : I order'd her Stomach to be wash'd farther with Chicken-Broth, and then to take a Pearl Julep to to relieve her Spirits; and at Night, order'd her Riverius's Mixture of Succ. Limon, Sal. Absinth. After which, the Vomited no more, but Slept quietly. The 5th in the Morning, she was much Refresh'd, and her Pulse was not quite so weak. In the Afternoon her Vomiting return'd, and her Spitits H 2

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rits were much depress'd (as was evident from her weak Pulse and Swoonings.) I order'd the repetition of the Antemetick Julep; and Pearl Julep for her Spirits, with a little Treacle-water, Aqua Latt. and now and then, if Faintness urg'd, to take 10 Gutts. of Sal. Vol. Oleos. in the Julep. The 6th, the Vomiting ceas'd, and then a Headach came on violently, with her Pulse wonderfully stronger; insomuch as I judg'd it necessary to take away some Blood (3vi.) and obtain'd a Remission; upon which I gave her ziv of the Decoction of the Cortex, and continu'd its use every 4 Hours in the Remissions; (and if Fainty, to take some Sal. vol. oleof. in the Julep, for her Pulse then fail'd.) All that Night she slept very well, was free from her Headach, but not without a Heavinefs. The 7th, she begun to regain her Appetite, her Urine began to drop a Sediment, her Temper grew Natural, but yet her Pulse was Feverish, and therefore I continu'd repeating the Decott. Febrifug. in the Remissions. The 8th, her Temper, Pulse, Urine and Appetite, began to return. The 9th and 70th, she grew very well (tho' she Vomited the Decoation) but upon Repetition, the grew Well. I repeated it within 10 Days, as is usual, and she now, which is 15 Years fince, continues Healthful.

More Histories, in vindication of the Cortex. wou'd prove too tedious to any common Practitioner, fince daily and undeniable Experience convince us of the Truth here adduc'd; but must take notice first, that, if they are not called in too late, they ought to Bleed, Vomit, or Purge with Lenients. before its Administration. As to giving it by Glysters (according to Helvetius's Method) 'tis very useful in Children (especially) who nauseate its Tast, and ought to be given to 3\u03B. or more at a time out of the Fit; and after one is rendred, it

must be repeated till the Fever goes off.

I shall moreover add, that I have found the Repetition Useless, if while you are giving the Cortex, you give a much larger Quantity than what will do. I shall therefore proceed to the Hellick.

#### COROLLARY.

From the Affinity there is betwixt a Remitting Fever and a Hellick, I take the liberty to subjoin it.

The Hellick has its Exacerbations as a Remittent has; they never want a Heat, but it abates at certain Times, as in the Synexis; but then as the Blood is overstock'd with an Acrimony of a particular Stamp, the Sweats that come on, do (as in the Synexis) abate the Heat; but still the Fund being almost inexhaustible, they never can throughly exterminate the Matter, but the Fits are renew'd afresh, and the Sick are drain'd, and die in a Marasmus. This is call'd Hectica Simplex: But the Cause is frequently in the Parts, and then 'tis a Symptomatical Fever, and this is common in Confumptions. I have feen it after the Small-pox, from Scales lining the whole Intestinal Canal (of which in Sett. de Cholera) and this is call'd Hectica putrida: Indeed Hectical Persons have no Horrors, as in the Synexis, but often complain of a Chilliness: However, 'tis with Reason annex'd to a Synexis, because of its Exacerbations and Remissions: But in Hellicks, these Exacerbations and Remissions are generally after Meals, when they have a sharp Heat on 'em, a frequent and quick Pulse; and Sweats, Diarrhaa's, or Urine, hurry 'em into into an Atrophy. Floyer observes the Pulse 100 out of the Fit, and 120 in one.

As to the Cure, the Pulse, Heat, and Acrimony, and shifting in the Hestica Simplex must direct us: And in the Putrida the nature of the Inflammation;

and the Obtunders are necessary in both.

In

In the Simplex then, after Bleeding, (if their Heat be great, Pulse strong, the Hettick just beginning, and their Strength allow of it) we must make use of fuch Remedies as obtund and correct the Acid Acrimony, fuch are all Slimy, Watry, and Testaceous Medicines, a Milk-Diet, Steel-waters of the lighter kind; the Decoctions of Ivory, Harts-born, China and Sarfa: Willis de Phibifi uses this; R., Lign. Sanct. in Constitution. Phlegmatica aut frigidiore) Rad. Sarsap. Ziv. Chin. Zij. Santal. alb. rub. a 38 Ras. Ebor. C.C. a 3iij. S. a Infundantur & cog. in Aq. font. Ibviil. ad iv. addendo liquirit 3vi. pussular. Exacinat. 318. pro potu ordinario Constanti & aliquandiu sumantur. Chesneau in his Capite de Phthisi, Obs. 1. has the following Decoction. R. Chin. in Taleolas incifæ Zij. Fol. pulmonariæ m.j. Infund. Chin. per Nottem Supra Cineres calidos in Ag. font. tovi. mane injice pulmonar. fiatque Decoctio lentà Ebullitione ad tert. partis Consumptionem. Colatura add. facch. 311. & Cinnam. 311. pro potu ordinario. A Great Man fram'd a Decoction like these, and palm'd it as his Secret and Invention upon his Patients. The Diet ought to be fuch as confifts of the like Particles; fuch are Puddings, Gruels, Milk-meats, Rice, Avenacea, some Fresh Fish, (Aselli) Crabs, &c.

After the Blood is well Corrected, give the Powder of the Cortex to a Dram thrice a Day to abate the Fever-fits: These Medicines continu'd for some time, and with the usual Cautions will have their desir'd Effects, as I have frequently experienc'd.

Immersion in cold Water, which is lately revived, is also very good in this Case, if the necessary Cautions be observed, (viz.not to venture on it, if any Viscus labour under an Incurable Disorder, or be faulty, not immediately after a Debauch, in Dessurions, nor weak Persons) you must stay in, a good while, the design being to allay the Heat.

But as to the Putrid Hellick, repeated Bleeding is necessary in beginning Consumptions, for then all know it depends on Tubercles, or the Glands of the Lungs Inflam'd; and then too 'tis necessary to give all the Obtunding Medicines, as in the Hectica Simplex; and other Indications arise from the Nature of the Case, such as Opiates at Night, to allay the violent Irritation of the Cough; Isues, to revulse the Humours; Blisters for the same End. But this Discourse belongs no farther to this Head, and there-

fore shall pass on to the Intermittents.

Intermittents are cur'd in the fame manner as Remittents are, in regard of their shifting: But 'tis observable, that without due Evacuations, the Fever is apt to return; and if the Blood be remarkably out of Order (as it often is in some Tertians, but more especially in Quartans) if the Blood is not corrected too, the Ague Returns and sometimes cannot be taken off at all by the Cortex, till the State of Blood is Corrected. After proper Evacuations (and Corrections, if requir'd) then give the Cortex, from 5 gr. to 3j. at a time, every 4th Hour, during the interval of the Fit, till it returns no more: Thus all Agues (whether Quotidians, Tertians, Quartans, or others, compounded or suppos'd to be, of these) are carried off, unless some Idio-Syncrasy hinder; for then you must, instead of the Cortex substitute some other Antefebrile Medicine, such are, Mistura Dekkeri Antifebrilis (viz. R. Cort. Lign. Guiac. Fraxin. à 3j. Extract. Rad. Angel. Gentian. Antimon. Diaphor. Sal.vol. Sal. armon. a 3j. Myrrb. 3ij.m.f. pulo. divid. in Chart. No viii. or Pulv. febrifugus Fulleri (viz.R. Sal. absinth. 3B. Antim. Diaph. 3j. Flor. Camom. 3ijß. f. pulv. pro 8 Dosibus. Many have cur'd Agues with Allum Ji. and Nutmeg mix'd, and given every 4th Hour, (the Nutmeg in Rat. Aluminis Subdupla). I suppose Wainwright commends Serpentaria Virgin. with the Cortex, as Bates does in his Pulv. H 4

Pulv. febrifug. certo. which may do well, especially if we want Correctors of Crude Humours: The Decostum amar. alterans, is also commended: But if the Cortex will doe, why should we sly to Medicines that fail a hundred times, for the Cortex failing once?

As to the Reasons of the Operation of the Cortex: 'tis Trial convinces us, that if you Bleed on it, the Blood will not Coagulate; fo that if the other Medicines, fuch are Oc. 69. Sal. armon. Sal. absinth, and fuch-like, can hinder the Coagulation of the Blood, and are given in these Intermissions; we may conclude, without the hazard of being reckon'd hafty in our Opinion, that what can hinder the coagulative Principle of the Blood, can hinder the Rigors, can occasion an equal Protrusion, hinder its shifting, and will occasion it to move on in the same Tenor as in Health, and can prevent a Fit; but I always talk with reference to proper Evacuations, to be premis'd, if possible, as well as proper Alteratives, if Time be allow'd us to act; but Prudence will dictate its immediate Administration, where 'tis not in our Power to proceed to regularly, for fear of loss of Time.

### Of Continual Fevers.

Having now done with all Fevers that shift, and either Intermit, or Remit; I shall speak of the Continual ones, (Synoxoi;) by which I mean a Fever that is always the same, never shifts; they are not better or worse, have no Exacerbations nor Remissions; their Pulse, Temper, and Order is equable, and the Blood always moves in the same manner; and as it argues a plenty of μίασμα νοσηρών, so 'tis of much worse Consequence than any of the former, and proves too often satal: And as in the foregoing Paragraphs, I have prov'd it of two Kinds; so is the one sort of more satal Consequence (generally speak-

ng) than the other; for 'tis more hazardous to labour under a penury of Spirits, than too burdensome a Quantity. Hence Galen says, Ex Repletione Convulsio Sanabilis est per Evacuationem: Ea vero que fit ex Inanitione & Nervorum Siccitate non facile admittit Curationem; which exactly quadrates

with our different Syneyoi.

It must then be allow'd, because all Practice confirms it, that Continual, as well as other Fevers, retain to the Causus, or Hellick: They in the more Southern Parts of the World, and nearer the Line, are more subject to the Ardent Kind, and we Northern People to the latter, (at least most frequently). And hence it is, that in these Parts they frequently die in two Days, and often in four and twenty Hours; for that the Blood fo overswels its Limits as to rend the Vessels, and occasion either Hamorrhages, or Effusions into the Cavities. Galen de method. medend. L. 9. expresses the method of Cure thus, Continentium febrium prasidium maximum, si modo vires valentes sint sanguinis Diminutio velusque ad Deliquium animi-: Ubi borum (viz. valida virtus & atas) alterum haud satis respondet satius est, quantum satis visum fuerit, tantum principio detrahere: Quod defuit Iteratione supplere. This Method they follow much in the warm Isles. till they have brought the Motion within compass, as I perceiv'd from a Relation of mine, who had lived for fome Years upon them; and at the fame time they give all the Cooling Medicines to allay the Violence of the Fever; after which, they give the Cortex, if it turn Remittent: And thus they Cure The Turks in their Plagues use Lethese Fevers. mons plentifully. And Wecker speaking de Limoniis, fays, Item & ad Pestilentes Febres & eas qua Contagione non vacant, febribus acutis & Contagiosis mire succurrunt. Which demonstrate to us. that they labour under the Ardent Kind: and our Sydenham.

Sydenham, speaking of the Pestis reigning in London in 1666, fays, -Febris ardens usitata Symptomatum Dovo equi stipata indesinener agros divexat. and treated 'em with Bleeding to large Quantities, till he seem'd to be blam'd, for want of Success in some few. So that from Authority we conclude, that when a Continual Fever feizes any with Symptoms of Ardency, tis too plain to want farther Proof that the Cure is by Bleeding and the Cool-

ing Methods, in proportion to the Necessity.

They who labour under the Hellick Malignant, have a depress'd and weak Pulse, and their Heat is not very perceptible. Tis not, in this Case, very likely that Nature, (pardon the Expression) will ever free itself of its Bosom Enemy (the Putrid Particles) or ever exterminate 'em thro' any Part: And thus the poor Patient labours under a train of ill Symptoms, which take their Rife from the most dangerous Cause in Human Frame; I mean an Exhaustion of Spirits in the Brain; for now Subsultus Tendinum, Coma's, Catchings, gathering the Cloaths, Dry and Black Tongues, involuntary Effusions of Urine and Fæces; obscure, Formicant, and Pulsus concervati come on, and usher in Death. In this Case the Affair stands thus: As the Paucity of Spirits are concluded from these foregoing Symptoms, so 'tis certain the Circulation will, in proportion, be much retarded, and every Evanescent Artery or Capillary will be a bar to its Motion, which the quantity of Spirits cannot furmount; for now they fail to be fo dense: So that the Trajection thro' the Vessels cea-Tes, the Stroaks of the Embolus begin to be too feeble to propell the Liquids in the Veffels to the Extremities; and thus at first the Blood will cease to move in them, and the Pulse will not be felt to beat, or Death has begun there; for when the Immitting Force cannot conquer the Refillances, there is no Circulation; and where the Circulation ceases,

there

there is no Life. And as each Moment draws off Spirits that are never fupplied, no wonder the Fluids stagnate gradually higher, till at last the Blood in the Heart stagnates too; and then arrives that difmal Moment when the Thread of Life is cut.

They whose Fortunes will not allow of a regular Physician to attend them in the Course of a Fever, now call them in to be Witnesses of this Catastrophe, when God knows how little remains to be done: For notwithstanding all your Endeavours, the Blood in some Persons can never be made to keep on the Circulation. Whether at this Time the Blood it felf grows too gross, as not to yield to any, even the strongest Shocks of the Fibres to propell it; or whether now the Fibres in some Perfons may not grow Paralytick, fo as not to be obedient to any the most potent Applications, 'tis equal: For either are of the last ill Consequence; fince now approaching Death makes a cautious Person unwilling to act, when the Actor must be blam'd for want of Success, though the Recovery be an Impossibility. You are obliged here to give the strongest Alexipharmacks, and apply Blisters and Emplast. Solearia, to promote the Circulation, till fome lucky Chance happen that the Particles, now fettling upon the Organs, and creating the difmal Symptoms, may be thrown into the Mass, and kept moving; and then, by adding Spirits too, the morbid Ferment may præcipitate, and a Victory may be gain'd. It can hardly be imagin'd what wonderful Effects have been wrought by these extreme Remedies, when the Physician even had little Reason to promise himself any Success from them. Which I mention, to embolden the Application to them, as long as the Patient's Friends encourage us to proceed: For I must own, that if Involuntary Effusions of Faces and Urine, and if the Coldness of Extremities, with failure of Pulse, and loss of Motion of the

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Extreme Parts, can be cured by these Methods, as I have experienc'd they can; why should we despair or cease to act?

Here we give Pulv. Rad. Serpent. Virg. Camphora. Sal. vol. C.C. Sal. Armon. vol. Sp. C. C. Theriac. Audrom. Elect. de Ovo. and such-like, frequently in a Day in a watry Vehicle, to add Motion to the Blood, recruit the drooping Spirits, and stimulate the Fibres.

'Tis customary with Authors to blend Stipticks along with Alexipharmacks, and they look on them as proper Antidotes in these Cases: Such are Bolus vera, Terra Sigillata, and such-like. I have all along shew'd that there are two States of Blood in Fevers; and as Authors have only in general told us that they are proper in malignant Fevers, to preserve the Crasis of the Blood, let us see in what Manner they do act.

Their Effects are to clog and arrest any rapid Motion, (by having Particles of less Agitation than those of the Blood, &c.) to unite and agglutinate the Particles, too much diffolv'd by their ramose Parts: And these are the Effects they have on the Blood. The Effects they have on the Fibres, are to shrink and contract them into a narrower Compass; from whence their Diameters are lessen'd. From the first Effects they may properly enough be given in the Ardent Kind of Malignants. But if we confider their Effects of contracting the Vessels, we may conclude them also good in the Hestical Malignants: For 'tis a Maxim known in Hydrostaticks, that Fluids run swifter through a smaller Tube of the same Altitude, than through a larger. In Malignant Fevers, with a burning Heat, as I have feen fometimes along with Hamorrhoges and Bloody Urine, or Diarrhaa's, they are the proper Specificks. What we may fay then, is, that in the Ardent Fevers they may be given in proper Doses, as well as Acids, to impede the

the violent Motion: But in the Hedical they cannot be safely given, unless they be blended with those of the volatile Kind; by which Contrivance the Blood may receive little Harm, but the Vessels much good; the one may be attenuated to a proper Degree, and the Contraction of the Vessels may contribute to an equal Protrusion of the Fluids: So that we see, though they cannot have any Essels of throwing off any noxious Matter, yet they may have other Vertues equally advantageous, and do accidentally further a critical Evacuation.

To determine the Number of Blisters, you have no other Criterion to rely to, save the Pulse and Heat; and not only they, but also all Internal Medicines are to be admitted or rejected by these Marks; for 'tis equally dangerous to raise too violent a Commotion, as not to exalt its Motion to a sufficient

Standard.

Before I proceed to the Subdivisions of Continuals, I shall here remind you why the Cortex is not used in the Continual Fevers, which is easily answered by the Management in Intermittents and Remittents. I have before taken Notice, that all Fevers have their Horrors, Heats, and Declinations: And as Intermittent Fevers are so many distinct Fevers, so Continuals resemble one Fit of an Ague: And as the Cortex cannot be given in either, the Fit of Intermittent or Remittent, at least, with any Success; so the Continual being but one long Fit, it cannot be be given in it: But as it serves to prevent the Return of the others; so may it prevent our falling into Malignants, if given timely before our Seizure, and by way of Preservative.

To the CONTINUAL belong the Malignant, Pestilential, and Pestis, as so many different Degrees of the CONTINUAL; which are thus distinguish'd.

The Malignant is, when a Continual Fever feizes us with an equable Pulse and Heat, with Symptomatical

ptomatical Sweats, Dejections of Spirits, Deliria, Vigilia, Coma's, Tendinum subsultus, Urina straminea, Dry and Black Tongues; and these are the

First Degree of Continuals.

The Pestilential is, when these same Symptoms fupervene with Spots, Petechiæ, or Morbillar Efflorescensces, and they become Epidemical, and kill many by their more incorrigible Qualities. Vid. Vidius tells us, howwolers --- communiter vagantur & plures eodem tempore occupant, non tamen omnes vagantes communiter dicuntur Pestilentes, sed ille duntaxat que prave sunt, & plerosq; interimunt eorum quos attingunt. And Dolaus in Feb. Pestil. Tays, Multi sunt qui pestem à Febre Pestilentiali distinguunt, sed sunt tantum diversa nomina circa diverfos gradus.

The Pestis is, when this Continual, by the same Symptoms, is so violent, that hardly one Fourth of Mortals escape, which they generally do, or die in Four Days, Etmul. ait: Omnium maxime est Pestis ea vulgaris quam nunc Bubones, nunc Carbunculi, nunc Petechia, pestilentiales insequuntur. Et paulo infra, - - Per Pestem nibil aliud intelligitur quam morbus maxime contagiosus & epidemicus, qui ortum ducit ex miasmate venenato ab Aere primum suscepto, & binc per contagium propagato, quo occulte & latenter bomines aggressus in

Summum vitæ periculum conjicit:

Tis plain therefore these Three Subdivisions of Continual Fevers are different Degrees of the fame Species, and are only distinguishable by the Degrees of Danger and Epidemicity. In short, where-ever any Eruptions appear, and the Fever is very Mortal and Epidemical; and at the same time trade with Infected Places, brings in Goods from them, without the due Quarentines, 'tis a very suspicious Case; and nothing but a superlative Ignorance, back'd with Avarice, can blame the Suspicion. Willis says, Interdum

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terdum nimis securi Pestilentiam ratione symptomatum Febris communis amulam contemnentes peri-

cula nostra, non nisi sero deprebendimus.

All. forts then of Continuals may belong to the Ardent or Hectical fort, as may appear by Practice; and Sydenham proves and shews the Pestis and Febris Pestilentialis of 1665, 1666, to have been Ardent; for he fays, Primus insultus rigorem ac horrorem quemadmodum & Febrium Intermittentium accessiones, fere perpetuum babet comitem, mox vomitus enormes, dolor circa cordis regionem, ac fi Torculari premerentur, FEBRIS ARDENS usitata symptomatum ovodeoun stipata indesinenter agros divexant, donec aut mors ipfa, aut benigna Bubonis vel Parotidis Eruptio, que materiam morbificam foras ablegat eos ab luctuosissimo discrimine liberet. And mentions some Instances.

As to the Hedical fort, read Hodges de Pest. Lond. 1665. where he fays, Calor mitis in puella & admodum blandus, interiora utique manifesto non conflagrarunt incendio. - E contra vero omnia tam pacata, tam serena, perinde ac si nulla agritudinis procella jactaret, nedum impenderet vita jactura; revera mibi non constitit de causa agritudinis quam simulasse morbum suspicabar, donec Thorace nudate in dubia hic illic stigmata pro more compuncta partem sensu vacuasse indicaverint, merito habita properantis Fati Arrhabone, eadem nimirum nocte puella expiravit, vix dum vel suo, vel astantium Indicio valetudinaria. Diemerbroeck in Pest. Noviomagens. Hist. 120, & ultim. fays 'tis sometimes without a Fever; and fo does Barbette.

Having shew'd then that these Fevers may be either Heltical or Ardent; let us fee how the Authors treated these Persons under the several sorts. They who found them of the Hellical kind treated their Patients with warm Alexipharmacks: So Hodges commends Sp. C.C. Jij. vel 3j. ex Aq. Epidemica. Perfor

Barbette praises his Pulv. Alexiterius, viz. R. Rad. Contrayerv. 3\beta. Petasitid. Tormentil. Enul. Campan: \(\frac{1}{2}\) z. Ras. C. C. Ebor. \(\frac{1}{2}\) z. Corall. rub. ppt. \(\frac{1}{2}\) iv. Cinnamacut. \(\frac{2}{2}\) ij. Antim. Diaph. \(\frac{2}{3}\) s. m. Diemerbroeck makes use of this: R. Conf. de Hyacynth. Sal. Scord. \(\frac{1}{2}\) \(\frac{2}{2}\) j. Sal. Card. b. \(\frac{1}{2}\) \(\frac{1}{2}\), Theriac. Androm. Diascord. Fracastor. \(\frac{1}{2}\) \(\frac{1}{2}\) ij. Aq. Theriacal. \(\frac{1}{2}\) Card. Ben. \(\frac{1}{2}\) \(\frac{2}{2}\) il. Vitriol. gr. \(\text{xij.}\) m. \(f.\) Haustus pro Sudore. Helmont de Peste commends these Seven, Hypericon, Vincetoxicum, Enula, Distamnus, Aristolochia, Laureola, and Raphanus Sylvestris; as also Common Rue, Zedoa-

ry, Scordium, &c.

Sydenham having describ'd his Pestis as of the Ardent Kind, did accordingly Bleed his Patients plentifully; and mentions one who us'd to Bleed ad Deliquium Animi (which is Galen's Method hinted at above) fuccessfully, and kept 'em under a cool Regimen: 'Tis true, that he did afterwards alter his Method for a very different one, and yet fucceeded; having, after once Bleeding, given Diaphoreticks for 24 Hours without Interruption, (in which he copies Angelus Sala very exactly:) However, I don't find that he did this, because he did not believe the other a fafe Method, (so far as appears at least) but to avoid Reproach, and that he might not feem to stand alone in a Method: To which it may be added, That a Pestis includes a Complex Indication, and is therefore confider'd as a Fever, and as a violent Malignity, from whence there is the utmost Danger of the Spirits being immediately either evaporated (by the violent Diffolution of the Blood) or fix'd (by the extreme Coagulation of it) beyond the Possibility of Recovery; and that therefore we are oblig'd to negled the Fever, and bend our Confideration entirely to the Malignity. However, there is yet one thing to be confider'd, in relation to the History of this Pestis, which I look upon to be very material; nor do I find that any Person

Person has yet observ'd it: Hodges and Sydenham speak of the same Pestis, and yet they disagree in the most material Point: For Dr. Hodges observes, That Persons, seiz'd, complain'd of no Heat, nor had they so much as any suspicion of a Fever on 'em: Whereas Sydenbam expresses, That they had all the Signs of an Ardent Fever. Which of the two to give credit to, is hard to determine; only Sydenham having taken up the Method of Diaphoreticks, as well as Hodges; to me, it is an Argument who gave the most faithful Relation.

Thus we fee, that the different States, are by all differently treated; but that, as in Pestilential Cases, Crises are not easily obtain'd; (for that the Humours are not Concoctible,) we are obliged to in-

vert our Methods, to avoid a worse Chance.

Tis observable, that Persons, Quorum res est angusta domi, are easier cur'd of these fort of Fevers, than fuch who have fed plentifully, (and it may be that the Plenitude overstocks the Blood with a great Heterogeneity, not to be met with in the Constitutions of the Meaner Fry) and they consequently require fewer Evacuations: Whereas I have known Numbers of the Richer fort who underwent a harder fate, for want of Room for fuch Evacuations; or because the Evacuations made, have neither been proportion'd to the Indication nor Strengths of the Laborant: But let fuch thank their own Credulity, in leaving this principal Concern to the least Knowing. 'Tis thus that I have often feen Poor Persons labouring under Petechial Fevers, recover without any great Apparatus, fave some gentle Evacuation proper for the present Circum-Itances, and the Pearl Julep, and some nourishing Chicken-Broth; which more certainly produce their Effects on them, (as feldom being us'd to 'em,) than on the Rich. I would have it, however, remark'd here, That Young Practitioners will often be

be terrify'd, in Visiting the Poor, in mistaking Common Fevers for Petechial ones; because of the Flea-bites: Which need be no farther mention'd, since this is easily discoverable by a Black Speck in the middle, which the Petechiae have not; and that they disappear; but that the Petechiae continue constant, or at least, upon retreating, produce dangerous Symptoms.

#### CHAP. IV.

### Of Eruptive Fevers.

Have already call'd these Fevers by the Name of Neutral, because they are not always of the same Species, but are sometimes accompany'd with an Intermitting Fever, sometimes with a Remitting, and often with a Continual, so far as to be Pestilential, as they have been through most Parts of Europe

for these Five Years past.

They are such Fevers where we expett a Crifis, by Eruptions on the Skin; (fuch are the Small-pox, Measles, Scarlet Fever, Rubeola, Crystalli, Rash or Febris Miliaris, &c.) Besides the ordinary Symptoms that attend other Fevers; fuch are, Head-achs, Vertigo's, Inclinations to Vomit, Sweatings, Thirst, Inquietudes, Vigiliæ, and fuch-like: In these there is also superadded a certain Oppression at the Breast, which is a distinctive Sign that ushers in these Fevers. And 'tis observ'd by Physicians, that whenever there is any Tendency from the Center to the Circumference, that then the Patients complain of Oppressions, Loads, and inexpressible Uneafiness that chiefly affect the Breaft: And whenever the Efforts, made to throw this offending Matter off to the Cutis, fucceeds; then, and not till then, that Oppreffion

pression vanishes. This Oppression is the usual Praeursor of all Crises, even in Common Fevers: And as in these Eruptive ones, the Crisis is not very distant from the beginning, so the Oppression is at the first seizure; whereas, in the Putrid Fevers, the Crisis succeeding the State, 'tis later observ'd in 'em. But if this peccant Matter is not sufficiently thrown off; then, instead of Ease, by the partial Eruption, fome dangerous Symptom supervenes: For where the Regular Eruptions are by any bufy Method retarded, Symptoms are usher'd on the Parts; so that then they are afflicted with Colicks, Deliriums, Coma's, Paripneumony's, and many more fuch; and the Fever is term'd Anomalous: Now this may happen in any Stadium; and therefore I wou'd have it remark'd as an Index of an Irregular Eruption, Maturation, or Declenfion.

I shall add no Reasoning about the Nature of these Eruptions; fince the Patient's being afflicted with all the kinds of Fevers, argues that the same Causes that produce other Fevers, also produce these, but that the Qualities of the Blood are of a particular Stamp, to create Eruptions; and therefore shall proceed.

These Fevers, then, have several Stadia, as well as the others; but in these they acquire not the ordinary Appellations of Initium, Augmentum, Status, (which is follow'd by the Crisis,) and Declination; nor do they follow their Order. The First Stadium is call'd the Apparatus, or Space before the Eruption: The Second is call'd the Crifis, or all the Space from the first appearance of any Spots or Pustules, to the compleat Eruption of all that is to appear: The Third is in several Inflammation and Suppuration: The Last is, in all, call'd the Declenfion, and is that Space when the Pultules Icab, or the Spots scale off, and all Symptoms (if Regular) disappear. The Pestis might be, in regard of its Eruptions, referr'd to these Fevers; but because the

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Pestis is always a Continual Fever, and these are often far from it, I thought it best to place it amongst the Continual Fevers.

If then Symptoms of a Fever begin; if that Season produce certain Fevers that are of this Stamp, we may guess them to be of this Kind. But in a more particular Manner, if Loads on the Breast, Coughs, Asthmatick Breathings afflict the Patient; and if the Urine settles with a concolled and laudable Sediment; we may almost pronounce, that some Eruptions will follow: For 'tis observ'd that Urine settling the sirst Day, the Crisis will be on the fourth.

Galen de Crisibus, Lib. 1. p. 628. 1. 32, &c.

Our Business is next to find out the Species of Fever, and the Manner of Seizure: As, whether it be of the Intermittent Kind, of the Remittent, or Continual; whether it be of the Ardent or Hellical Stamp; what Habit of Body they are under. If the Fever be of the Intermitting and Ardent Kind, if the Patient be of an Athletick Habit, whatever Species it retain to, you must first Bleed in Proportion to the Ardency and Strength, and must repeat it, if any Occasion urge, and give all the diluting and cooling Drugs, as has been hinted above. If the Fever be of the Hedical Sort give, in the Fit, the Testaceous Medicines in Bolus's and Juleps. But in the Intervals of the Fit, the Cachexy must be evacuated by gentle Lenients or Vomits, if indicated, to cleanfe the Prime Vie, nothing being proper at this Season, but fuch; (the Crifts being so near at hand,) and the Regimen as before; and then the Patient is to be left to the Chance of what follows, which generally is a good one; fuch Fevers generally producing distinct Eruptions. In this Stadium the Cortex is prejudicial, as I have experienc'd in a Gentlewoman, who labour'd under the Febris Papillaris, and had the Cortex given by an Apothecary at the very Beginning: It occasion'd a very irregular and odd

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odd Fever; for some Papillæ that appear'd lively one Day, disappear'd in the Night, with unconcocted Urine, and dry Tongue; and others repullulated, and disappear'd, shortly after, with Delirium's. And thus the Struggle was continued sometimes with promiling, at other times desperate Symptoms for 20 Days; and was ended gradually by Sweats, but at last, most apparently, by fome Stools, with concocted Urine. So that though it have the Power to hinder a regular Eruption, yet it does not hinder the ill Effects of the Retention of this putrid Matter lodg'd in the Sinus of the Blood. Whether this Sort of Compositum is of too strong a Nature to be curb'd by it, and how, I shan't now dispute; but we find even the greatest Patrons of the Cortex don't espouse its use in this Stadium. Mort. p. 134. de variol. inquit. In Zuvexe autem variolofà, --- Natura propriis viribus instructa Victoriam Crisi perfecta in Stadio proximo Sponte, sine Ingrati bujus Remedii ope reportatura est. And our Syden. in Schedul. Monitor. de Nova Febris Ingressu, Ann. 168 ait. Eodem Remedio (Cortice, viz.) hanc etiam Febrim (viz. petechialem, miliarem) adoriebantur. Quod quidem licet Judicio Rationis suffragante tentarent (quia Intermisit vel Remisit) non tamen æque feliciter illis cessit atq; prioribus illis Annis (à 1687 ad 1665) plerumq; cesserat. Mibi enim quantum potui deligenter perquirenti Compertum fuit etiam magnam Corticis Quantitatem exhibitam rarissime agrum a morbo liberasse.

What is here advanced about the Intermittent, will also hold good, if your Patient be seiz'd with the Remittent, which indeed is more frequent than the former; and as the Eruptions that succeed either of these are either of the Distinct, or only Coherent Kind; fo they are generally, in the next Stadium, left free from Hazard, and feldom require more than a due Regimen; for the Fever either ceases or lessens, and the Urine either drops a Sediment, or

has none at all in it. Which are Arguments of a partial or total Translation of the morbid Particles to the Skin.

Where indeed the Fever, from the Beginning, is Continual, then they are Comatous, they are afflicted with Subsultus, and various other Symptoms. And if it retain to the Hellick Kind, or the Heat be small, and Pulse weak; we are then oblig'd to have recourse to Alexipharmacks of different Degrees, in Proportion to the Defect of Spirits requisite for a Crisis; for in this Case 'tis not to be expected without these Helps. Not many Years ago I had a Patient of twelve Years of Age, who was feized with a Delirium: Her Pulse was obscure, and Heat scarce perceptible. On the 14th of March, 1712, the Small-Pox broke out; the had Petechiæ on her. Neck, Arms, and Breaft; her Pulse was quick and small; little Heat; the Urine was Citrin, but without any Sediment. I ordered a Blifter to her Neck; gave her Sp. C. C. Gtt. vi. in Sage-Tea. Also I prescribed a Bolus of Testaceous Powders, and Fulep perlat. every fourth Hour. . By the Help of these the Puffules broke out regularly (of the Flux Kind.) As Symptoms abated, Orders were left to leffen the Doses. On the 21st her Urine settled: They maturated without any Trouble to her, fave that the Saliva was a little glutinous, and less, and her Urine not plentiful. However, her Face kept fwell'd: I order'd her Aq. Patroselin & iv. Sal. Succin 38. Syr. e. 5. Rad. 3 i B. Every fecond Hour two Spoonfuls; a little Canary once a Day; and at Bed-time Syr. de Mecon. 3 ij. The 22d, the was still feverish; the falivated more plentifully; her Face was yet tumid; the Pustules from crude and waterish, now turn white and fuller; her Urine settled, but slept ill: I order'd the fame Medicines to be continued. The 23d, I order'd as the Day before. Her Lips icab. The 24th, her Salivation continues: The Urine

Urine was more plentiful, but without Sediment: The Fever lessens: Her Face was yet swell'd; and her Eyes were inflam'd, and watry. The 25th, her Urine fettled, and was plentiful; her Eyes grew better; her Fever less: She salivated yet; Her Appetite return'd; The Remedies as before. The 26th. they scab on the upper Parts, and do so below: The Salivation, and Fever lessen. The 27th and 28th, the Salivation and Fever lessen; Her Appetite return'd; Scabs come on every-where. The 31st, the Scabs fell off: No Salivation: Her Urine was Citrin, without Sediment: Her Appetite good: No Stools from the Eruption till now: The Pulse was hardly frequent. The 10th of April we order'd 3 iv. of Blood, which was Rheumatick, and next Day an Infusion of Senna by which she recover'd. Thus the Fever, though malignant and remiss, was manag'd without any great Pomp, through the feveral Stadia, to the Advantage of the Patient.

I was called fome Years ago to a Gentlewoman, Telzed with the Small-Pox. She had taken, by the Advice of an Apothecary, some Sal. Cathart. amar. by which the was much dejected, and her Spirits were very low. Spots begun to appear, and she was very fainty; her Pulse low and quick, and Heat small. By which twas eafy to guess that her Spirits were much exhaufted. I ordered her a Blifter, and generous Alexipharmacks. Upon which her Pulse grew stronger, the Pustules broke out plentifully, her Sickness abated, and, after the Eruption, a plentiful Salivation came on: And, by the Continuance of the gentler Alexipharmacks, she recovered, without much more ado. The Pustules on the Breast were large and vesicated.

It often happens that the Fever is Continual and Ardent; and the Management above-nam'd would be so far from being advantageous, that you would endanger a Train of very ill Symptoms: As I knew in a Boy of fix Years of Age, in 1698; who,

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upon being feized with the Variola, had Deliria and Subsultus Tendinum upon him. His Pulse was very strong and quick; his Heat very great. Upon giving Testaceous Medicines, and Stronger Cordials, he grew much worse: But upon changing these, for Bleeding, and cooling and diluting Remedies, he grew cooler; his Pulse grew less strong and fofter; his Deliria abated; the Pultules appeared; and he was cured by the cool Regimen, without much Pomp. This is not only a standing Truth in the Small-pox, but also in all Eruptive Fevers; for tis certain, that if the Fever be too violent, the Eruption will be an Effect of this Violence; and we shall, by this Imprudence, hurry on Inflammations of the Lungs, Head, or some noble Part, and haften their Exit.

'Tis remarkable, that all Eruptive and Inflammatory Fevers early require Bleedings, and other Evacuations, (if at all:) And the want of them is rarely (even in the 'Axuñ) recompens'd by any Sudorificks, though the Urine be concocted, and they feem to be indicated. But the Heat requisite for a Sweat colliquates the putrid Matter, reblends with the Blood, impacts it into the Lungs, or some considerable Viscus, and kills the Patients, when we might reasonably expect a better Fate. Whether it is, that the more we endeavour to heat, the more we incraffate; whether the fibrous Parts of the Blood eafier remix; whether they are more bulky than to pass the Pores; whether when the serous Parts are evaporated, the fibrous are still retained; whether in this State the Spirits are too scanty; whether one or more of these contribute; 'tis little to our Purpose, any farther than that Evacuations are to be made very early.

I was called, 1710, to a Gentleman of Eighteen, who had the Variola: They broke out with a brisk Fever: They were of the Confluent Kind: He was

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restless, thirsty, and very hot; he continu'd very hot all along, from the Eruption, to the Maturation; when the Pustules were very painful, the Fever very high and vigorous, the Arteries beat wonderfully strong; the Intestines were so dry'd with the Heat, that we were forced to extract the Faces (when the painful Throws offer'd) with Instruments, (for a Glyster had no Effect, the Faces being too plentiful;) there were Petechia on the Legs; the Face, Hands, and Feet were fwell'd; he did not Salivate, but Breath'd short, and Cough'd; his Urine fettled; he was taken with a Diarrhaa. from whence his Right-Hand fettled; the Diarrhaa continu'd for four or five times next Day, and he flept well; his Stomach pain'd him from overfeeding; his Pulse was still strong, and the Fever continu'd; his Face scabb'd; his Hands fell from the Breach of the Vesicula, which was a Continued one: Notwithstanding the violent Cough, by which he Expectorated plentifully, with Linctus's and Pelloral Decoltions, his Face did not fall, but Scabs grew four times upon him: At last a Hectick seiz'd him; but by the Cortex and Cooling Diet, all Symptoms, along with the Fever, vanish'd. I treated him with Cooling and Diluting Medicines, and Opiates at Night; Pectorals ex Decott. Pectoral. & Tinet. Croc. cum Syr. Balfam. And if Sickness requir'd, (with Faintings,) Testaceous Bolus's with Alcherm. f. m. & Julap. perlat. I was enclin'd to ha' Bled him; but a gentle Diarrhaa came on, and effectually abated the Fervor, (which was Violent;) after which, Affairs succeeded well. Twas observable, That the Scabs and Cough were a Succedaneum for the Defect of the Salivation. I must here take notice of another Observable: 'Tis the Common Opinion, That the Evacuations by Blood and Stools, either contribute to prevent these Diforders, when Epidemical; or at least, to render 'em

more favourable, if feiz'd; neither of which hapned in this Youth; for he was both Blooded and Phyfick'd plentifully before, and yet I never faw any one worfe Pitted than this Perfon was: I fay not this to discourage Persons from these Precautions, but in order to a farther Enquiry how far they may be of use to what they are intended for.

I shall mention one of a mixt stamp. The first Day his Head ach'd: His Pulse was weak: He was thirsty and feverish. 2d, He had a Lumbago: Fever and Sand in his Urine, 3d, His Urine was fandy: His Fever still continues: This Night some Pimples appear. 4th, His Urine was fandy and bloody: Was watchful: Petechia were on his Breast and Knee: Fever Continual. 5th, His Fever was fierce: His Urine not bloody: He slept little, and had a Diarrhæa. 6th, He slept little: He had a Hamorrhage which lessen'd the Fever. 7th, The Hamorrhage was large, and he was watchful, but the Fever Hectical, and Pulse weak. 8th, He had a Hamorrhage: the Fever was violent, with a strong Pulse and great Heat: The Pustules were of the colour of the Skin and Seffile; in the Legs they were Petechial, small and depress'd at top, of the confluent kind: His Thirst was great: He had a Diarrhaa: Now the Petechiae vanish. 9th, The Fever continu'd the same as on the 8th; the Pustules begin to rife and inflame; his Lips and Hands fwell; the Pustules are painful: a Diarrhaa for 3 or 4 times: He was watchful: He eat Cheese and drank Ale; yet at Night slept well. 10th, His Fever continued violent: His Urine high-colour'd. with a Sediment. 11th, The Fever yet violent: His Urine Citrin, without Sediment: His Face fwelled more; but did not falivate, but expectorates: The Pustules in his Hands maturate, and those of the Abdomen inflame: He rav'd, by drink-

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ing Claret. 12th, Face and Hands maturate: Abdomen and Legs red at Bottom: High Fever: Thirsty: Urine plentiful and high colour'd: A Diarrhaa for 4 times: His Right Arm much pain'd: He slept ill. 13, Face and Hands maturated: Body yet crude: A plentiful Flux of Urine made his Face fall: His Arm painful: High Fever: Slept ill. 14th, The Pustules in the Face scab and maturate in the Body, but not in the Legs: He encreas'd his Fever and Afthma, and made his Urine bloody, by firong Liquors; befides, he had 7 or 8 Stools. 15th, Fever was high: The Scabs of the Face fall off: Those of the Hands and Body are fully ripen'd: The Legs half ripe: His Urine plentiful, Citrin; Afthmatick, and slept pretty well. 16th, The Fever vanish'd: The Urine somewhat bloody; but by the liberty of Drinking, from this to the 24th, his Asthma, Delirium, Cough, and Weakness encreas'd, and he died a Week after. It had been possible for this Gentleman to have escap'd the Small-pox if he had been regular; which yet was furprizing, confidering he was then under the Operation for an Empyema: And the Fever was somewhat remarkable; for first 'twas the cool Malignant, then Ardent, and lastly Hedical; which oblig'd us to shift from the Volatile to Testaceous, and from thence to the cooling and diluting Medicines, according to the different Degrees of Fever.

There are a couple of Gentlemen who have boldly afferted, that Methods may be made use off to hinder Eruptions, whether in the Pestis or in the Variola: Their Sentiments are new; and I wish we may be affur'd of the Truth of them, by repeated Tryals; we needed not then wait for the hazardous Events from the Retreats of these Eruptions. Our Sydenbam mentions a Person who dy'd of a Petechial Fever, and whose Eruptions and Death

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Death he blamed, for want of another Bleeding: And Boorhaave de variolis says, Quamvis enim in boc morbo raro Cogitetur de bac Indicatione, (viz. ut simulo Inflammatorio ablato — sanetur status præ-sens & impediatur ulterior ejus progressus & proinde Caveatur futura suppuratio, Gangrana, &c.; & de hac Methodo imprimis (-que deprehensa est in omni Inflammatorio valere ne Inflammatio in Pus Gangrænamve abeat: quum in aliis omnibus Succedat, bic nibil repugnet, Morbus variolosus sæpe sine variolis sit - Consistet illa - in bis 1. Mittatur Cruor (ad Citam largam pro gradu Mali moderandam aut repetendam Missione Sanguinis ut moles Crass minuatur & diluentibus Spatium Concedatur iterumque. Cita, larga, --- Missio Sanguinis instituenda - debet Continuari in remissionem satis notabilem Doloris vel ad prima signa Deliquij Animi; debet repeti ex Consideratione redeuntium Symptomatum ad que tollenda prima instituta fuit; Crusta-absens finen definit) CASUS TAMEN, IG-NARO MORBI MEDICO: SAPE DEDIT SUCCESSUS PROBANTES TALEM ARTEM.

These are his own Words, gathered out of his various References; and this Accident (of Ignorance I mean) I am told, has embolden'd him to follow this Practice fince: How it fucceeds, Time will make it out; but I believe there are certain Cases where this is utterly impracticable; for where the Persons are seiz'd with the Variola or Pestis of the Hectical fort, and under the Defect of Spirits; the more Blood they take away, the more Spirits they draw off, and there would be too few left to keep the Circulation on foot. Besides, I have seen fome ignorant Trials (of which we have too many) fucceed fo ill; that I doubt, in this kind, the Project will not hold Water, whatever it may do in

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In the second Stadium of Eruptive Fevers. There is the same variety of States of the Fever: Where the Eruption is compleat, and there is an another the Eruption is compleat, and there is an another Eruption is compleat, but we ought to leave the Affair so; for we may, by tampering, remand the peccant Matter into the Mass, which may give room for it to play a more tragical Game than before. I need not point out that the distant Interval of the Pulse and calm Temper, will convince us of the Fever's having left the Patient.

It may, Secondly happen, that an Intermitting Fever may be join'd in this Stadium to these Fevers; and then great Care must be taken that these Intervals be not, by any bufy Method, advanc'd into a Continent, much less into a Continual Fever. We ought here to be Spectators, and only order a due Regimen as the nature of the Fever requires: For here Nature of her felf will conquer all Difficulties. We must here again, as I have binted above, be careful not to give the Cortex, till the Eruption is compleat; and then, it is fafe enough to extinguish the febrile Ferment, and to hinder it to create fresh Symptoms; though 'tis more useful in other Fevers. than the Small-pox: For 'tis first an ungrateful Remedy, and then, if Intermission, or even a Remission of the Fever comes on, a due Regimen is only requir'd, and generally fuffices.

Thirdly, We often observe, in this Stadium, a Remitting Fever: And here the Cortex is useful, as in the Intermitting, after the Compleat Eruption; and by so much the more, because this being a halv'd Interval, there is more Occasion to obviate the greater Danger that may happen from Mismanagement, which may turn it too soon into a Continual. Besides, 'tis necessary to remark, whether the Fits retain to the Ardent or Hestical Species, in order to the Knowledge of the Medicines or Re-

gimen, which may be proper in these sorts: And Notice, moreover, must be taken, that the nigher we draw to an 'Azun in all Fevers, we must make the less free with any Evacuation, (unless Indicated

by plain and almost demonstrable Signs.)

Fourthly, When the Crisis is extremely Imperfect, and that Matter yet lodges in the Mass, ( besides what is push'd to the Skin ) so that the Fever proves Continual, as it always happens in Flux-Eruptions. Then the Case is so much the more deplorable, as the Strengths of the Patient are disproportionate to the Symptoms. Here, too, the Fever may be either Ardent or Hedical; and you must, both in Regimen and Med'cine, alter as they require: For otherwise, if you should Bleed and Cool in the Hellick, or give Warm Alexipharmacks and Blifter in the Ardent, the Consequence would be the Augmentation of those very Faults we would amend. And, by the one unfeafonably given, you would, by adding more Fuel to the Flame, bring on all the Symptoms that are Companions to an Over-rarefaction of the Mass; such are, Bloody Urine, Phrenzies, Coma's, Resorption of the Pus, and an entire Suppression of the Salivation, and various other fatal Symptoms; for these and many more may proceed from the Encrease of the Moment of the Blood, which will produce all these, as if the Quantity were really Encreas'd; for the Veffels will in each Section contain a larger Moles. And befides, 'tis known by Experience, that Regular Separations are not the Effects of Fluids Irregularly mov'd: That Irregularity depends either on too Rapid or too Slow a Motion of our Blood. So that on either hand, we have it in our power to Augment or Lessen the Motion: by which we may expect a Regular Eruption, &c. if we proceed as prudent Men; and the reverse, if Ignorance govern us.

I shall take leave to digress a little about the Patrons of the Cool and Warm Regimen and Methods. I shall only mention two of our own Nation, who have feem'd to favour the one or the other: And indeed if we examine their Practice throughly, we shall find the Difference was but a feeming one. Tis true we find Sydenham uses Alexipharmacks more warily; and Morton seldomer approves of Bleeding. Sydenham would not give Alexipharmacks without an apparent Necessity; nor would Morton bleed and give Coolers without an evident Reason: And yet when Occasion requires, we find them to change their Methods, but with too much Regard to their darling Hypothefis. The one had fix'd an Inflammation in the Blood for the Caufe, and the other a Venenum: And we find the one, upon all Occasions, inculcating the Effranationem Ebullitionis immanis, whilst the other presses the use of Alexipharmacks, in order for Expulsion of the Venenum. I shall not here take upon me to determine how far these Authors Works may have influenc'd young Practitioners to follow their Steps; this is but too much known in our Isle, where many have fallen Victims to both thefe Hypotheses, as each Tyro of Physick's Fancy led him. But I shall shew you, that they themselves chang'd their Method, as their Reason guided them; which is enough for us to make use of our Senses and Reafon as they did. We find Sydenham allow'd a little Sack, and in his later Experience allowed of Blifters; because, says he, - Adeo ut in omnibus fere quos tractavi variolis laborantes, observaverim PULSUM IN CARPO SALIENTEM ÆGRE PERCI-PI POSSE HOC TEMPORE, (that is, at the Eleventh Day.) And Morton, in his Hiftor. 55. would have Bled some in the Progress; for says he, FE-BRIS autem cum Delirio conjuncta jam evidenter recrudescebat, cute universa humore & rubore Ery-Sepelatode

sepelatode suffusa, atque miliari eruptione ubique in Interstitiis Exanthematum efflorescente, unde non obstante forti ARTERIARUM VIBRATIONE per totum Morbi Cursum fatale Prognosticon Protuli, PRÆSERTIM QUIA NON POTUI ARGUMENTIS A PULSU PRÆTER MOREM FORTI ET ROBUS-TO V. SECTIONIS JAM CELEBRANDÆ VENIAM A PARENTE IMPETRARE. The One then Bled. because of the Strength of the Pulse, and overbearing Vehemency of the Fever; and Sydenbam gave Alexipharmacks, and Blifter'd, for the Weakness of the Pulse and Lowness of the Fever.

I come to the Third Stadium; where Suppuration is sometimes the Business of the Physician. Here, too, the Fever is the Compass we must steer by; which now is either quite Vanish'd, Intermits, Remits, or is Continual: And the Kinds also differ here, as in the other Stadia. And as enough is faid in these Cases above, 'tis needless to annex the Management; only we must remember to begin from the weaker Medicines, and afcend gradually to stronger; for in such Cases we must not dwell upon a Method which does not prove fuccessful: So where, in the Small-pox, the Putrid and Secundary Fever is violent, with a strong Pulse, great Heat, Anxieties, Phrenzies, gentler Coolers and Opiates are too weak, without Bleeding: Nay, in such a Case, I find that Opiates, unaccompany'd with the Bleeding, dull the Patients wonderfully, without any Advantage at all by them. Indeed, Evacuations are not now to be attempted without extream Caution and Confideration; but, after all, are not to be neglected, when there is an Indication, and quod Cito fit, bis fit. Where Nature has fo far conquer'd the noxious Matter, as throughly to have exterminated it from its Mass, our Business is at an End, and Prevention of its Return by ill Regimen (and all Symptoms thence arising when reblended.

with it) is our Task. Thus in the Small-Pox, by preventing Symptoms that disturb this Order of Nature, by either quelling the exorbitant Commotion, (by which the Pustules are resorb'd,) or by animating its Motion (for the want of which they turn feffile and depress'd, and either imposthumate not at all. or very little; hence Delirium's, Subsultus, and all ill Symptoms; ) you may place your Patient in a safe Way, who before seem'd at the Jaws of Death. If the Fault be local, as it fometimes happens, it is not amended without a local Application.

It may here deferve a Question, Why Topicks have never been made use of to the Face, in order to promote a Suppuration; for if the Face continue to fwell much, and the Salivation continue, Affairs go well; And if the Reverse happen, 'tis a dangerous Case. We find that the Face cannot keep up to this Pitch, if Evacuations drain the Matter through other Ports, or there be any Mismanagement in Diet or Medicine, or any other Symptom revulfe the Humour. In short, the Danger of its Retreat is never over till the numerous little Inflammations are fully suppurated, that is, till all the Blood, (pure and impure,) impacted into the little Cuticular Fibres, and engag'd in fuch certain Rows of them, turns into Matter, and defembogues into fo many Common-Shores; and thus leaves the Blood free to circulate calmly on, without any Impediment to Motion, or leaving any extraneous Matter in it to create any farther Fever. Till this, I fay, happens, we are obliged to steer with great Caution; for Reforption of any Parcel of this stagnating Matter too often produces Symptoms irremediable, though under the best Hands. Circumstances being put in this Light, 'tis amazing to find that Physicians never have attempted Topicks to haften Suppuration in the Face, from whence fo K many

many unforeseen Accidents hurry us headlong into the Grave; for where the Defign is Suppuration of many Phlegmons, and the Fever is a Symptom of the Pain attending the Tubercula, it is natural to believe what we would apply to one large Phlegmon to ease and suppurate it, would hardly fail to have the fame Effect upon many. And in Effect it has been found, that Discutients, &c. applied in this Case, have not fail'd of their Effects, as is evident in Diemerbroecke. Hist. 13. De Variolis & Morbill. Where he tells, That one Mrs. Cowper, by the Help of Cinnamon-Water rubb'd on the Face, prevented any Eruption there. Hence are Epithems of Saffron, Rose-Water, Women's-Milk, and such like, applied to the Eyes: Hence Aftringent Gargles for washing the Mouth and Throat: Hence Saffron-Stays dipp'd in Women's Milk, and applied outwardly to the Throat. We then are of Opinion, that the Restringent Faculty of the one, can hinder the Eruption of them in these Parts; and that the discussive Force of the others can disperse the Matter of the Pustules. In short, it is reasonable to believe, that as we suppurate a Bubo in the Pestis with good Success; nay, and we look upon it as good Practice, to hasten the Suppuration of it; I cannot fee but, by a Parity of Reason, we might safely suppurate the Pustules of the Variola: For whatever Symptoms happen from the Retrocession of a Bubo, may also happen in the Small-Pox from the Pustules returning or turning Sessile. Now if these are poffible; Why not Suppuration promoted there also? And there may be this Comfort in the Trial; that I fee no Inconvenience can attend it, but much Good.

Another Quare is, Whether it be good to cut the Blushes e're they scab? I shall mention some Authorities, and give in my own Sentiments. Riverius, Diemerbroecke, and some others, say, That Experius.

Experience has taught, that when they are cut, they are longer in curing, and make worse Escarr's; and therefore they believe it better to leave it to Nature. Mayerne advises cutting them when they are full, deterges them, and fo lets them fcab and dry. Langius fays, Where they are watry, undigested, livid, and from the Air, he would open them; for then the Matter is very corrofive and exulcerates the Part, and so makes a deep Pit; but where they are thick, white, digested, and concocted, be fays there is no Occasion. The Practice at prefent is in difuse. And so far I can say by Experience, That if the Cuticle be separated, and a Scab come upon it, the Cicatrix is very ugly; and the oftener they happen to scab, and fall off, the more they are mark'd; as was very evident to me in 1710, when the Small-Pox were epidemical, and very fatal, one of my Patients had them repullulate four Times, and the Cicatrices were the Ugliest I ever faw. And in the Main, I fee little Advantage gain'd, unless we can hinder the ulcerated Parts beneath to ouze, which is dangerous; and therefore 'tis, at least, not be done till a complete Maturation, and then the most of the Damage is over.

Having run through the various Stadia of these Fevers, I come now to the last, (viz. the Declension or Desquammation.) In most other Eruptives, this is the third; but in the Small-Pox 'tis the fourth. If there are no Remains of a Fever, the Patients are in Safety; or if the Fever intermits, remits, or a Hellick come on, cooling Decoltions, and the Cortex will reinstate them; as I lately experienc'd in a Child of three Years of Age, whole Sifter died comatous and feverish. She, I perceive, was held, as the Child I am going to mention: But the Fever, by a preposterous Method of Catharticks repeated, (and some other Mistakes,) miscarried. And from hence I was called to this Child.

K 2

The

The Scabs were quite vanish'd: She had a Cough upon her, an Anorexy, and a Hellick Fever. I order'd ziij. of Blood to be taken away: I gave it ziij. Cort. peruv. opt. subt. pulv. to ten Grains at a Time, and to drink after it a Mixture of Aq. Lall. alex. zviij. Syr. Balsamic. zi \u03b3. From this Time forward, she was relieved, and in five Days her Pulse grew calm. She had no Heat: Her Spit was concolled: She regain'd her Appetite: Her Urine, from intensely Red, became Citrin: And in twelve Days she was perfectly recover'd, and grew plump. If the Fever be still Continual, they are in imminent Danger, and generally go off anbelous and delirious.

They in the Morbillose or Scarlatine Fever undergo the Stadia I have now nam'd, (save Maturation,) and they are afflicted with all Kinds of Fevers before the Eruption, at the Efflorescence; and after it is over, as I have experienc'd. And therefore all the Methods above named must be used as Occa-

fion ferves.

I had the Misfortune to be called too late to a Gentleman, who, after a sharp Fever, was afflicted with a Diarrhaa and Vomiting [Cholera.] His Scarlet appear'd, but presently retreated; and his Throat swell'd; and he died in a high Fever in four Days. Doubtless, if the Apothecary had blooded him, they would have broke out regularly, and his Life might have been faved. I was called, two Years ago, to a Girl, who, at the Time of Eruption, had a violent Fever on her, was kept in a hot Room in Bed, and her Regimen was warm; whence the was reffless and watchful, and under Danger of of Deliria: But by a cool Regimen the immediately grew better: The Scarlet appear'd regularly. She rested, and soon grew well. Morton very well obferves the fucceeding Symptoms to be either Colliquative, and to require Opiates; or Inflammatory, and require Bleeding. Both which I have found

true. And I lately found the Colick (in a Boy, after the Measles) to be taken off by Bleeding, and Milkwater; because of a fix'd Pain, and his being very feverish.

Here I shall crave Leave for a small Digression on the Puffular Fever in 1710, which was epidemical, and very fatal. They begun with Algors, but not remarkable; which are certain and faithful Fore-runners, and the Date of any Fever. Next this, some were seiz'd with Headachs, others with a Lumbago, and many with a Vertigo only. But the Temper in most was so mild, that unless the Pulse was narrowly felt, you would have been deceiv'd into a belief that they were only hypochondriacal: The Pulse was myurus, very frequent, and beyond a hundred Stroaks in a Minute, although the mild Temper and Sighings put on the Shape of Hypochondriacism; so seldom did they at the Beginning complain of any violent Symptoms: For their Spirits were stole off quietly; and 'twas observ'd they died without any Struggle, and no Puffules appeared. The stubborn Watchfulness brought on, the 4th or 5th Day, either a Coma or a Phrenzy, according to the Constitution of the Decumbent, that did not yield to Remedies. The Urine, at the Beginning, deposited a Sediment pretty laudable, and they fell into spontaneous Sweats, Pustules broke out; and thus, for a while, Affairs feem'd to prosper pretty well. But if any Medicines were given by fuch as were called in, the Urine immediately became confus'd, and they turn'd comatous or phrenetick. In other Constitutions, it was observable, that if Sweats came on, the Urine remain'd concocted, Pustules broke out, Symptoms abated upon their continuance, and they presently recovered; nay, at the first Appearance of it, this was farther remarkable, that fuch Phyficians as thought they had found a certain Method to relieve them, and that K 3

that by Sudorificks, did at last find their Mistakes in most others, not without Confusion: They either died or recover'd in eight Days. This was certain, that some mercenary Men, at this Time, did, contrary to an Order (then in Force, for Ships observing a Quarantain, if from the Baltick) unload a Vessel from Sweden with Flax, &c. and a certain Occasion obliged most of the Inhabitants, out of Necessity or Curiofity, to be very near the Place of unloading: And immediately upon this, this Fever became fo common, that every House had almost its Share; and the Merchant, who had been guilty of this Misdemeanour, suffer'd, and fell by it himself. But a Frosty Season succeeding, it became less frequent; and, at last, by a strong Frost, quite vanish'd. I shall subjoin some Remarks on it, and then shall proceed.

Heat on them, along with a strong Pulse, and their Urine turbid, confus'd, and milky; although they sweat, these were symptomatical; and the Eruptions, thrust out under these Circumstances, were not such as diminished, but added to the Symptoms. But where the Urine continued, concocted, or Concoction had preceded, and it turn'd clear or stramineous, and that the Pulse and Heat were not too strong; these Sweats and Eruptions were critical, and the Fever vanished, or turn'd Remittent, and so in a small time was breathed off.

Secondly, Where the Pulse was weak, and the Heat imperceptible, or near the natural; then the Eruptions did not succeed, nor could the Blood be clear'd of them; and then the Case was desperate.

Thirdly, That no Evacuation (even a Glister) succeeded well at the Time of the Eruption, if the Pulse was weak and low; but that they either (in Proportion to the Evacuation) caused them to disappear, or turn sessile and discolour'd; and then be-

gun afresh all the ill Symptoms, till the Blood was again (which was very hard to do) enabled to part with them.

Fourthly, That Trouble of Mind, or Concern, caus'd these Fevers to turn up to the Head, and either made them turn Phrenetick or Comatous in a short time.

Fifthly, Where there was a large Quantity of Spirits (as was eafily guess'd by the Strength of the Patient, and a large Pulse) small Mistakes did little Harm; but where there was a Penury, any

Error kill'd them irrecoverably.

Sixthly, That after the Declentions of the Spots, if the Urine was concocted, gentle Diarrhæa's did Service, and, by degrees, they recovered: Nay, if they were forc'd, by Lenients, and if it was upon a concocted Urine after the State, and the Fever was long in going off, they succeeded well.

Seventhly, Coughs were a good Sign, if the Eruption had vanish'd, and the Urine were concosted, and the Expectoration carry'd off the Fever, and

prevented other Accidents.

Eighthly, If the Urine settled, and the Pulse grew strong after the Sweats, and more soft, it betoken'd well.

Ninthly, The Cortex avail'd little before the Eruption, as is usual in other Eruptives, but kept them in a neutral State, and they suffered long for it; but after the Eruption, it succeeded well e-

nough.

Tenthly, That the Sweats succeeded in some who did follow this Method, from Nature's Instigation, I mean either a previous Coction, or a Serous Blood; yet it was found not to succeed, unless they continued them uninterruptedly, and gave them the gentler Alexipharmacks, such as Testaceous Pouders, Julap. Perlatum, and such mild Medicines, as only supported the Spirits, without heating the Sick; K 4.

for if you gave them to fuch a Degree as any ways

heated, the Sweats stopt, and they dy'd.

Eleventhly, All Evacuations were to be made use of from the very beginning; or they seldom, if at all, succeeded: but if you made use of Bleeding, Sweats, Emeticks, or Lenients from the beginning, Affairs succeeded well enough; only if Lenients were given after Bleeding, the Sediment in the Urine was plentifully thrown off, and the Fever, in some, was check'd in the Bud. As to Diaphoreticks, it is to be own'd, they succeeded, in some, at the first, who were inclinable to Sweats, without the Danger of over-heating; and in the older People, and in such whose Blood was not too Viscid, but Serous and Phlegmatick: However, the Method of Bleeding, and Lenients, with gentle Pearl Juleps, afterwards compleated the Cure most safely.

Having said enough of this Matter, I shall, under the next Chapter, recite an Observation or two, to

illustrate this Affair.

### CHAP. V.

## Of Crises.

A Crisis is a sudden Change, to better or worse, in Fevers, from Kejvo to judge; because by this Change we pass Judgment. When the Blood contains any Heterogeneous Matter, and a struggle is rais'd in it to throw off this Load, it is judg'd to be ready to part with these Particles, when the Urine drops a Sediment, and the State is at hand; so the Crisis commences when the Blood calmly secens its noxious Particles: But whether Nature will do it by the Pores, Intestines or Lungs, is not always easily determinable; for Sweats, Diarrhoea's, Coughs.

Coughs, Jaundices, and even Abscesses equally terminate Fevers; for 'tis not the Figure, but the Patency of the Emissaries, that determines the Paths of the Secretions in different Persons; so that whoever has by Nature the Pores of the Intestines more patent and more yielding than those elsewhere, will throw out these Morbid Particles by them. That it is not the Figure that passes these Particles, has been made evident, by shewing, that all the Arteries, in every Section of them, are circular; and by demonstrating that Glands are but Complications of these Arteries.

In Crifes there are Three Cases.

First, Where the Urine is gross, thick, turbid, milky and confus'd, or where Suspensions follow a laudable Sediment, 'tis call'd the segu avalelapasusvov. This is an Argument that the Morbid Particles lie buried in the Sinus of the Blood, and are so intimately blended with it, that Nature is in danger of being furmounted, and that the Crisis is not yet begun; or if begun, has gone backward: And therefore, that all Evacuations, Eruptions, or whatever Attempt Nature makes under these Circumstances, are Symptomatical; and by furthering any of these, 'tis odds, but that you destroy your Patient: Which is confirm'd by Sennertus, faying, De Febre Petechiali, ubi Coctio in Urina Petechia expellenda, alias non. I am not ignorant, however, of what Forestus says, that Crisis agonistica plerung; fanat. L. 2. obf. 26. By which he means nothing farther, than that, if any gentle and moderate Evacuation, which does not weaken the Sick, happen, fuch as a gentle Diarrhaa in the Small-Pox, which does not cause the Pustules to settle, nor produce any dangerous Symptom, fuch as Sweats before a Crifis in a Fever, which neither disturb the Head, nor introduce any other Accident, because they are gentle; then these may be overlook'd: But if such continue. continue, and become confiderable, inasmuch as the Strengths of the Patient decay under them; then it is necessary, according to the urgent Symptoms, either to quell the Commotion, by Bleeding, Dilution, and such like, (only having regard, if the Fever be near the analy;) or you must, if the Motion be too languid, support the Spirits with Alexipharmacks, or Blisters must be apply'd, till a better Chance happen. Sometimes, here, the Cortex is of Use, if there be Remissions, and you suspect the Nature of the Fever, (but not in Eruptive ones.) This is call'd, The State of Consusion.

I shall subjoin an Observation or two, to confirm these Sentiments, and shall proceed to the other

two Cafes.

Anno 1710. I was call'd to a Gentleman, who finding himfelfdisorder'd, was twice Blooded: Some time after he took his Bed; and when I came, I found him treated with Testaceous Pouders and Cinnabar, and with Cordial Juleps, stock'd with Malt Spirits, which are strongly Empyreumatical; he fweat plentifully, and Red Pustules appear'd copious on his Breaft; his Heat was sharp, his Pulse weak, his Urine was milky and turbid; hence I boldly pronounc'd, that these were not Critical: Next Day his Urine was Crude, as before; and notwithstanding that we withdrew all strong Cordials, he sweat abundantly; and after it, came on a Fetid Diarrhœa very plentifully, his Pulse was larger, and he unexpectedly went off Lethargick; and after his Death, Bloody Stools were thrust out, which doubtless had been occasion'd by the neglect of Bleedings, and by the Administration of the hot Cordiac's.

The same Year another Gentlewoman consulted me, she was afflisted with a great Head-ach, and was Plethorick; her Heat was moderate, and Pulse not strong, so I only took off 3v. of Blood, which reliev'd

reliev'd her Pain; I advis'd her to go to Bed; she fell into univertal Sweats, and her Urine was concocted; while she Sweat, her Tongue continu'd moift, and the grew better, and her Pulse stronger, and more undofe; but whenever the suppress'd the Sweats, as the often did, her Urine turn'd muddy, and the was troubled with Vomitings; but upon taking a little Aq. Pulli, she vomited three or four times, by which her Spirits were exhausted; but by some Bolus's of Pulv. e Chel. c. Bezour. Lap. de Goa & Alcherm. every fourth Hour, with a little of her Julap. perlat. her Sickness abated; her Urine, from lacteal and confus'd, fettled with a laudable Sediment, and her critical Sweats return'd; but being again weary'd with the constant Sweats, rifing out of Bed and cooling her felf, her Urine a fecond time became muddy, and now had only Suspensions in it; her Tongue grew dry and black, and the grew fick and fainty, and her Pulse intermitted. Upon renewing the Bolus's with Serp. Virg. to some few Grains, and applying a Blister to her Neck, the Papillæ appear'd next Morning. I would (from the weakness of the Pulse, and moderate Temper, and a comatous Disposition) have apply'd more Blisters, which were only consented to twelve Hours after by the Affistant, who then saw the pressing Danger of omitting them longer; but neither they, nor Volatile Salts, added to the Bolus's, cou'd awake her, for she dy'd Comatous next Morning.

2ly, Where the Urine is concolled and drops a laudable Sediment, or has a Nubes in it that lasts for many Days, which unites more and more, and at last settles to the Bottom. > This fairly denotes a the Separation; and fuch as Riverius adventures to been former pronounce well of, even in Pestilential Cases. The officerous Sediment in Urine to be laudable, Bellini p. 14. de Urin. says, Sedimentum debet esse figura retusa Py-

ramidis

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ramidis vel portionis Sphæroidis cum basi in fundo vasis: I shall add, that it ought to be equal, not farinaceous, not like Sperma Ranarum; for these are either Tokens of Crudity or Overcotion: But it ought to be chylous, instar Genituræ vesicalis, and lie and look like White Clouds. When the Urine has been thus à Statu, and Sweats, or any other Evacuation supervene, they are critical, and to be encouraged, whether the Sediment continue, or not: Nay, 'tis better that it should vanish, because 'tis a Sign of an entire Victory; and, I doubt not, but our Febris Anglica Sudatoria had a

Concoction previous to its Sweats.

However, I have too often found the Urine to fettle well and laudably, and yet the Patients have labour'd under some troublesome Symptoms; which feems to be a fufficient Reason to conclude, that tho' the morbid Miasma do part from the Blood; yet that that there is too great Plenty of this Matter still resting within, and that the Separation is only partial, and not easy to be expell'd, but by a nice Management, and that the Crifis that follows is imperfect. This is the Case in the Flux-Pox. where, during all the Stadia (even of Maturation, and during the Salivation) the Urine often fettles. If indeed Affairs fucceed without this Concomitant Sediment (Supposing it to have preceded) 'tis a better Sign than if it yet deposits one; because it argues the Matter less copious in the one than the other. But if, notwithstanding the Salivation, (which in all Fevers is a Critical Evacuation.) the Urine fettles, there must be great Plenty of Matter in the Blood; and if the Strength of the Patient fail not, it argues that there is Matter enough to supply the Eruptions, as also for any gentle Evacuation attempted by Nature over - and - above: So that in a Miliary Fever, the gentle Diarrha is useful. Hence, in the Small-pox, the Salivation, Flux

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Flux of Urine, and sometimes the Diarrhaa, when gentle, are of use, as is the Spitting Cough, or Scabs falling off, and repullulating in the same Disease. Hence it appears why Riverius, in his Febre Pestilent. Monspeliens. blooded the Patients, tho' they had Parotides Critica; for the Evacuation was critical, yet it was not fufficient to evacuate the whole Matter of the Fever; fince notwithstanding this Eruption, all who did not Bleed, loft their Lives. I then affent to him, when he fays, Non erat capax totam materiam morbificam excipiendi. Hence it appears why Sydenbam, in his Febris variolofa, tho' the Urine was concocted, and Sweats came on. took Blood from his Patients; being only a Partial Criss, (if any at all, which is another Question:) Hence Bleeding, in his Putrid Fever in the Small-pox, was useful, the Matter being only imperfettly exterminated. 'Tis therefore necessary, where the Urine is concolled, and yet Symptoms abate not, upon Some Evacuation that is critical, because insufficient, to proceed to some farther Evacuations, that may probably have the defir'd Effect, of either difpofing the Blood to feparate more effectually, or make it do fo, if the Strengths of the Patient will allow: For otherwise 'tis a dismal Case, and hard to manage the Balance level; fince over-doing either in the warm or cool Regimen, is equally fatal. Indeed, in Eruptive Fevers, where the Crifis is not very distant from the Beginning, we may make free with proper Evacuations, if indicated; but in other Cases, where the 'Axun is at a greater Distance from the Apparatus, we must use Evacuations very warily: But if Nature be flow in ejecting her Enemy, or the Burden be great, or do it but partially; we must then try the most gentle and probable Evacuations, to supply this Defect; and that is fafest done by gentle Catharticks, or rather Lenients, as I have experienc'd in feveral, even in a critical

critical Parotis, but partial; for fuch carry off the Load per Epicrasin, and gradually, even in Pestilential Cases. If what Sanctorius advances, held in our Clime, it would be more probable, by a Fourfold Proportion, according to Dr. Pitcairne, that Diaphoreticks, given upon a digested Urine, would carry off the offending Matter, than Lenients: But this being found by Counter-Experience to be false, as Dr. Floyer has affur'd us; for that we lose only, in the Space of one Day, 6 or 8 Ounces of Perspirabile, in the room of 30, 40, or 50 Ounces lost in Italy: And it is probable that, in our Climate, we perspire as much as the same Surface (equal to that of our Bodies) loses in Exhalations on the Sea; for then 17 or 18 Feet Sq. evaporating 7 or 8 Ounces of Vapours, our Body of equal Surface loses no more. And if we add half an Ounce (quam proxime) lost from the Surface of our Bronchia (which, to compute, I found out a peculiar Method,) the Exhalations of Vapours from the Sea, and the Perspirabile from our Pores, will in all Climates bear a near Proportion: So that in England we shall lose 8 Ounces, whereas in Italy they lofe 50. Now as the above-mentioned Gentleman concluded it better to give Diaphoreticks than Lenients in a Fourfold Proportion; I may now conclude from Reason, back'd with Experience, that Lenients are, upon all Accounts, fafer in our Isle, than Diaphoreticks; because there is a greater Patency of the Mouths of the Intestinal Glands, than of those of the Cutis; and hence more can (tho' only upon Concoction just begun) be evacuated; and less Disturbance and Commotion rais'd, than by Diaphoreticks; which can only be fafely given after the State: And they are moreover fo often contra-indicated, that they are dangerous, in that they often raise Phrenzies, by forcing the Blood too impetuoufly into the cortical and

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and callous Substance of the Brain, from whence

there is often no Possibility of remanding it.

3dly, If the Patient be seiz'd with a Fever, and his Urine comes to a Concollion, and immediately from a true and concolled Sediment, it either turn pale or citrin, without any Hypostasis; if Symptoms abate, and the Fever cease and diminish upon it; 'tis an Argument of a falubrious Translation: Examples of which I have often feen, particularly in the Fever of 1710, where the Urine turn'd pale, and the Pustules broke out, and left the Patients free from the Fever, and all its Symptoms. But if the Reverse happen, that is, if the Fever continue, and Symptoms become formidable, this is a fatal Translation, and under it the Spirits will fink, and 'tis of the last ill Consequence; and all convenient Helps and Remedies mult be timely made use of, as has enough been hinted at in the foregoing Chapters. Tis to this Head is referr'd that of Hippocrates, Quibus pellucida & albæ sunt urinæ, malæ: maxime vero tales in Phreneticis apparent. L. Epid. 6. S. 4. A. 72.

Hence I conclude, that a concocted Urine need not always concomitate a critical Evacuation or Eruption; and, in effect, we find it does not; but that however it ought always to precede one: And hence I inter, that Rhodius, C. 1. Obf. 28. was mistaken, when he tells us of a Petechial Fever, taken off by Sweat, tho' the Urine was crude, in the Person of Angela, Daughter of Garoderina, non prægressis notis cottionis. And Hippoc. L. 1. Epidem. Com. 3. Agrot. 7. Also L. 3. Epidem. Com. 1. Text. 1, 4, & Seq., Agrot. 3. And Epidem. Com. 3. Agrot. 3. makes mention of fome Observations that have relation to this Head: But whoever confiders, that in the First Observation, there was a previous Co-Aion, fuch as laborious People have, and is sufficient for 'em, as is shew'd above. In the Second, before the Delirium Criticum (as some term it) men-

tion is made of the Urine. And in the Third, he fays, Urinæ tenues ad judicationem erant, which followed a Suspension. Thus it is usual either to have a Sediment continue, or, which is very common, to appear crude at the Instant, or some time before the Eruption, which entirely takes off the Disease; and this Date is too late to observe what preceded: And befides, most hitherto have believ'd, where the Matter was entirely deposited on the Organs or Parts, that the Urine was then deceitful: This is evident in Pleurifies, where, before the viscid Matter be impacted on the Pleura, the Urine has a laudable Sediment in it; but when 'tis fix'd on the Membrane, none at all: Nay, fometimes, in Fever-fits with a Pleuritick Pain, is by all observ'd to be stramineous during the Pain. Morton fays, urina etenim, ut in spasmis vehementioribus solet, erat clara ac tenuis; for if the Urine settle at this time, the Case is very hazardous; because 'tis a Demonstration of too much Plenty of that Matter in the Blood. In Elephantiases, if they retreat into the Mass, as I have observ'd them to do, upon tampering, they create Asthma's, Colicks, and many other Symptoms; but when, by a regular Method, they again begin to appear on the Skin, the Urine first shews us they are about to do so, by dropping a Sediment; and when this is done, it ceases to do fo any farther: For the Blood having parted with its morbid Contents into the Skin, it is freed of them, and so is the Urine. And this is a constant and regular Proceedure in Nature, as far as I have had Leisure to observe.

I am apt to believe the very Pestis itself seldom begins without a previous Concoction in the Urine. And in essect, Willichius in Probation. Urinar. p. m. 300. tells us, that he discover'd the Pestis to be approaching from the segn resumments; however, in this Matter, most Authors have been so silent, as to

take no Notice of it. Although they would not have the Eruptions expell'd, unless Nature had shewed the Way by a previous Coction, which doubtless must be early here; because the Bubo's generally appear the 4th Day: But at the Time of the Erup-

tion the Urine don't always fettle.

Hence Hippocrates, Aph. 64. §. 4. says, Quibus Urinæ Crassæ, grumosæ, paucæ, non sine Febre, Copia ex his Succedens tenuis juvat. Tales autem maxime prodeunt, quibus ab Initio aut brevi subsidentiam Continent. For it signifies a total and salutary Translation. And this is, as I have hinted above, when the Crisis is not much distant from the Beginning; and 'tis a regular Procedure of Nature.

#### CHAP. VI.

### Of Symptoms.

E Lassitudine Ulcerosa. It is one of the first Symptoms that attends any Fevers; and because they complain of Soreness, as if bruis'd, therefore 'tis called Ulcerous. This Soreness may proceed from the Miliary Glands, alter'd by the Stoppage. The External Air has Effects enough upon them, to make us think, that, by their Contraction, (and that fo fuddenly) the Humours not having forgot their ordinary Course, may some Way distend them beyond their usual Tone, and may occasion this troublesome Sensation of Soreness. And what may add Weight to this Opinion will better appear. if we confider what Symptoms ordinarily supervene the too hafty and imprudent Attempts made upon praternatural Evacuations, where nothing is more cornmon than to have the Part, or adjacent ones, loaden with a Quantity of the Matter which was us'd to be

be thrown off by that Port, and produce Symptoms more or less prejudicial, in Proportion to the Parts and Humours then reigning. This leads me to believe, that Weariness may proceed from some Plenitude in the Fibres, where Motion is perform'd; for by the violent Motion of the Blood and Spirits into the Muscles, or the Stagnation of them there, the Fibres may be over-diffended, and grow unwieldy and unfit for Muscular Motion; and occasion this Weariness. But as it requires no distinct Methods from the Fever it felf, no farther need be faid of it, than that a Languid Fever, and an Ardent one, must guide us.

A Vertigo. The Physicians heretofore believ'd it to proceed from the Rotatory Motion of the Spirits; but till the learned Bellini took it under Confideration, the manner of their Motion was not fully explain'd. 'Tis certain that Objects, whose Rays fall upon the same part of the Retina, appear to be in the same Place, or at rest. And on the contrary, an Object at Rest, then is thought to be mov'd, when its Image is painted fuccessively in different Parts of the Retina, Supposing the Eye, unmov'd.

Now the Retina and Object are the only Requifites to be confider'd, whether an Object really moves or rests: But when there is a Deceptio Visus circa motum; an Object appears to move, when we know it is at Reft: Therefore we conclude, fince the Object moves not, the Retina only must move. Which this Gentleman confidering, immediately begun to think how 'twas possible for the Retina to be moved; which could hardly fail to occur to any Person who knew the Structure of the Parts so well: Such useful Discoveries Mathematicks can and do make! The Arteries then, when over-diffended by Accumulation, or the encreased Quantity in flow or violent Fevers, lift the Tunica Retiformis higher than usual. And this Dimotion happens in eve-

ry Diastole; so that in every Pulsation the Patient becomes vertiginous in Proportion to the Distension. The Case of Drunkards makes this more evident; for having stretched their Vessels with a Quantity of an active Liquor, the Carotid Branches are overfill'd, and occasions this Vertigo usual to them. But as no Function is hurt by it, no particular Regard is had, in the Cure of it, distinct from the Cure of the Fever in general; which, as I have fufficiently inculcated, is as the Motion offending, which indicate the cooler or warmer Regimen and Methods.

Cephalalgia, or Head-achs, are occasion'd by Di-Itention: For the Veffels are either stretched from the too rapid Stream of the Blood, whence the Veins cannot fo fuddenly return the Quantity contained; or from its too languid Motion; from whence it comes to pass, that the viscid Particles, clinging close to the Walls of the Vessels, obstruct its free Passage into the Veins, and consequently its free Return.

Now according to these differing Manners of being produc'd, the Methods taken, ought to be various; for in the former Case the Heat is sharp and remarkable, and the Pulse is strong: And therefore Bleeding is absolutely necessary, to prevent the rending the Vessels or Hamorrhages; and externally apply a cooling Epithem to the Forehead of Fol. Rof. rub. cost. cum Aceto acerrimo in patina supra Carbones cui addi potest Sacch. Saturn. ad gr. aliquot, or fuch-like, and make use of Opiate Emulsions, or such gentle Opiates as will allay the Pain; for nothing, fave fuch Emulfions, with the Cold Seeds, or Syr. Papav. in Barley-water, are fafe. And evacuate the Faces (which, diffending the Intestines, press upon the Iliacks, and hindring the Descent of the Blood, the upper Parts are loaded in Proportion to this Impediment) by Glysters of Decott. Comm. or House-Gly-L 2 iters.

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sters. But if the Heat be imperceptible, and the Pulse weak and small, then the Pain is gravative; for then the Blood gravitates on the Membranes by Accumulation. In this Case give the Testaceous and Volatiles for the Fever, give them a Glyster for the same Reason as afore-named; and clap on a large Blister ad Nucham, to revulse the Humours from the Head, to add a brisker and livelier Motion to the Fluids, to hinder their Stagnation, and to evacuate Share in such a Manner as the Nature of the Fever can allow off.

Deliria are Dreams of those that awake; and are Incoherences, occasion'd by a Motion of the Spirits disproportionate to the usual Mean of Nature; for if the Spirits, whose Motions are in Proportion to that of the Blood, move in too full a Stream, the Tubes of the Brain become over-tenfe: and if they are too few, these Chanels are not stretch'd enough, and their Course is interrupted. and the Brain too scantily supplied. But though 'tis difficult to explain how our Idea's are confus'd. (for Experiment here is impossible;) yet Experience evinces us, that in either State we talk inconfistently. Phrensies are the Result of the former, and Simple Deliria of the latter State. However, though God has united a Form to a Material Being, and the fecret Manner of their Communication cannot lie under our Trials; yet we can come so near as to fay, that our Idea's are the Spring of our Actions; that these Idea's are conformable to the Motions of the Blood and Spirits; and that if the Fluids move on in a Hurry, our Idea's and Actions are furious; if calmly, they are moderate; but always in this Case unreasonable: For Judgment and Reason are the Product of a certain Proportion of found Spirits, and a right Structure of the Brain. The former is evident from an Exhaustion or Aquo-Sity of Spirits; and the latter, from Prejudices receiv'd

ceiv'd by Falls. Whatever then destroys the blessed Mean God has been pleased to place us under, in any eminent Degree, That infallibly impairs our

Senses, and causes a Delirium.

The Remedies then of Deliria cannot always be by the same Methods, since the Reasons differ so much. In the former Case of Phrenzies, the Heat of the Blood is generally pretty remarkable, and the Pulse is strong, (unless the Blood be too much impacted; for then tis small, because the Oppresfion, being great, obstructs the Exit of the Liquidum Nervorum into the Villi of the Heart; yet the Actions are still furious, they have Strength enough, and their Eyes are inflam'd.) When the Pulse is under these Circumstances, you must Bleed; where once, often, fuffices not, and make use of the cooler Regimen: Let them fit up sometimes; and after a while, give Lenients, (if indicated from the Heat abating, and Sediment in the Urine,) at least use pretty sharp Glysters: And lastly, Opiates to quiet the Vigilia, which are the constant Concomitants of all Deliria. If Bleeding cannot take Place, (because of their Weakness, or the Nature of the Fever.) Cupping (at least) will; where four Ounces weaken not fo much as two from the Arm, though the first be Arterial, and the latter only Venal: Because, as Kiel well observes, the Contraction and Depletion are in the former done in the same Time, where there is only a Priority of Reason between the Contraction and Depletion; but not often fo, in the latter. You must also apply to the Soles live Animals split, or Theriac. Androm. to allay the impetuous Motion upwards, or Pediluvium Fulleri for the same End. I don't approve of Emeticks, if the Blood-Vessels are already over-stretch'd; for thus you may impact the Blood fo violently into the foft Substance of the Brain, that it will be impossible ever to recall it. In Effect, he that consi-L 3

ders how much Vomiting haftens the Circulation, or gives himfelf Leisure to view a Person Vomiting whilst he is bleeding at the Arm, will be convinced of the Truth of what I fay. And over-and-above, I have feen the ill Effects of it in Prenetick Fevers, which ought to deterr us from the Use of them. It is every where believed that Phrenzies do depend on this Cause; which is confirmed by the Learned Baglivi. And I remember to have open'd one who died phrenetick: E'te I could separate the Cranium, a confiderable Quantity of Blood was spilt; and after its Removal, I perceived the Vessels even down to the Corpus Callofum strangely over-stretch'd with Blood, and the Sinus Longitudinalis & Laterales also. This I believe the rather to be the Case in furious Phrenzies: But the Person, I now mention'd. died of a Comatous Phrenzy. Some Years ago I was called to one, who was feized with a Putrid Fever: He was blooded; but the Fever shortly turned up to his Head, and he fell into a Delirium; neither was his Heat great, nor Pulse strong. I order'd him a Blifter: But at my Return from the Country I found him worfe, and perceiv'd him to have rav'd more from the Blifter, and his Tongue grew dryer; and withal, finding his Facultas Locomotiva vigorous enough, I order'd him a Glyfter; after which he was Cupp'd, to no Effect, for no Blood would come. I then order'd bleeding in the Leg, to some Ounces; after which I gave him a Mixture of fimple Waters with Volatile Salts and Laudanum, to be given at fuch Intervals as to give him Rest; and applied Theriac. Andromach, with Ol. Mac. Chym. to his Soles. And thus in three or four Day's his Pulse grew stronger, his Urine fettled, and he recovered.

Where the Heat is small, and the Pulse is weak, and they grow weak, with Subsultus Tendinum, and Coma's under these; then you must steer another

Course:

Course: You must apply Blisters to the several Parts, as Neck, Arms, Whrists, Thighs, and Calves of the Legs, and Emplastra or Cataplasmata Solearia. to irritate the Fibres to continue on the Circulation without Interruption, and internally give all the Medicines requir'd by the Nature of the Fever to support the drooping Spirits. One Observable, in this Sort of Delirium, is, that just before they rave, and while it lasts, the Pulse is generally much eclipfed and deficient. I could mention feveral recover'd under these Circumstances, whose Faces and Urine dropp'd involuntarily, and whose Extremities have been almost cold, as I have hinted above. In all Deliria Care must be taken to know what becomes of the Faces and Urine: Heedlesness, at first, may cause them to neglect to urine, which the Fulness of the Bladder may afterwards hinder; for that the Power of the Detrusor Urine being lessened, from the lateral Pressure encreas'd, the Sphiniter is less pressed upon, and so the Facultas Retentrix is stronger than the Expultrix, (to express it in the Language of the Antients.)

Convulsions are involuntary Motions of the Muscles: They, in their ordinary State, are subject (by a most wonderful Providence) to an Imperium Anima; and they are not mov'd, but by a joint-Influx of the Blood from the Arteries, and Spirits into the Fibres. This is the Refult of Experience: For tie the Crural Artery of a Cat at the Inguen, and by this the Influx of Blood will be impeded into the Leg, she immediately loses all Motion on that Leg, below the Ligature: Again, tie the Nerve of the contrary Thigh, and the then loses the Motion of that Leg. From which Experiments 'tis evident, that neither Blood nor Spirits alone, but a Concurrence of these Juices, (or some Airy Elastick Corpuscles, compos'd of these Juices,) will inflate and move the Muscles. Now, if equal Parcels of these Liquids are distributed.

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buted into Antagonists, and equally inflate the Area of the Rhomboidal Vesicula, then the Muscles act equally, and the Part is kept in a Tonick Posture: But if either Muscle has a greater Quantity pour'd into it, That is contracted, and the Antagonist is relaxed; and, vice versa. Tis plain then, where-ever the Balance lies, there will the Motion be perform'd: But this being alternate in common Convulfions, the Muscles will be alternately (but always irregularly) mov'd, that is, convulfed. This may either depend upon a violent Motion of the Fluids, or one too languid; for in the former, the Fluids, as in the latter, are irregularly mov'd. In a State of Health, unless we command them, they are quiet, and the Fluids are only distributed to them in such a Quantity as may ferve for Nutrition: But when that Mean is loft, by Depravations in their Qualities, or Changes in their Quantities, their regular and stated Motion is succeeded by another impelling Cause in the Tubes, of a different Stamp from that which is subject to the Will. This is true in particular as well as universal Convulsions.

Bellini ingeniously takes Notice, that where there is fuch a Paucity of Spirits as cannot equally inflate the Muscles at once, there may happen a Momentary Pally, which bears the Resemblance of a Convulsion. But this is what happens in dying Persons in Fevers; for where one Muscle is so ill supplied with Spirits, as that their Course is often interrupted, for want of a fufficient Fulness of the Chanels; then, where-ever that Defect lies, that Muscle flags, and loses its Aguilibrium; and the other, that has more, is contracted or convulsed. Hence these Sub-Sultus, at the End of Fevers; and the Discovery of this Palfy, is from the Weakness of the Pulse, as well as the imperceptible Heat of the Patients at this Time; and then too, they feldom want Comatous Deliria, and other fatal Symptoms. But where the Persons

Persons are seized with Convulsions under a strong Pulse, and a vigorous Warmth, then we may conclude these involuntary Motions evene from the too great Plenty of the Fluids irregularly mov'd. Hence, in short, it may be concluded on, that Bleeding and Sal. prunell. Opiates and the diluting Medicines are necessary in the latter Case; while Blisters, Volatiles, and the warm Cephalicks, are Remedies

in the former. I cannot fufficiently wonder at the Road of some Practitioners; who, whenever they prescribe to convulfed Patients, are fure to croud in all the strong Hystericks, without any Regard to Constitution, which ought always to be our Cynofura to steer by. I know a Lady, who is Cramp'd upon the Autumnal and Vernal Changes: She cannot bear the Heat of the Fire, without Danger of being drawn up; and who, upon the common Anticonvulsives, was thrown into the very Fits she was labouring to prevent: She is of a hot Constitution, a quick Wit, and her Pulse and Warmth are quick and strong: But the cooler Methods of a Milk-Diet, Sal. prunel. nay, even Sp. Nitr. dulc. allays them. I shall mention one Observation more, to confirm, that Convulsions are cured by a Regard had to the Temperament: I had a Patient, who was feized with that Species of Cramp, called TRISMOS: She had just fo much Room left, as that she could be nourished with Liquids. However, her Mouth was fo violently thut at fometimes, that the was forced to use a Wooden Wedge to keep it open. The Difficulty I labour'd under, was, how I should discover whether this could be called a Palfy of the Diga-Strick Muscle, or a Contraction of the Crotaphites. I found the Distinctions given in by Riolanus, and fome others, misled me; and I applied a Blister to the Nucha; as foon as this began to have its Effeet, I was made very sensible of my Mistake; for

no, was thus: I perceived the Digastrick did move the Jaw a very little downwards, which a Paraly-

tick Muscle could not have done.

Lethargi, Catalepfes, Cari, Comata, Apoplexia, are profound Sleeps, and Degrees of them, which I shall not stay to name. Sense and Motion depend on a certain Distribution of Spirits into the Organs, without which 'tis impossible for them to act: 'So an Interruption of these Sensations and Motions depend upon a Stop put to these Distributions. Now, if the Blood gravitates on the Membranes, the Medullar Substance, and the Origine of the Nerves, 'tis evident that the Paffage of the Spirits must be obstructed; that there must be a Privation of Sense and Motion, or both; fince either are but a Confequence of some Degree of an interrupted Stream of this Fluid into the Parts. This Case may happen from either State of Blood: For how frequently does it occur, in the Beginning of Fevers, along with a stong Pulse, that a Sopor happens? Now this cannot, fall out without Accumulation, and, confequently, Oppression of the Parts affected. If the Pulse is small, some Particles of the Blood are propell'd till the arrival of others; and the flow Motion heaps too much, at least, more than can be reconveyed in a feafonable Time; fo that it gravitates, oppresses, and obstructs the Passages. And thus Spirits are not rightly diffributed to the Parts, nor, confe-

confequently, Motion or Sense; and the natural Sequel is one of the above-nam'd Symptoms, in proportion to the Cause. I don't at all question but this Oppression may often happen from an Obstru-Ction somewhere in the Infundibulum, or its subjacent Gland, from any viscid Matter impacted; and then the Ventricles fill with Serum: And, in effect, I have fince remark'd, that Lower de Corde, p. m. 71. takes notice of this very Case: But this Sort, I am apt to believe, oftner, if not only, occurs in Chronical Cases; as do Convulsions, from the Suppression of an usual Flux from the Nose, which I have feen fo fierce, as to pervert the Axis of the Sight, convulse or contract the Infundibulum, hinder the Return of the Lympha from the Ventricles, and fill the Brain with Serum, and kill.

The Difficulty of the Cure depends on the Degree of Impaction, which is often irrecoverable; because the Vessels are sometimes broke, and Blood is extravas'd on the Membranes, or even into the Cortical and Callous Substance of the Brain: And as 'tis impossible to recall this, into the Circulation, Death is inevitable; but where the Fulness of the Vessels only occasion it, then Evacuations are to be made use of: And because too much Blood is heap'd up, therefore, in the former Case, large Quantities of Blood are to be drawn off, from the Jugular, (as an immediate Drain from the Part affected) upon a double Account; which is that of the violent Motion, which hurries in; too large Supplies, to the Quantity already lodg'd: And thus they answer the twofold Indication of discharging the Load, and allaying the Commotion; by which last, fresh Supplies are cut off. Here too'tis usual and useful to apply Blisters; for tho' they are really contra-indicated, in regard of the violent Motion; yet where we are oblig'd to risque a small Damage, for a great and certain Advantage, Reason will instruct us to balance

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balance the Scale: For the strong Oscillation of the Membranous Fibres, by which the Fluids can be hurry'd forward, are more than a Balance for the Commotion they add to; for, by them, the Capillaries are squeez'd, and their impacted Contents are driven forward, (from the Conquest of all the Resistances.) As to the rest, 'tis well known, that Apoplecticks, with a Plenitude, and in hot Cases, bear no Volatiles, but Sp. Sulph. vitrioli. and such cool Medicines.

Dr. Cole is very lavish in Bleeding in original Apoplexies; but the Fever being prior to the Symptom, must cause us to be wary in the Quantity drawn off. In short, if the Stomach is laden with any Saburra, Emeticks are very proper, and Catharticks and Cephalicks are to be us'd; and (if occasion require) Sternutatories. Dekkers orders very sharp Glysters, so far as to cause Blood to come away. Bayle's Caution about Emeticks and Sennertus's, about Sternutatories, are not without Grounds, which are these: Where there is a Plenitude ad vasa, the Succussions (whether by Externals or Internals) may hazard the Rupture of the tender Vessels of the Brain, which are of themselves too flexile; and as the Substance of the Brain is foft, and yields to any, even the least Impulse, the Consequence of fuch an imprudent Procedure would be an irremediable Effusion and Death. Where these Disorders happen to the weaker People, to the fedater Fevers, with small languid Pulses, Blisters are the safest Remedies, along with volatile Medicines, to rouze them, and add Vigour, as Experience has convine'd us; for otherwise you take off the Disease and the Diseased together. 'Tis necessary to consider how Fevers, if Epidemical, terminate; for if they terminate in fuch dangerous Symptoms, it will be necessary to prevent them, if you are call'd early enough. As to those Apoplexies occasion'd from the

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the Ventricles fill'd with Serum, the Discourse appertains not to this Place; neither do I see any

Method to evacuate this fatal Plenitude.

Watchings are the common Refult of either State: and whether the Motion be too violent, or too flow, they generally are watchful: 'Tis indeed, in the former Case, more usual to hear them complain of a Pervigilium; and this also is commoner, where any Eruptions are about to enfue. Sleep feems to depend on a Quantity of Blood, not circulating freely: Our natural Actions require and presuppose a Stock of animal Spirits: And a State of Quiet, free from the Hurry of a Blood variously agitated by our Muscular Motion, is the fittest Opportunity to have them recruited. We cannot well doubt how fuch Quantities are stor'd up, if we take a view of the Structure of the Brain, and its Bulk, in proportion to the Nerves that run from it: For if the whole System of Nerves, and every Nerve were quoyl'd up, they would hardly amount to the Bulk of the Thalami nervorum opticorum; from whence it may be inferr'd, that these large Protuberances, at the Exit of the Nerves, must be so many Tubes, turgid with almost an Overcharge for the Fibrils of Nerves that are without the Brain: fince each Thread of a Nerve is but Productions of the former, and not more numerous than they: And thus the Brain is a Fountain of Supplies. Hence the Stock bred in Sleep, is, in Proportion to our Exercise, expended and exhausted, in the Day-time, by every Action. Now, as the Expence is confiderable, the Fibres must fink in their Dimensions; and containing less Fluids, will approach nearer to Thus 'twill fall out, that our Body will naturally cease from Action, that the Entrance to the Particles of Blood will be flow, and this Liquid will be heap'd into the Brain, and the Change of Posture will easily retard the Circulation, till the

the Brain, again turgid, restores it, and then we awake. Thus 'tis likely that Watchings confift in a certain tenseness of the Fibres of the Brain; and as too rapid a Motion fills the Tubes and keeps us awake, so one too flow makes me believe the viscid Particles (which are the Vehicle of the Spirits) are too gross to enter the small Fibrils of the Nerves without the Brain, and it may be kept stretch'd with an Overload, whilst a Penury is evident without it: And thus Convulsions often happen from an unequal Distribution of Spirits to the And here, 'tis evident, some Nerves are often obstructed, whilst others are too plentifully fupply'd, and all the while the Origin of Sensation is confus'd: For what is more common than, in Deliriums, to find Subfultus Tendinum, and involuntary Effusions of Faces and Urine?

The Cure of Watchings, are, by correcting the Motions. For Bleeding (repeated as requir'd) in the Ardent fort, leads the Van; it ventilates and hinders the too plentiful afflux to the Brain. Diluents are here necessary too, from the nature of the Fever, and Syr. Papav. Rhaad. in Barley-water, or Emulfions, are requir'd. And we must proceed thus, till we gain our Point; for as Symptoms are Arguments of the erring Motions; fo long as they last, we must perfist in proper Methods adequate to the Ailments. Sleep is the best Concoctor of Humouts: For Sanctorius tells us, Dormientem plus perspirare vigilante; he only means, if moderate; for he tells us, Per nimium Somnum Interiora & Exteriora frigescunt. If Watchfulness proceed from the opposite State of Motion, 'tis very coneeiveable, Opiates are dangerous: And indeed, I never find Opiates given in fuch a Cafe, but that, after the Administration, they grow more languid and faint, their Tongues grow drier, their Pulse weakens, Gravative Head-aches, and Delirium's supervene, along

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along with Subfultus and Coma's, and all the Tokens of a failure of Spirits; and therefore here 'tis only fafe to trust to the Blisters, the volatile and testaceous Medicines requir'd by this State of Fever.

Vomiting is an immediate Refult of a convulfive Motion of the Coats of the Stomach, along with (if not only, as my ingenious Acquaintance Dr. Purcell fays) a Convulsion of the Abdominal Muscles: fome extraneous Matter spued from the Glands into the Cavity, galls its Walls, and invites a copious Influx of the Spirits, and convulses it to exonerate; for Evacuations are a constant Consequence of Irritations.

I have feen a Cholera proceed from Excoriations along the Canal of the Stomach and Intestines. This often happens to Children who have the Aphthe, and an Evacuation of green Choler. I faw this once happen to a Lady, in the Year 16.99, who had labour'd under the Flux-Pox, and who after the Desquammation, fell into a Hellick, she (before any thing was taken) fell a Vomiting and Purging, and voided vast Quantities of Scales, along with a brown Sanies; till, at last, the Gula and Parts about the Pharynx were fo excoriated, that The refus'd to take any thing; expressing her choice of Death, rather than undergo the rack of fwallowing.

Whether this Symptom be under the Ardent or Hectick fort of Fever, somewhat must be superadded to these Medicines, to correct the sharp Particles extravas'd; as also such Medicines as will allay the Irritations, fuch as Opiates, &c. Riverius's Mixture is very good (viz. Succ. Limon Cochl. 7. Sal. Absinth. 9j.) or if Cordial-waters, both simple and compound, along with testaceous Medicines (and Opiates in violent Vomitings) be added, 'twill be more effectual. But it often happens to be a

Critical Effort, as Alleviation and the concocted Urine testify; and then we may encourage it with gentle Emeticks of Pulv. Rad. Hypocacuan. Sal. vitriol. or fuch-like; but even Chicken-Broth is fufficient, where there is a great Propenfity to Vomit: And when you have done enough, then give the Antemeticks above-named. As to the vomiting from Excoriations, nothing conduces. fave the smooth, mucilaginous, and glutinous Medicines; as I have found in a Gentlewoman, who, from a strong Emetick given, threw up a Schirrhous piece of Flesh which had grown on the Stomach; after which she could retain nothing so long as mucilaginous, oily, and opiate Medicines; but neither them, in any Quantity. And so we see in common Aphtha the Gargarism. Alb. cures them, they being

from the eroding Particles of the Saliva.

Dysenteries, Diarrhæa's, accompany all forts of Fevers. I have already said, that Evacuations pre-Suppose an Irritation, and is therefore, by all, affign'd as the first Cause; and 'tis probable, that some Particles, flowing from the Blood, are depofited in the Intestines; and that, by this Stimulus. the Motion of the Blood is determin'd thither by the forcible Contraction of the Membranous Villi: from whence 'tis manifest that the Tubuli, and Channels of the Vessels are fill'd and stuffed with a Quantity of Blood. And the more flexile the Gutts are, and the more incapable they are of any strong Refistance, the easier they yield to the Moment of the præterfluent Blood, and the more they are stretch'd; from whence will follow an effusion of their Contents. The greater the Distraction is, the greater Quantity will be thrown off: A less Distraction will only give an Exit to the thinner Particles, but the greater to the Blood it self. But unless a general Plenitude give Rise to a Flux of Blood, it commonly happens from an Inflammation

Inflammation of the Parts, and sometimes 'tis a Sequel of a Critical Diarrhaa. Effusions of Blood are of known Danger, fince even Diarrhaa's are esteem'd of ill Consequence, especially if the Perfons are weak, they be fymptomatical and plentiful; or if they come upon any Eruptive Fever, fo as to weaken. Drink Docott. Alb. in both Cases; give the Testaceous Pouders, and even Opiates, such, as Theriac. Androm. Diascord. Fracastor. &c. Bleeding can be bore, by reason of the Strengths of the Patient, 'tis required in a Dysentery. French Gentleman of the Society brought over from Cayenne, in the Year 1710, a Root of the Figure of Bryony; and so porous, that, in a Piece of eight Inches in length, a Candle might be blown out thro' it, which effectually takes off a Dysentery in two Doses; as I have had occasion to make Trials in the present Case, which produces no other Change, fave immediately checking the Flux: A Specimen of which I made a Present of to the curious Collector of fuch Rarities, the Hond. Sir Hans Sloane Bart. M. D.

Colick, Iliack Passion. It does not always happen that these Pains depend on Inflammations of the Guts, (as Screta will have it;) for it does not constantly fall out that the Pain is fixt in one Spot, nor that the Faces, in paffing, create a Disturbance; on the contrary, it comes to pass that there is an Obstruction (partial or total) of the Faces, and the Pain runs from one fide to the other, as the Tract of the Gut lies, which shews that there is another Cause. In Fevers, the Heat of the Parts (depending on the Juices that pass through them) has an Effect upon the Juices, &c. that lodge in the Cavities: And confequently, whether there be any Phlegm sticking to the Coats, or Faces in the Passage, this Heat can raise the one into Bulla; (for Water and Serum, we know, can be

be rarefy,d into Air) part of which fills the Cavity; whilst the Bulk sticks to the Intestines, and inflates 'em; or the Humidity may be evaporated from off these Coats; and the Faces may stick in their way, downwards; and in Proportion to the Driness of the Fibres and Faces, produce an Obstruction; and as there is a Detrusive Motion, by a Peristole, more is heap'd up, the Parts are more distended, and the Pain becomes less tolerable.

So far as this Pain is Contra-indicated by the Remedies proper for the Fever, fo much Danger it carries along with it; because we are often forc'd to have recourse to Evacuations, which retard a Regular Criss; or Obtunding Medicines, which are

as Dangerous as Evacuations.

If we find that the Pain is fix'd about the Navel, that they pass the Faces with Pain at a certain Place, that the Faces change their Figure, that Breathing affects the Place, and the Pulse be very vigorous, we may conclude 'tis an Inflammation. In this Cafe, you must Bleed as much as the Strength of the Patient will allow, and repeat it as Occasion requires. Throw in Emollient Glysters frequently, which ferve as Fomentations: Give 'em Cooling Emulfions warm'd, and gentle Anodines. If it proceed from any other Cause, and that Glysters don't answer, as they never do, when the Continent Cause reaches higher than the beginning of the Colon; then recourse must be had to such Catharticks as, we judge, will have their defired Effect: And because, by this necessary Method, we endanger the Regular Crisis, by weak'ning the Patient; therefore we must fly to Opiates, to allay these Contractions, along with such Alexipharmacks as the Case requires: And if it yet mount higher, as it does in the Iliack Passion, Opiates ought to be mix'd (as the prudent Riverius advises), along with the Purgatives, and Mercurius Dulcis too. Naufea ;

Nausea; Anorexia. The first, I take to be a Diminutive Vomiting. The latter, indeed, depends on a certain Structure of the Stomach, as well as a certain and determinate Quantity of an Esurine Fuice; for an Atony or a Defect of this Natural Juice (whose Nature is chang'd to an Exotick one, and ouzes into the Sac ) destroys the Appetite. Whenever we find the Patient feiz'd with these Symptoms, (after the Horrors, which seize prior to all other Symptoms,) then a gentle Emetick is very convenient; or, if the Patient cannot bear one, a gentle Lenient may suffice: Sometimes it may be repeated, 'till the Symptom abate: And thus, too, the Fomes of the Fever is abated, and prepared for farther Alexipharmacks.

Thirst, or the Sense of want of Liquids, is generally in Proportion to the Driness of the adjacent Parts to the Mouth, unless they be Delirious. The too violent Circulation, hinders the Secretion of Saliva; or the too flow, makes it Viscid; and the Lungs contribute to it too, by the hot Effluvia thro'

the Noie and Mouth. In the too violent Commotion of the Blood, Acids, with Watry Medicines, do best; so Barley-Water, with Juice of Lemons, Sal Prunell. Claretum Cober. Water and Toast, are here most proper. But where the Spirits are weak, these are so far from abating it, that they

clog 'em more; and 'tis best done by Thea, Sack-

Whey, and fuch as open the Glands.

Horrors, Rigors, are those Shiverings from whence we date a Fever, or fuch as come on at the Crisis: They are Convulfive, (shall I fay, or Paralytick?) Affections of the Muscles, from the Irregular Influx of the Spirits into the Fibres; which are either oppress'd or detatch'd irregularly, and so are a Bar to the Circulation in the Extremities, or have some Acrimony in 'em that occasion this Irritation. If they continue long, you are oblig'd to give 'em M 2 embi

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Wine. They are not always Attendants on the first Paroxysm; but in Malignant Cases, and before great and Critical Sweats, they frequently come on.

Pains, are troublesome Sensations, arising from some disproportionate Object inhering in the Part affected, or periodically thrown there: And as this may be either in the muscular or nervous Parts; so the Cause may affect either; but with very different Confequences; the one not having fo exquifite a Sense as the other, will not produce so dangerous Sequels, nor require fo potent Remedies. Now the Cause may be the same, that produces these Pains in different Parts, and may be but the Refult of the different Variations of the Texture of the Fluids, or their Quantities, metaphorically increas'd: For as, in the first Case, the viscid Particles of the Blood are forc'd thro' the Capillary Vessels, with fome Difficulty, in Proportion to the Sense of the Part; the Pain is, as the Distension of the Fibres beyond their usual Tone: So, in the latter, the Diameters of the Vessels being over-and-above enlarg'd, become an Impediment to the Circulation. and over-stretches the Parts, and occasions the same Disorder: But in Spasmodick Pains, the Case is very different; these being Cramps, or painful Contra-Etions of the Muscles, from some irritating Cause: These are the divulsive, jerking Pains, that draw the Muscles into involuntary Motions, and commonly have Subsultus join'd with them. Sometimes Pains in Fevers are more Endemical than at other Times, from the Nature of the Air's Pressure (abstracting from any other of its Qualities:) For as it is observ'd, that a Bladder, half blown, swells, upon pumping; so also it is remark'd, that Animals swell, upon pumping too, in a Ratio to the Quantity drawn off; fo do all Liquors follow the fame

fame Measures. Thus, in the warmer Weather, the Pressure of the Air being lessen'd, the Blood in our Vessels, in Proportion, rarefies and distends, and stops in the Capillaries; and, according to Mr. Boyle's Observations upon his own Hand in the Air-Pump, violent Pains arife. Whatever be the Original of these Pains, Opiates are always one Requisite to allay them. If the Pain be Inflammatory, Bleeding ought to be made use of, and repeated as often as it is necessary; and afterwards we must make use of Attemperants and Diluters of the fizy Parts. If the Pains are purely Spafmodical, and from diforderly Motions in the Spirits, Opiates (with Volatiles, if the Spirits want rearing) are the proper Remedies. If from any particular Acrimony lodging any-where in the Stomach, as in Cardialgia, then the Testaceous Pouders are convenient.

Verminous Fevers are of all Sorts; and over-andabove the Medicines and Regimen indicated by the Fevers themselves, you must add the anti-helmintic Medicines. There are no Symptoms they don't introduce; and whenever Symptoms evene that are άτοπα, or referrible to no Head, we ought to fufpect Thefe. The Nature of the Fever diversifies the Vermifuges; for that, in the warmer kind, Coralline, and fuch-like, are only proper; whereas, in the Hectical Sort, Ens Veneris is a noble Medicine. I was call'd to see a Boy of Four Years Old, who had fallen into a high Fever, with a Delirium immediately: I order'd him Bleeding, and cool Emulfions, which took off the violent Commotion and Deliria; and when the Child came to himself, he complain'd of a violent Pain in his Belly, an Itching of his Nose; and the Mother perceived the Startings, with gnashing of his Teeth, when asleep: I order'd some Vermifuge Medicines in an Electuary; upon which he voided a large Worm, and the

Fever ceas'd, and he recovered Every little Symptom of Worms ought to be suspected, and provided against, since these Medicines are not contraindicated by the Fever. And thus I have immediately (tho' much contrary to my Expectations) cur'd several advanc'd in Years; and particularly a Gardiner above Fifty Years old, who complain'd of some Symptoms that seem'd to argue that he was troubled with Worms; and upon blending of Vermisuges along with the Medicines proper for his Fever, he voided such Quantities by the Mouth,

that he had well-nigh been choak'd by them.

Puerperal Fevers are Shelves poor Females are often stav'd upon: They are generally Inflammatory, from the Inflammation of the Uterus, which arises from the Suppression of the Lochia. Custom has prevail'd, among the ignorant or obstinate Midwives, to allow the Laborants Chickens, and fuch Flesh-Diet, as they pretend cannot prejudice them; to rife out of Bed three Days after their Labour, and to take some Turns a-cross the Chamber; from whence I have feen the Lochia stopt or lessen'd, and thence Deliria or dangerous Fevers; and yet 'tis eafy to prevent these, if the Ladies can be aw'd: "Tis common for hard Labours to produce them, as I have often known. If we are called in immediately after the Mistake, it may be prevented, by giving Tincture of Castor, or Spirits of Hartshorn in Rue-water, &c. and giving them their Diet warm, and so disposing them to sweat. But when the Fever is begun, if they be Plethorick, and the Fever of the warmer Species, Bleed in the Arm, and then in the Foot; and after this throw in emollient Glysters to dilate (by manner of a Fotus) the Orifices of the Glands of the Uterus, whence the Lochia will flow afresh. Alexipharmacks (with the Cautions above-nam'd) must be given, and the Diet cooling or refreshing. If inflammatory Symptoms come Perer

come on, fuch as Pleurifies, Angina's, Peripneumonies, &c. you will fee below how to treat them.

If the Lochia are over, Bleeding and Purgatives (if indicated) may fafely enough be made use of,

as I have often experienc'd.

Inflammations (fuch are Pleurifies, Peripneumonies, &c.) arise from a viscid Blood stopping in the Capillaries, and diffending the fenfible Parts beyond their ordinary Bounds. Now 'tis conceivable enough how this happens; for if we consider the Structure of the fleshy and membranous Parts, we shall find that their original Contexture is Reticular; so that a Bar put to the Motion of any Moment of Blood, will swell and enlarge the Fibril that contains it, by the Quantity that follows. This Encroachment upon the neighbouring Fibres will also straiten their Channels; and thus hourly the Infringement encreases, and, in Proportion to the circulating Mass, the greater will be the Impaction; the larger the Diffension, the more intense the Pain will be; till at length, by Art or Quantity, the Vessels are stretcht beyond a Poffibility of containing more; and then they impostbumate, and create Abscesses, by Breach of the Fibres into one common Receptacle.

In all fuch Diforders, plentiful Bleeding is abfolutely necessary; for whether we consider that the Pain raises and keeps on foot a violent Fever, or whether that the Rifque of Imposthumation is run for the want of it, 'tis upon both Heads indicated. In which 'tis far from being necessary then only to cease, when the fizy Blood appears no more; for thus we should alt blindly; fince this Blood sometimes appears not, from the very manner of Bleeding; for in a small Orifice, those Drops that fall into the Dish coagulate too foon to fwim on the Cake, as this Size does as being lighter, and, confequently, loses the Power of mounting; but also the Pulse ought to guide us in Evacuation. Give 'em the M 4 cooling cooling Ptisans of Barley-water, Liquorice, Raisins, and Figs; give 'em Sal Prunell. in their Liquors; but avoid Acids, for fear of further Coagulations: give 'em Linstus's of Ol. Amygd. d. Syr. Capillor. vener. & Sal Prunell. Cordials of Aq. Lastuc. Paralys. & Syr. violar. along with some gentle Opiate of Syr. Papav. Rhæad. and such-like: We may anoint with any emollient and discutient Ointments: Care must be taken of catching Cold, which I have found, even when Affairs went well, undo all. I have known some Pleurisies so quick as to spit Blood of a bilious Colour from the Moment they were seiz'd; but such carry great Hazard along with 'em, especially if they are of a full Habit, or have got it by a Debauch; and are what Fodocus Lommius

calls Erysipelas Pulmonum.

To know whether a Pleurify be an effential one. or the Symptom of a Fever, is very necessary to a Physician; the Want of which, has cost many Lives. I remember to have been call'd to a Young Man who was feiz'd with Symptoms of a Fever, (Rigor, Head-ach, Nausea, Faintness, Heat, and Quickness of Pulse;) he took, as the Custom prevails here, some Theriac. Androm. to raise a Sweat: It had the defir'd Effect, and he had a Remission of half a Day; but venturing abroad, in the Afternoon he was feiz'd with a Pain on his Side; which the Affistant taking for an Essential Pleurisy, Bled him plentifully; (he never spit Blood, as I could learn;) after which they gave him Physick, and then fell to Pettorals. I was defired by the Apothecary, his Master, to visit him: I found the Symptoms as I have described them; and found him with Blisters rais'd on his Hands, anbelous, with a Pulsus myurus, a dry and black Tongue, comatous, and with Subfultus; and, in fine, with all the Symptoms of a fatal Fever; and so he died in a Day after. The Discovery is thus: Any Disorder is Symptomatical, when

when it fucceeds another preceding Diforder; when the Symptom encreases or remits, as the Distemper that first seiz'd does; and when the Symptom is periodical. As to the particular Case in Dispute. Sydenbam tells us, p. m. 223. In tali Casu Symptomata Febris Capitis Dolor, Artuinve pracedunt: Expirante Pleuritide durant. And again, Ballonius Epidem. fol. 208, fays, In omni Febre Esentiali cum junctus est Dolor Lateris; Febre aucta, Dolor augetur; at in verà Pleuritide; augetur Febris, aucto Dolore. The Reason of so careful a Distinction. is, because tho' the Pleurify require many Bleedings, the Fever cannot allow of fo much; and besides, the Fever requires other Med'cines, than the Pleurify does, when an Original one. I've said, of distinguishing Pleurisies from Pleuritick Fevers, must be apply'd to Original Rheumatisms and Rheumatick Fevers; where the profuse Bleedings indicated in the former, are inemenddable Faults in the latter.

Symptomatical Sweats, are fuch, where the Diseased find themselves no Better, if not Worse. In all Sweats, the Serum is express'd and squeez'd out of the Pores; but whether it be Symptomatical, 'tis best guess'd at, by the Effects and Crudity of Urine. Some of the putrid Particles being as yet blended with the Serum, may pass the Glands; and thus it often happens, that when a Decifive or Critical Sweat comes on, there is less to be pass'd: And therefore, if Symptomatical Sweats are not immoderate, they are not immediately to be curb'd: because they are preparatory to Critical ones. The Febrile Ferment seems to be lodg'd in the Serum only; because either Sweat or Urine will carry off a Fever; and Bleeding, only per Accidens; this being mostly a dangerous, or an unfaithful Crisis at best. How too quick or flow a Motion may occasion 'em, I conjecture, may be thus. We are fure.

fure, the Openness of the Pores must give the Outlet to the Watry Particles; they must either be fqueez'd out by the Weight of the Circumambient and Containing Fibres, which having loft their Tone, from the loss or want of Spirits, (which, we know) keep 'em Tenfe to a Connatural Degree. that their Walls may not approach to a Contact) do collapse and flag, and cause the Liquids to obey their Oscillations. Now, by how much the Weight of the Fibres is beyond the Refistance of the Serum they contain, such Disproportion is there in Efflux of Sweat; fo that in this Cafe, fomewhat will be extruded; but the Syncope's and Coldness of what is expell'd, and the Clamminess of it, argue a mighty Vappidity of the Liquids, and Decay of Spirits. This is the Cafe in fuch Fevers as commonly merit the Denomination of Malignant or Pestilential; in which the Indicia of Vigour are wanting, and the Spirits are either fix'd or evaporated. But in fuch Feyers as approach to the Ardent kind, the Reason is very different; for the vigorous Propulsion of the Blood, fills and diftends its Channels, and, like rapid Torrents, o'erflows its Banks; so that the thinner Parts will be thrust off more or less vigorously, as the Channels are more or less full; yea, it often happens in this Case, that Hamorrhages are a Sequel of this extraordinary Commotion and Distension. The Destruction of Æquilibrium in any degree, is dangerous; and as these Sweats are Index's of Excess or Failure of Motion in our Fluids, they require the same Method as the Fever indicates, only that the Degree may be afcertained and encreased by them.

Eruptions, Spots, Bubo's, Carbuncles, &c. Many Instances from the most approv'd Gentlemen in the Faculty, as well as our own Experience, convince us, that they proceed from either Condition of

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Effervescence. The Serum plac'd on the Fire, congeals, in a short time, into a Crassamentum Album; in which about One Third of its Weight is loft, to make it fo. Now, Heat acts in us, as it does without us; and thus, we conclude, the Thinner Parts evaporate and leave a Viscidity in the Juices; and this Viscid Blood stops at the Capillaries, (whose Diameters want Room to receive 'em;) and the Liquors behind preffing on without free Passage, elevate the Cutis into Pustules. Now this Intumescence may either depend upon the Juices which become Viscid from Evaporation, or other heterogeneous Mixtures that coagulate the Blood; and confequently, either an Ardent, or a Hectical fort of Fever, may produce 'em. But if they once become confiderable when form'd, they require particular Remedies: So Bubo's require Maturatives; nay, Causticks, or the Lancet, rather than they should retreat; and then Digestives, as common Ulcers: Only the Physician must be wary, not to Bleed when a Bubo appears, (unless the Motion overbear extravagantly;) nor must the Blood move fo impetuously as to raise Sweats; but gentle Alexipharmacks must be given to support the Spirits. Carbuncles, are known by Blackish and Purplecolour'd Puffules, inflam'd at the Bottom; they are generally Mortal: The Actual Cautery around 'em; then Digestives, as in Ulcers, Cures'em, (if poffible.) Parotids are to be handled as Bubo's. I need not repeat here, what I have faid of Imperfett Crifes, and therefore shall supersede any farther Notice of them.

Hamorrhages may be occasion'd by the Breach of the Vessels, either from the Distension caus'd from the Ardent or Hellical forts of Fever. I here fay nothing of Critical ones, which must be suffer'd to run as long as Symptoms abate, without Diminution of Strength. The Heat of the Room, contributes

con ributes much to them: For the compressive and restitutive Force of the Air being in a reciprocal Proportion, as much Weight as it loses by Heat of the Room, fo much will the Globules expand and enlarge their Dimensions, and over-run its Limits. We must make use of all Aftringent Remedies to close the Vessels, such are Styptic. Regis, Sacch. Saturn. Sang. Dracon. Acet. Stillatit. Corall. rub. Croc. Mart. astring. Conf. Rosar. rub. Syr. Myrtin. along with Aq. Plantag. Germ. Querc. and fuch Things to mix with them. But externally, I find nothing for Hamorrhages at the Nose, better than blowing up a little Colcothar: It pains them a little for a while, but does effectually; (first having made them blow out the Cakes.) Rose Buds, Equisetum, Plantag. and such Things in Decoctions, do well for Fotus to other Parts.

If any Fluxes happen in the Small Pox, Measles, or Pestis after the Eruptions; such as a Miclus Sanguineus, Lochia, Menses, Dysenteria, Hamoptoe, Diarrhaa, Cholera, and Lachia; one or more together, as Lochia and Dysenteria, &c. We are oblig'd to curb the Flux, and mingle such Medicines as may comfort and support the Spirits; but these are

desperate Cases.

If any Inflammation (such is an Angina, a Pleurisy, &c.) come upon a Puerperal Fever, when the Lochia are on; 'tis too a dangerous Case: However, the Inflammation being the more dangerous Symptom, must be cured by Bleeding, (not exceeding,) and yet not to neglect the Fever; but as Vidius has it, Quis autem est iste cui Exploratum id semper esse possit: Quisve eum delectum teneat, ut ubi Cogitur, minus malum suscipiat Causa majoris Evitandi.

Ophthalmia, is a frequent Disorder after the Small-Pox. The Reason of Inflammations being given in above, I shall not here repeat it; but shall note, that besides, Bleeding, and Catharticks mix'd with

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Mercurials, the common Topicks in Collyrium's often fail; as, I remember, happen'd to a Child, who had made use of all the common Remedies, and yet remain'd entirely blind on both Eyes; The Eyelids were Schirrhous. But after a Suffitus with Cinnabar, a Cataplasm with Emollients and Discutients, covered with Cinnabar, and some of it mix'd in a Collyrium, recover'd her, after she had been blind for above a Quarter of a Year, and thought past Recovery.

Dropsies frequently follow Fevers, from the Exhaustion of Spirits, and the small Liquors drunk in the time of the Fever. But a Dose or two of M. P. Rud. with Merc. Dulc. will evacuate the watry Particles from the Blood; and the Insusions of Bitters with fix'd and volatile Salts, will prevent its Regeneration, by invigorating the Mass. As to Local Faults, (such are Phymoses,) Discutients, after

Evacuations, are necessary.

Diabetes. I have known this unlucky Symptom happen after the Measles; whether from any fusing Principle in the Blood, or any Laxity in the Kidney-Glands, or both, I shall not determine; only shall remark, as Sydenham does, that Diarrhwa's and Diabetes are cured by the same Methods, (viz. by Rhabarbarates, Agglutinants Mucilaginous, Stypticks, and Opiates,) I found the German Spaw-Water cure, (by correcting the Acrimonious Humours, and constringing the Glands,) after proper Evacuations. This is the Febris Uretica, when it happens with a Fever.

### CHAP. VII.

## Recapitulation.

Aving thus run over fome of the principal Cases that attend or follow Fevers; I shall take Leave of the Subject, first recapitulating what

I have advanced.

I have endeavour'd to make it plain that Fevers are generally the mediate Product of some deprav'd State of Blood, put into a Hurry from some external Accident of the Air: That the Pores are very alterable in their Diameters, and can be changed into a Compass in Proportion to this Impulse of Air; and therefore can either pass a large Quantity of the Perspirabile, or can retain more of it than they should. In the latter Case, Fevers are a common Attendant, as Sanctorius Aph. 11. Sect. 1. makes it plain, faying, Si ex Staticis deprehenditur impeditam esse Perspirationem, diebus sequentibus vel succedet plenior Perspiratio vel aliqua Evacuatio sensibilis vel Cachexia vestigium vel FEBRIS. Blood thus diffurb'd, produces the Fever, and all Symptoms along with it, which are Index's of the particular State of Blood then reigning. But I could never observe two Persons in Fevers held in the fame Manner, although Epidemical Fevers were then on Foot: For the Air may be fo unwholfone as to affect abundance at the fame Seafon, especially unwary or tender Persons; yet all these never are feized but with much Difference from each other; one having a very high and ftrong Pulse; another a very low one: One with Inflammations, another with Pains, a third with Vomitings, and a fourth and fifth with some different Symptoms: So that the Fevers, some Learned Persons have obtruded upon

us, as the same in such and such Years, can signify no more than as a Direction to us, how such Fevers (if any such happen) should be manag'd. Indeed, if Persons under such a Habit only are seized, and with equal Strengths, we may expect the same Methods will serve: But having had Hundreds under my Care, I never yet found this hold true. However, I know no Fever, from a Diary to a Pestis, which not only admits of, but requires, proper Evacuations to unload the Vessels, or Prima via, of part of the offending Matter, especially if there be a Tendency to a Criss.

The Species of Evacuation is determinable from the State of Blood denoted by the Symptoms; but the Quantity, from the Strengths of the Patient. For it seldom happens that a real Absumption of Spirits is the Cause of the weak Pulse in the Beginning of a Fever, but rather a Fixation of them; and consequently Evacuations are always required. However, since the Blood or Humours offend in Quantity mostly, Evacuations are then proper; and especially, we must begin very early with them, in Malignant Cases,

or Post est occasio calva.

1. Where-ever the Heat is great, and the Pulse strong; or where the Heat is not considerable, so the Pulse appear oppressed, and the Strengths of the Patient have not been weaken'd by any preceding Accidents; Glysters, Bleeding, Cupping, Leeches, Diluents, Papaverines, and sometimes Acids, are necessary. If inflammatory Disorders or violent Pains afflict your Patients (whether the Pulse be strong, or even if weak, so it be only eclips'd) Bleeding is necessary to clog the rapid Motion of the Blood; which, by pushing on so violently, dashes: against the Vessels, and stops itself. Bleeding also is necessary in Plethorick Persons, to take off the burdensome Load. In Hamorrhages, if the Blood-Vessels

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Vessels are overcharg'd, Bleeding often relieves suddenly: But I have seen the dismal Effects of it in Petechial Fevers, with a weak Pulse; where the Lancet is often too ready for the pidling Reward.

Phrenzies require Bleeding, and can hardly be cur'd without it, because they are Inflammations; but as they generally happen at the 'Axun of the Fever, Caution must be used: Comatous ones don't require so much drawn off, as the Furious Species. But how it comes to pass that Blisters are so indiscreetly made use of in Phrenzies, has always been to me somewhat surprizing. In such Cases then you must avoid all Theriacal Medicines. In the Apparatus of the Small pox, fuch Medicines must be avoided as raise any Commotion; and even the fame Caution holds good in any Stadium of the Small-pox, supposing the Heat and Pulse contraindicate. In Youth, especially in Wine-Drinkers, when Fevers feize, Bleeding, and the fame Regimen are generally requifite. Coma's and Symptomatical Petechia often oblige us to take the same Measures. The Second Fever of the Small-pox (which generally proceeds from an infufficient Extermination of the morbid Matter) is often so violent as to require Bleeding. Great Difficulties of Breathing (whether convulfive Afthma's, fuffocating Catarrhs, Peripneumonies, or congenial to these,) necessarily require Bleeding, with a plentiful Hand: Nay, in Ardent Fevers, tho' the Pulse appears small, (if oppress'd,) it is to be ventur'd on.

2. Where the Heat is inconfiderable, the Pulse is weak (tho' quick:) The gentler Alexipharmacks are proper; such as the Testaceous Pouders (Crabs-Eyes, Pearl, Coral, Oyster-shell, Crabs Claws, &c.) so that they are proper, where some critical Eruption has been impeded. In Fevers of Old Men; in Mistakes from Evacuations, where too much is drawn

drawn off; where there is any Faintnessor Sickness at Stomach, or any Pain at the Pit of it; or where the Matter (that, by the Efforts of a Crisis, has appear'd externally) retreats into the Mass again; in a Difficulty of Breathing, from fuch a State, (that is, with weak Pulse, and Coolness in the Habit; ) in an Epilepsy in Eruptives; in a Salivation suppress'd.

- 3. Where the Heat is hardly, if at all, perceptible, and the Pulse is very small; where the Extremities are cold; in fuch a State, we must have recourse to the warmer Alexipharmacks, such as Rad. Serpentar. virg. Volatile Spirits, (of Hartshorn, Salt Armoniack,) and the spirituous Cordials; as also to Blifters and invigorating Suppedanea. And towards the Axan, Wine may be allowed. In Pestilential Cases, where the Pustules of the Small-pox, Buboes, or Spots retreat into the Mass again, they are necessary. In Difficulties of Breathing, in such a State, (viz. weak Pulse, and imperceptible Heat,) they are indicated; as also in Epilepsies and a suppress'd Salivation, in such a Condition: Nay, Blisters are often required in the Beginning, where the Pulse is weak, or the Head loaden with a Quantity of ferous Blood, fo as to bring on Coma's with a flow Fever; or by way of Prevention of comatous Deliria, in epidemical, flow Fevers, that terminate thus; but very often at the State, to prevent Coma's or comatous Deliria.
- 4. Where there are any Remissions or Intermissions, the Bark of Peru is the most remarkable Remedy; but in any Eruptive Fevers, 'tis useless or dangerous before a total Eruption. As to other Febrifuges, 'tis remark'd that they are to be given before the Fits; and if they be of a volatile Nature, then they must be given only an Hour befor the Fir;

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if of a fix'd Species, you must give 'em two or three Hours before it; because they produce their Effects slowly.

5. At the state of the Fever (that is, after the Augment is over, and the Fervor abated; ) what is critical must be promoted, so long as it continues to be To; for, Quicquid in principio bonum extiterit, perseverantia fit vitiosum, says Chesneau; and Sydenham, in other Words, copies him in faying, Sudores utiles, dum urina cocta est, diutius quam cocta est, non funt promovendi. (However, you must understand the Words diutius quam cocta est, in such a Sense as I have explain'd above in the Crises.) A Salivation in any Fever, is always unexceptionably critical (without waiting for a concocted Urine, tho' it precedes) unless it be too long continued; it is promoted by Liquors given plentifully, and warm'd. Here then the warmer Alexipharmacks are indicated, and a gentle Promotion of what is critical by proper Specificks. So that Sudorificks are usually ventur'd on at the State of the Fever, when Nature inclines that way, and the Urine is well concoched: But in the Beginning of ordinary Fevers, especially the Inflammatory ones, they inflame more, and occasion Pleurisies, Head-achs, Coma's, Spots, bloody Urine, and whatever Symptoms depend on a Commotion of the Mass. Tis true, in a neighbouring Nation, in ordinary Fevers, they make freer with them, than we dare do; and the Pupils of fuch, in their Practices here, often commit horrid Blunders; not confidering that they agree with their serous Bloods, but not with our sizy: Yet, in some Malignant or Pestilential Cases, I have seen them answer from the very Commencement of a Fever; but the Urine, at the first Seizure, was concocted, and they naturally dropt into 'em; and the Suppreffion of 'em brought on Symptoms of fatal Confequence

quence to some, which were plain Indications for them: Also in the Pestis itself, no other Method, without Scandal, is allowed to be followed; tho' Authors differ in the Manner and Continuance of them: But our Country-man Sydenbam, in copying some Antients, acts most prudently in this Affair, in continuing them for Four and twenty Hours, without Interruption, or Change of the Sheets or Linen; for, Tolli quod putridum, non alterari postulat, is

meant of fuch a State of Fever.

Hippocrates's Remark is, That beysiles eodem die exturbandi, Aphor. 24. sect. 1. and Aphor. 10. sect. 4. We must then enquire what this Turgescence implies; and we shall then be enabled to judge when to evacuate. In general, Humours are faid δεγαν (turgere) when they range in the Mass; and tho' they fix no-where, yet they create an uneafiness, and feem to invite us to expel them. If we add they turgesce, when they are in great Plenty; when they are concolled; and when they are Peftilential; we may, in all these Cases, conclude, that Evacuation is somewhere requir'd. Evacuations then must be made, when indicated; the Neglect of which, in due Season, is justly imputed to be the Fault of fuch who are first call'd.

6. After the State, that is, after there is a plain Abatement of the Symptoms, and the Urine Separates; you may use proper Evacuations, whether Purgatives or Bleeding. Care must be taken, that what is critically expell'd, be not driven back again into the Mass. Now it is that critical Eruptions are to be encouraged. The Times in which Crises are perform'd are very different in the feveral Species of Fevers; in which the Eruptive fort are, by much, the most active.

7. If a Nausea, or a Vomiting, or Loads at the Stomach be complained of, an Emetick is to be given; or if they are fuch Persons as cannot bear a Vomit. then a gentle Lenient supplies, which you may repeat at a little Distance, if requir'd by the Conitnuance of the Load: For thus the neftling Humours. lodg'd in these Passages (which make way for Diarrhæa's) are thrown off. Harris, in morb. infant. p. 52 observes, That Dr. Boise of Canterbury took off Coma's in Worm-Fevers, by Mercurials.. I shall not fay how much this might depend upon the Saburra, as the Fomes of this Fever, and confequently required Evacuations, proper to exterminate it, that kill the Worms. And befides, whoever takes away the Caufe of any Diforder, which is not fix'd, necessarily takes away the Symptom. Glysters evacuate the Faces, if too plentiful, as well as the Saburra of the Colon; and may (if Purgative) supply the Neglect of Lenients in weaker Constitutions.

Purgatives (by which I would, in Fevers, be understood to speak of Lenients) are necessary, where there is a Turgency in the Humours. In a Saburra of the Intestines; before a Fever; in an Astrictionalvi; in a Comatous Phrenzy; after Signs of Concoction; and, according to F. Piens, in Costione qualicung; even in the Beginning and Augment; in the weakest Persons, after Concoction, in malignant Cases; and after the 7th or 9th Day in Child-

bed-women.

8. In the Pestis, Diaphoreticks are only to be confided in; and in Pestilential Cases, and even in Malignant Fevers, they are the only Relief. Whereas in the Pestis, Nature is oppress'd and sinking: They are indeed to be specificated, so as that in the Ardent Species, six'd Antimonials, and even Salso-

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Salfo-Acids are conducive; but in the Helical fort, the more volatile ones are to be used.

- 9. Hence, in all Fevers whatever, the Heat and Pulse must neither exceed the natural, nor languish below that Standard; whether before the Crisis, in the Time of it, or after it is over. So that the Degrees of the Strengths of the Pulse, and the Warmth, indicate the various Alteratives; which, in great Heats and strong Pulses, require the Coolers; (in which some Caution is necessary, so as Acids are dangerous in Inflammatory Cases, because they coagulate:) But in the contrary State, the warmer Medicines.
- vacuations; in any notable Commotion of the Spirits; in any violent Pains; in Epilepsies; in Phrenzies, where the Spirits, before any critical Eruption, are too rampant; in Anxietudes in malignant Cases: But if it be possible, 'tis adviseable to sorbear 'em before a Criss.
- noble Viscus being seiz'd: when the Brain is in Danger, (as will appear by the Signs of its Plenitude;) or the Lungs are threatned, (our Breath being some way affected;) and so of the rest. As to the Revulsions, it is not the Business of this Paragraph to mention its Methods, nor the various Rectitudes observable in em.
- be evacuated: And also that Evacuation is diversify'd by the Nature of the Humour offending. Hence the Particles offending in the Puerperal Fever are to be evacuated by Sweats, and the Lochia; as is the Lasteal Fever; as is the Pleuritick Fever in N 2

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Puerperals; the Febris alba, by the Semen or Menfes; so that if the Head is most affected, Hamorrhages terminate Fevers; if the Uterus, the Menses evacuate 'em safest; if the Blood, Sweats carry those best off.

- 13. In Agonistical Crises, we must neither promote nor curb Evacuations, but suffer 'em to go forward, according to Nature's Bent, which, whenever they become very troublesome, they are no further term'd Crises, but Symptoms, and are to be remedied by proper Methods.
- 14. Every Symptom is to be relieved by its proper Indicata, over-and-above what is remark'd in the above-nam'd Paragraphs of this Corollary: And as Fevers are so collective a Disorder, to offer at summing up all the Symptoms producible by it, and their Remedies, would be to compile a whole System of the Medical Art: So I shall sketch out only proper Remedies for some Symptoms commonly occurring in each Species, to illustrate the Method, and leave the Reader to consult, till a more proper Season.



the Particles offending in the Pasyment from are

### CHAP. VIII.

A SYLLABUS of the

# PRESCRIPTIONS.

O render this little Treatife as useful as I can, I have here subjoin'd such Remedies as I have found proper in Fevers: And fo many Variations, as that, at one View, most of what is useful, may be ready for Prescription; which I have done to illustrate what I have advanc'd: I have suppos'd the Patient at the Age of Five and Twenty, and leave them to be adapted to each Age, as the Prescriber shall judge proper.

### In ARDENT FEVERS.

Injiciatur Enema ex lacte saccharato; tum extrahatur Sanguis quamprimum ad 3x. e brachio; repetatur, si requiratur. R. Aq. Borag. Bugloss. a Ziv. meliff. Zij. Lact. Alexit. Zj. Cinnam. b. Ziij. Sp. nitri d. q. s. ad acorem gratum, syr. violar. 3j. m. f. Fulapium cardiacum rubrum, cujus capiat Cochl. vi. in languoribus. Vel,

R. Aq. Portulac. Zvj. Paralys. Zij. Syr. Diamoron 33. Sal. Prunell. 9j. m. f. Julapium, sumendum pro lubitu.

R. Aq. frigid. Saxon. 3x. Papav. Rhaad. 3iij. Syr. Limon. 3\beta. m. f. Julap. e quo capiat Cochl. aliquot in languoribus. R. Conf.

- Re Cons. Borag. Bugloss ä. Zj. violar. Zjß. Tartar. vitriolat. Dij. Syr. Limon. qs. m. f. Electuarium cujus sumat Magnitudinem Castaneæter de die superbibendo cochl. aliquot Fulapij cujusvis. Vel,
- R. Conserv. Lujul. Ziij. Cynosbat. ZB. Limon. tabulat. Zj. Syr. e Rub. Idao qs. m. f. Electuarium, Sumat ut prius. Vel,
- Ry Conditur. Berber. Zij. Miv. Cydon, uvar. Corinthiac. a Zj. Syr. Diamor. qs. m.f. Electuarium, Capiat. ut prius.
- Re Tinctur. Rosar. tbij. bibat ex ea ad libitum.
- Re Decost. Coccin. tbij. sit pro potu communi.
- Re Amygd. d. excortic. no. x. 4. sem. frigid. maj. 2 3j. Contus. In mortario eis sensim affund. Aq. Hord. thij. Colatur. add. sal. prunell. 3s. Sacch. perlat. qs. m.f. Emulsio pro Lubitu bibenda.

Bibant Cerevisiam tenuem; serum Canarinum tenuissumum; Claretum Coberi; vel Serum e Pomis;

Tea ex Limon.; Hydrogala.

Diæta sit Fusculum avenaceum, Gelatinæ, Panatella, Flos Lactis orizatus, Limonatus vel Imperialis; Poma tosta; &c.

Under this Head Symptoms are to be treated differently. So

### LASSITUDE.

Under this Head, it is called Laffitude Phiegmo-nodes.

Extrabatur Sanguis ad zxij. e Brachio, & reiteretur pro re nata; In aliis procedatur ut supra. A VERTIGO.

## A VERTIGO.

Extrahatur Sanguis e Brachio ad 3xij.; repetatur, si opus sit. Quoad Catera, procedatur ut supra, quia Symptoma est, tantummodo, lato sensu.

### HEAD-ACH.

R. Ol. Rosar. Acet. ejusa. a qs. Sacch. Saturn. 3j. m. f. Epithema fronti admovendum.

R. Sem. papav. alb. 3\beta. Flor. Rosar. (a Destillatione resid.) mj. acet. Sambuc. (cum vitello uno ovi agitat.) qs. m. super Ignem in Epithema fronts admovendum & sæpius renovandum.

Prius pramissis vena Sectione, Cholagogo miti, vel

Enemate pro Exigentia, &c. ut in Genere.

## DELIRIA (PHRENZIES.)

Extrahatur Sanguis e Brachio & pedibus pro virium ratione (prius Enema ex Latte Saccharato injiciatur;) dein R. Columb. per medium sect. Soleis admoveantur; vel R Emp. de Mucilagin. qs. opij, ol. Lilior.malaxat. 33. m. f. Emplastr. Solearia.

Bibant Copiose Sal prunell. in Aq. Hordei vel Ptisana; tandem R. Aq. Papav. Rhaad. 3ij. Lactuc. Paralys. ā ziv. sal. Nitri purif. Dj. Laud. opiat. gr. iij. Syr. papav. Rhæad. 38. m. Capiat cochleatim.

Foveantur Hypochondria Decolto Althau in Latte; loco Columbar. dissectar. Soleis admoveatur The-

riac. Androm.

### CONVULSIONS.

In order to lay the hurry of the Spirits, and recruit them, as being harrafs'd.

Vena Secetur, ad 3x. extrahatur Sanguis; Cucurbitulæ variis partibus admoveantur.

Enemata ex Decost. Emollient. injiciantur cum oleo Succini;

R. Ag. Rut. Puleg. a Zij. Lactis alex. Ziv. Pæon. C. 3j. Bez. min. gr. xv. Laud. lig. 3\beta. Syr. de mecon. 33. Sal. vol. oleos. gut. vj. m. f. Fulapium Cochleatim Sumendum.

## COMA'S, LETHARGIES.

Extrahatur (& repetatur in aliis venis) Sanguinis Quantitas ad 3x. e Jugulari; Cucurbitula ad Scapulas applicentur.

R. Aq. Rut. Ziv. Sp. vitriol. gut. x. m. f. Houstus Sapius repetatur. Etmuller. p. 427. Acetum naribus admoveatur, in Comate febrili, Etmullerus p. 428. Abstineant a Lecto per horas aliquot Diei.

#### WATCHINGS.

Extractione Sanguinis pramissa ad 3x. vel xx; Enemaribus dietim injectis (ex Decocto communi; Pedes Decocto (e fol. Hyoscyam. sem. papav. alb. in Laste vaccino) laventur.

Emulsiones copiosè bibant cum semine papav. alb.

fact as.

Epithema fronti admoveatur ex vitell. ovor. no. ij. ol. Rosar 3\u03B. acet. Rosar. Zij. placent. Rosac. 9s. f. Frontale.

### VOMITING.

Præmissa sectione venæ ad zx. Eluatur ventriculus Aqua Pulli vel Hordei; Saburra eliminata, Re succ. Limon. zs. Sal. absinth. Jj. m. Capiat sæpius; vel Re Aq. menth. zij. Succ. Cydon. zj. Sp. vitriol. gut. vj. syr. de mecon. zs. m. Capiat cochleatim. Bibat sæpius Tea e Succo Limonum fact.

### ISCHURY.

Est Febris Καυσώθεως quoddam Symptoma inquit Ballonius Annot. 1. in C. 37. L. 2. & Diuretica non probat; quoad Emetica qua laudat, non probo, at V. sang. sustuli.-Derivandum-potius per alvum.

## DIARRHEA, DYSENTERY.

Tundatur vena ad. 3x. & si opus sit, iterum celebretur. Bibant Tinctur. Rosar. vel Decoct. album. Rheo ad 3j in Aq. Cichor. 3iv. infus. & Syr. 2 Ros. solutiv. Edulcorat. Saburra elutrietur; & pro re natà Potio reiteretur.

R. Pulv. G. Arab. zjß. oc. Cancror. zß. Laud. Lond. gr. iv. Syr. de mecon. qs. m. f. Bol. no. ij. Capt. j horâ quâque 6tâ. Seu,

Re Rad. Cayennens. 3j. Divid. in Chart. no. ij. pro vicibus ij. Capt. in Aq. Cinnam. b. 3ij. ad Distantiam 6 horarum. Non fallit.

## COLICKS, ILIACK PASSION.

Præmisså Sectione venæ; Injiciatur Enema (exflor. Sambuc. Chamomill. melilot.) cum Lacte paratum. dein

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dein R. Fol. Senn. alex. zjß. Sal. Tartar. gr. vj. Infundantur in aq. font. Colatur. ziv. add. Mann. Calabrin. zß. Syr. e Rof. Solutiv. zj. Crem. Tartar. zij. m. f. Potio tepide haurienda; operatione peratia, R. Aq. Menth. flor. Chamom. a. zij. Syr. de mecon. zvj. Sal prunell. Əj. m. f. Haustus, ad dolorem pacandum.

## NAUSEA, ANOREKIA.

Præmiss venæ Sectione, & Emetico leni ex Pulv. rad. Hypocacuan. 3\beta. in Aq. Cardui; dein Rx Cons. rosar. vitriolat. q. s. Capt. parum subinde In nauseà.

R. Sp. vitriol. d. zij. Capt. gut. vj. in Liquore aliquo.

R. Sp. Sal. armon. acid. zj. Capt. gut. x. In Aq. Hord.

### THIRST.

Vino Lymphato affatim sumpto; Clareto Coberi, &c. ut prius.

#### DYSPNCE A.

V. Sang. Sp. Sulphur. gut. x. In quocunque vehiculo aqueo.

### PAINS (RHEUMATICK.)

m W. Sang. (repetità modo pulsus fortis, Ardor & Dolores urgeant.) ad zxij. vel Cucurbitulis; Enematibus Emollientibus (ex Decolto Communi, ex
Laste Saccharato, &c.) Emulsionibus uti prius,
Epithematibus (si requirantur) ex Pane cum
Laste Costo & Croco, seu ex Lenticulà palustri
Flor. Chamom. Laste & farina Hordei simul
costis,

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costis & admotis seu Aq. Plantag. Rosar. Aceto Rosar. & c. Diluantur Salia Aqueis, (Hordeaceis, avenaceis, & c.) Tandem a Statu, Diaphoretica ut Turgentes Humores expellantur. Abstineant a Lesto per aliquot diei boras uti Sydenham (a Nic. Pisone L. 3. C. 3. de Augina) consulit.

### WORM-FEVERS.

Præmissis venæ Sectione & Enemate. R. Corallin.
pulv. 3 \u03b. Cons. Lujul. 3 j. Sp. Vitriol. gut. iv. m.
f. Bolus Capiat; tum hora una vel duabus elapsis da
Infusum Sennæ 3 iij. cum Syr. e Flor. Persicor.
3 i \u03bb. M. admoveatur Emp. vermisug. Batean.
Regioni ventriculi.

### PUERPERAL FEVERS.

V. Secetur in Brachio, tum in Talo; tum R. Aq. ulmar. Puleg. à ziv. Aq. Hirund. cum Castor. zij. Gelatin. C. C. acid. zs. Acet. Theriacal zij. m. f. Diaphoreticum. Etmulletus.

INFLAMMATIONS, (Pleurisses, Peripneumonies, &c.)

Venæ Sectione repetita; tum Emulsionibus supra memoratis; Sale prunellæ ad 9\beta. in singulis Haustibus; Cave tamen ab acidis, ne Coagulum inde augeatur, & sanguinis Circuitui in Arteriis Evanescentibus obex ponatur; Diæta sit tenuissima. Hinc
in Colo Inflammato, Extrahatur sanguis ad \( \frac{2}{3} \tilde{1} \);
e. Brachio; & reiteretur, si ab Instammatione indicetur; Item Hirudines Ano admoveantur; Item
injiciatur Enema (ex Brodio vervec. fbj. vitellov.
no. ij. Sacch. Crystal. \( \frac{2}{3} \); m.) Potus sit Decost.
Hord. cum Syr. Dialth. R. Flor. Chamom. Sambuc.
Melilot. \( \frac{3}{2} \), p. iij. Farin. Lupin. \( \frac{2}{3} \) ij. Caricar. ping.

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no. vj. Incis. & Contus. Coq. In Laste ad Consistentiam Cataplasmatis, admoveatur.

Unde in omni Inflammatione, priusquam radices egerit, seca venam sæpius, refrigera sanguinem, Revelle; discuti & emolli. Etiam in Puerperis, Venæ Sectio celebretur, parca tamen manu.

### SYMTOMATICAL SWEATS.

V. S. præmisså, & pro sudorum modulo; R. Aq. Portulac. ξiv. Lattuc. ξiij. Sal. prunell. βj. Syr. Limon. ξβ. Tintt. antiphthisic. Garmann gut. xij. m.; Ad alium Letti Locum se moveant; A Letto eximantur; Stragula amoveantur aliqua; Fenestræ aperiantur; Sudor non abstergendus est.

### HÆMORRHAGES.

V. S. præmisså, & repetitå pro Exigentiå; Bibant Tincturam Rosarum. R. Alumin. crud. zj. G. Lacc. pictorum zi s. m. f. pulvis insufflandus; seu Stypticum Tasburgense.

## FLUXES (of any Sort.)

Sectio Vena, vel Cucurbitula pramittantur. Ratione Febris Speciei, refrigerantia sapius memorata exhibeantur. Et demum Ratione Meatus aperti, Cohibentia propria administrentur; & pro Medici Lubitu commisceantur.

### In the HECTICAL SPECIES.

Præmissa Catharsi, ex Fol. Senn. cum Syrup. Rosaceo Solvente & Cremore Tartari; Vel Emetico; Vel alio quovis Evacuatorio Indicato.

- R Bezoar. min. 9 j. detur. sæpius in jusculo.
- Re Bezoard. min. Jij. Camphor. gr. xij. cum. Aq. Card. bened.
- Re Bezoard. min. 9 j. Sal. prunell. 3 \u03b3. Campbor. gr. vj. m.
- Re Marg. ppt. 3 j. oc. Cancror. 3 ß. Sacch. Crystall. ad pondus utriusq; m.f. pulv. divid. in Chartul. no. iv. Capiat. j. horâ quâq; 3tiâ, 4tâ, 5tâ. In Julapii cujusvis Cochl. vj.
- R. Pulv. e Chel. C. 3 j. Sacch. alb. 3 \u03b3. m.f. Pulvis dividendus in Chart. no. ij.
- R. Pulv. e Chel. C. 3j. Theriac. androm. 3 ij. Conf. Alcherm. incomplet. 3j. Syr. e Cort. aurant. q. s. m. f. Bol. no. ij.
- R. Camphor. gr.iv. Pulv. e Conf. de Hyacynth. Э j. Diascord. Fracastor. S. melle 3β. Syr. Caryoph. q. s. m. f. Bol. R. Pulv. Scrp. Virg. Э j. Ther. And. 3 j. m. f. Bol.
- Re Sal. vol. C. C. gr. vj. Conf. flor. Anth. 3 B. Conf. Alcherm. S. m. Jj. Syr. Croc. q. f. m. f. Bol.
- R. Pul. Goan. Lap. Contrayerv. a 3 j. Theriac. And. 3 j. Syr. Caryoph. m. f. Bol.
- Re Aq. Last. Alex 3 iv. Meliss. 3 iij. Menth 3 j. Epidem 3 j. Marg. ppt. 3 j. Sacch. alb. q. s. m. f. Julap. e quo Capiat. Cochl. vj. in Languoribus (Phialà priùs agitatà.)

R. Aq. flor. Tiliæ z iv. Protheriacal. zj. Ceraf. n. ziß. Epidem. zj. Sacch. alb. q. f. m.

R. Aq. Borrag. 3j. Bugloss. 3ij. Epid. 3 \u03b3. Sp. C.C. 3 j. Syr. Caryoph. 3iij. m. f. Haustus.

R Sp. Fuligin. 3 ij. In vehiculo detur.

R. Pulv. Cantharid. (demptis alis & pedibus.) 9j. Ferment. acerrim. 3j. m.f. Emp. Vesicatorium largum pro Nuchâ. Vel,

Admoveantur Emp. vesicator. Nuche, & Carpis vel etiam Brachiis Internis vel Suris, &c.

Admoveantur Cataplasm Solear. Batean. Soleis.

Si animus tibi sit ulcuscula a Vesicatorio excitata aperta servare; admoveatur Emp. Vesicatorium perpetuum, quod sic communiter faciendum cutavi. Infunde Cantharid. pulv. 3 j. (In petial ligat.) In Aq. Bullient. 3 x. tum Injiciatur Basilic. ad 3 ij. Mitte omnia super Ignem Lentissimum, ut omnis Aqua sensim Evaporetur; Sicq; Sal. Cantharidum Unguentum virtute sua Impragnabit, quod debilius vel fortius (additione vel substratione unguenti) sieri potest; Pro usu servetur; boc enim, Emp. Meliloto superindustum, serum in Quantitate sat larga exprimet, nec fraus facile detegitur. In siliola mea Dysuriam sat molestam excitabat.

A LASSITUDE: In this Case'tis Lassitudo Ulcerosa.

Præmissa Catharsi ex sennæ foliis; fac ut se disponant ad Madorem, Insuso e Foliis Tea (Bohe) Saccharato.

### A VERTIGO.

Primis viis purgatis; Capiant Misturam (ex Sp. Lavend. 3 \u03b3. Tinst. Castor. \u03b3 j. Sal. vol. oleos \u03b3 ij. in vehiculo appropriato.) ad gut. x.

### HEAD-ACH.

Proritetur Alvus Aquâ Salitâ; Applicetur vesicatorium Nuchæ. R. Sp. C. C. 3 j. Aq. Hysteric. 3 iij. m. f. Epithema. Vel Sp. Rnæ. Hung. R. Pulv, de Gutt. 3 j. cum Infuso Thea.

### DELIRIA.

Quia in Statu vel paulo ante eum Evenire solent Deliria, ideo præsupponuntur Evacuationes debite præmissas sore: Nil ergo agendnm restat, nisi ut admoveantur Emplastra vesicatoria pauciora vel plura pro Spirituum vacillationis & venegous modulo: Porro Emplastra vel Cataplasmata Solearia, (ex Emplast. Cephalic. cum Euphorb. & ol. Mac. Vel Sem. Sinap. pulv. Porro Contus; seu Allio cum Oxymel. Scillit. seu Halece salito) vel similia admovenda sunt. Et

R. Cinnab. Antim. 3j. Bezoard. Miner. 3ß. Camph. gr. iv. Laud. opiat. g. ij. Syr. Croc. q. s. m. f. Bol. no. ij. Capiat. j. horâ quaq; 7ma, vel sæpius si requiratur, vel prosit. Vel,

- R. Aq. Paralys. Ziij. Epilept. Lang. ZB. Sp. C. C. gut. xx. Laud. liq. gut. xxx. Syr. de Mecon. Ziv. m. pro duabus Dosibus.
- R. Pulv. Rad. ferpent. Virg. 3\beta. (\(\Text{ij.}\)) Sacch. Saturn. gr. x. Theriac. Androm. \(\frac{7}{16}\). Syr. de Mecon. q. f. m. f. Bol. no. ij. Capiat. i. bor\(\text{a}\) quaq; \(\frac{7}{16}\), \(\text{ta}\), \(\text{6ta}\), \(\text{5c}\). Superbibendo Cochl. iij. \(\frac{7}{16}\) fulap. \(\frac{7}{16}\).
- R. Aq. Meliss. Flor. Tilia a. Ziv. Hysteric. Z ij. Sp. C. C. Zβ, Syr. Papav. Rhaad. Zj. m. f. Julap.

### CONVULSIONS.

- Præmissis Catharsi, Enematibus, vel Emeticis: Admoveantur Emp. vesicatorium unum vel plura: bic tamen monendi sunt Medici ut non nimium Evacuent: at Analeptica, Cephalica, & opiata sunt Ista, super que Cardo Medele vertit. Hinc,
- R. Cinnab. Antim. gr. vj. Sal. vol. C. C. gr. j. Cran. human. pulv. 3 \( \beta \). Laud. opiat. g. j. Syr. Caryoph. q. f. m. f. Bolus, quâq; horâ 4ta, 5ta, vel 6ta, repetendus cum Cochl. vj. Julap. seq.
- Re Aq. Flor. Tiliæ ziv. Puleg. Rut. Ceraf. n. a. ziij. Tinct. Castor. Dj. (in petia ligat. Et suspens.) gr.vj. Sacch. alb. q. s. m. f. Julap.
- Re Theriac. Androm. (cum ol. Succin. malaxat.) q. f. m. f. Cataplasmata Solearia.
- Si Subsultus Tendinum agros divexent, sumantur gr. iij. vel iiij. Ent. Vener. in Conf. Flor. Anth. in vehiculo specifico sapius in die.

Sales as a sole

COMA'S, LETHARGIES, &c.

Admoveantur Emplast. Vesicator. Nuche & Brachies internis notansum Donahon Brachies apprical mag

Re Piper. Euphorb. Calam. aromat. Pyretb. a 3j. Ceræ 3 j. ol. Succin. q. s. m. f. Linimentum pro Cervice ungendâ.

Bibant Copiose Tea ex Satureia factum.

Lotiones pedum fiant cum Decocto vel potius Infuso ex Herb. & Rad. aromaticis (viz. Angelic. Calam. arom. majoran. Lavend. & c.)

Suffiantur Nares Sulphuris fumo, seu Sp. Sal. Armon. cum Calce fact. Capt. gut. x. vel xv. Sp. C.C. in vehiculo appropriato.

Siq; Symptomata bæc sint periodica, misceatur Cortex peruv. cum Tea, exfol. Bohea.

### WATCHINGS.

Hic Obiter moneo, ne medici Vigiliis Criticis seu ab Inquietudine Criticà suscilium præbere prætexant.

Si Spiritus Erigere Conemur, Vigilias abigemus, que boc in Casu planè vacillantes vires arguunt: Es uti Senum Vigilia Ambratis & Cardiacis tolluntur, ita ubi adsit Spirituum Debilitas & Paucitas, & inde vigilia, iisdem plane Remediis, eos supplere debemus, quibus sic restitutis, Symptomata exinde generata necessario truncantur. Sit igitur Diata Analeptica ex Pullis, In Gelatinam coctis, ex Julapio vita & Similibus, & Diata pauxillum vinosa.

2 Co-

## COLICKS, ILIACK PASSION.

Elutrientur Humores Senna in Aquis Cordialibus Infusa (modo necessario Catharticum requiratur;) quod manifestant Plenitudo quadam in Hypochondrius & Tensio a Flatibus; dein Rob. e. Bacc. Funip. & Laur. cum Antimon. Diaphoret. cum & Laudano rem persicient; Item quandoq; sumant Sp. Funip. Zj. Aq. Menth. Zij. vitell. ovi. no. j. Sacch. q. s. m.f. Haustus Carminativus, seu Eleo-Sacchara Cinnamomi, Carvi & Similia. Si sedes ipsius sit in partibus Inferioribus, Enemata cum successu injiciuntur, uti sapius expertus sum.

### THIRST.

Hoc in Statu quam optime potu ex Thea, Salvia in Aqua Infusa, sero Canarino, Decocto Santali cum Cort. aurantiorum Saccharato; Os mucagine alba obductum Eluatur Acrimoniam Temperantibus, & Abstergentibus, (viz.)

## HORRORS, RIGORS.

Si graves & periculum minentur, vino Calid. auferantur; & Horrorem in Puerpera per hora Dimidium & quod excurrit durantem, Sp. C. C. ad zj. & amplius, partitis vicibus non folum sustuli, at porro sudores copiosos per horas sex fluentes placide, & Symptomata Levantes excitavi, & Febrem ex toto abegi. Leves si sint, sunt Malignitatis Indices, nil tamen Remedii postulant, praterquam qua Febris Specie exiguntur.

## A DYSPNÆA.

Fpispasticis, Alexipharmacis generosioribus ut in Genere.

## VERMINOUS FEVERS.

- Re Pulv. Ent. vener. 3B. Conf. Absinth. rom. Zij. Syr. e Chicor. cum Rheo. q. s.m. f. Bol. No. iv. capiat i. horâ quâq; octavà cum Cochl. vj. Vini Hermetici, (viz. Vini, in quo Mercurius vivus infunditur.)
- R. Æthiop. Mineral. 3j. Sacch. alb. 3ij. m. f. Pulv. divid. in Chart. No. iij. capiat j. quâq; horâ octavâ in Cochl. iij. Vin. rubri.
- Re Pracipitat. Vener. gr. v. Etmuller. p. 626.
- R Pulv. Aurei. 33.
- Et Lucas Tozzi Medic. Practic. Part. 2. ait, Omnis Timor abest, si des vermibus inimica, quia Enectis vermibus, desinit Febris, &c.
- Fel Bubulum cum Aloë admoveatur in forma unguenti umbilico, super vesicam extendatur.

### PUERPERAL FEVERS.

- Etmullerus sic prascribit: R. Antimon. Diaphor. Cinnab. Antim. à H. Sal. vol. Sang. human. H.
  Sal. Volat. Succin. gr. vj. Myrrh. gr. iv. m. f.
  Pulv. No. ij. Capiat in aq. ulmariæ cum Syrupi
  pauxillo.
- Re Aq. Puleg. Rut. a. Ziijs. Epilept. Lang. Zj. Castor. (in nodulo suspens.) 3\s. Tintt. Croc. Z\s. Sacch. Crystall. alb. q. s. m. f. Fulap. ad libitum pitissandum. Etiam omnia, Febris speciei, remedia contrarientur, uti suprà sat copiose indigitavimus.

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### SYMPTOMATICAL SWEATS.

Quacunq; Spiritus labascentes exhilarant, eosq; vacillantes resarciunt, sudores istos reprimunt, & Crisin promovent: Quia sudores hi ex symptomaticis, prosicui & utiles evadunt; unde consule prascripta pramemorata.

### HEMORRHAGES.

Hoc in statu quoties vidimus homunculos miserrimé es ados missos præpostero Lancettæ usu? Evanti-was serio consideranda, nam si sanguinem cardiacorum generosiorum usu nimium evehamus, ejusq; compagem solutam nimis reddamus, vehementius erumpet; si incrassantia & styptica exhibeantur, magis dietim massa coagulabitur, & inepta siet spiritus generare, particulasq, noxias e sinu suo expellere: Remedia ergo commiscenda sunt.

Re Pulv. e Chel. Canc. C. 3j. Vitriol. mart. ad albedin. Calcinat. gr. vj. Marg. ppt. 9j. G. Arab. Pulv. 9β. Theriac. Androm. 3jβ. Syr. Myrtin. q. f. m. Bol. No. iv. Capt. j. borâ quaq; quartă superbibendo Cochl. aliquot Fulap. seq.

R. Aq. Plantag. Rut. a ziij. Cinnam. b. zj Epidem. zβ. Acet. destillat. zj. Syr. Caryoph. zβ. Diascord. Fracastor. zj. m.f. Julap.

Turundæ ex cretà naso intrudantur, vel Pulv. Colcothar. in Nares (si ferre queant) insussettetur.

supra sat copiese indigita cinus...

### FLUXES.

Febris Alexipharmaca & Cardiaca postulat; & Fluxus Styptica, Glutinantia ob meatum apertum requirunt; unde simul permista, effectus suos fortientur.

Ialia sunt Testacea, Margarita, oc. Cancror. Sal. Absinth. Sp. C.C. Terra sigillata, Terra Lemnia, Sang. Dracon. Vitriolum Martis, Croc. Mart. A-String. & Similia.

### INFLAMMATIONS.

Etmullerus, in Pleuritide a Lochiis suppressis hac habet:

R Ag. Puleg. Papav. Rhad. a 3j. Antim. Diaphoret. Dj. Sal. vol. armon. gut. vj Sal. volat. Succin. gr. iij. Castor, gr. ij. Syr. Card. b. 33. m.

Aperientia ergo mitia exhibeantur, ut coagulum præoccupetur, Saltem ut genita obstructio amoveatur; & motus intestinus sedetur Anodynis, Tenuibus; externé Discutientibus & Emollientibus, Circulatio Humorum, sanguini rursum concilietur

ANOMALIA, seu Retrocessio Pustularum, Bubonum, &c.

R Antim. Diaphor. 3\\\\ S. Campb. gr. vj. Cinnab. antim. 3β. Syr. Croc. q.f.m. f. Bolus quâq; borâ quartà reiterandus cum Julapio Perlato ad Cochl. aliquot. Vesicatoria admoveantur.

## INTERMITTENT OF REMITTENT FEVERS.

- Pramissis Evacuationibus propriis (à Specie Febris indicatis.)
- R. Cort. Peruv. opt. Subtiliter pulv. 31. Syr. Limon. q. s.m. f. Electuarium molle, cujus capiat quantitatem castaneæ quâq; borâ ztia vel 4ta, in Remissionibus, ad Febris Evanescentiam.
- R. Sal. Absinth. 3j. Sp. Vitriol. 9j. Aq. Absinth. C. 3ij. Ceras. n. 3j. Menth. 3\u03b3. Syr. Caryoph. q. s. m. f. Mistura pro duabus vicibus ante Paroxysmum exbibenda. Crollius.
- Novi Intermittentes Pulv. Flor. Chamomill. ad 3\\mathfrak{G}. ter de die fugatas.
- Novi item Febres Intermittentes, quasi carmine magico emplastro Cinnabarino, Ventriculo admoto, Sublatas.
- Species Febris in Paroxysmo consideranda, & remediis pranominatis Sublevanda est.

### PESTIS, FEBRIS PESTILENTIALIS.

- Hac in Re Authoribus fides adhibenda est; & siguidem una consensu Diaphoresi consulant. Hisce Solis aggredienda est.
- Quidam Emetica, alii V. Sectionem, alii glandes, quandog; Cathartica mitia præmittunt; tum Diaphoretica exhibent. N. Hodges dat Sp. C.C. Jij. (3j.) ex Aq. Epidemic.; & Sudoribus promanantibus Cerevisiam vult salviatam affatim dari; & hoc in omni

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omni sudore critico notari velim, ut copiose bibant quamprimum sudores prorumpunt.

- Sydenham, præmisså venæ Sectione, R. Theriac. Androm. 3\s. Elect. de ovo \(\text{ij}\). Pulv. e Chel. Cancror. C. gr. xij. Coccinel. gr. viij. cum Succ. Kermes.
- R. Aq. Card. b. Scordii Comp. à Ziij. Aq. Theriacal. stillat. Zij. Syr.Caryoph. Zj. m. f. Fulap. Capiat Bolum 6tâ quâq; borâ superbibendo Fulap. hujus Cochl. vj.
- Etmullerus, R. Antim. Diaphoret. Flor. Sulph. à 3\beta. Sal. viperar. \(\partial\_{j}\). Camph. gr. xv. Sacch. alb. \(\frac{2}{2}\)j. m. divid. in Chart. No. iij.
- Barbette, R. Extract. Prophylact. ziß. Oc. Canc. Əj. Aq. Prophylact. zß. Syr. Limon. zj. Acet. Sambucin. zß. m. f. Haustus.
- Isb. Diemerbroeck, R. Aq. Theriacal. Ziij. Succ. Citri 3β. Sal. Card. b. 3β. m. f. Haustus. Vel, R. Acet. Zij. (iij.) Sal. Commun. Zj. m. f. Haustus.
- Authores ergo Alexipharmaca pro Febris modulo, mibi diversificare & specificare videntur.

### BUBO.

Quamprimum apparet, Chirurgi munus est attrahere, maturare, & aperire; tum detergere, incarnare, & cicatrizare; oleosis, vesicantibusq; Diachylo, Lancettà, Ægyptiaco, Tereb. in Vitell. ov. solut.; Basilico, & Unguento Diapompholigos. Interim Alexipharmaca, ne retroeat, exhibe.

owni futore critico pouni velim, ut coniole bi-

#### CARBUNCLE.

Uratur; Crusta Separetur; ulcus curetur; Caustico potentiali circumillito (Butyro Antimonii; ) Butyro recente, oleo lini, Ægyptiaco, Basilico, Diapompholigos unguentis. Alexipharmaca specifica toto tempore danda sunt internè.

As for Symptoms that come on after the Fever is quite vanish'd, it would be an endless Task to undertake to remedy them, and must refer my Reader to his Leifure to confult.

Emberre, I. Extract. Prophylath, 318. Oct. Cate. 91.

Ac. Prophylast Als. Syr. Lamons & Ports Sam-

St. Dismortscock, E. He. Cherined. Til. Succ. Cite

Anthores eree Mexipper mar pro Kelvis medule, mi-

Bu Bo.

maturare & operire; two detergere, incarpare,

Lancetta Asyptima, Tereb. in Vitell. on Joint. Balinco, C. Luguento Diobempholigor Anterim A.

h deverybeare & Specificare videntur,

Confidential of the Petroles Competition

droid, in Court. No. in

The Complete Courts Success are \$1, our

oradoreso fio enema igue em CHAP.

#### CHAP. IX.

The DIAGNOSTICKS of

## FEVERS.

It may be ascribed to me as a Fault, that I have no where spoke of the Diagnosticks of Fevers: I own I have not taken any further notice of them, than to demonstrate that Fevers only are discriminated by their Degrees, and also to shew the two Remarks necessary to illustrate the Methods taken in them: And am therefore willing to sketch out the Signs more at large, for the Satisfaction of such Readers as may stand in need of them.

#### FEVERS in General,

Are known by a Quick and Frequent Pulse, Heat, Thirst, and Inquietude: A Horror or Rigor begins it; there is joined a Want of Appetite, a Lassitude, a Discolour'd Tongue, (White, call'd Cancer albus, Black, Brown, &c.) The Pulse has above a Hundred Strokes in one first Minute.

#### An ACUTE FEVER,

Is known by a great Heat and Thirst, a strong, e-qual, and frequent Pulse. It ends soon.

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#### A SLOW FEVER.

The Symptoms are mild: The Heat gentle, or fcarce perceptible: It ends flowly.

A Fever between an acute and flow one, is term'd a mixt or middle Fever.

#### An EPHEMERA.

Some evident Cause has preceded: The Urine is like that of Persons in Health (with Contents, viz. and Citrin:) No Rigors precede it: It lasts 24 Hours. But it sometimes lasts many Days without any Remissions. We may guess it to be an Ephemera if the Patients were not sickly before, and it begins by some External Injury.

#### ASYNOCHUS IMPUTRIS.

It has a quick Pulse and Heat, and the Urine is red, and has a copious Sediment: It lasts 7 Days without Remission. Sydenham's Febris variolosa 1667, which he says was rather an Inflammation of the Blood than any Humour to be expell'd, could be no other than this Imputrid Synochus.

#### A PUTRID SYNOCHUS,

Has all the same Symptoms as an Imputrid one has, only one is more violent. It acquires various Names, according to the various Symptoms; 'tis call'd an Associate, when a Pain of the Stomach accompanies, and a Tension of the Hypocondres; Elodes, when symptomatical Sweats infest us; Epiala, where the Persons complaining of Cold are Hot:

## A Critical Essay on Fevers. 205

Hot; Syncopalis, when the Decumbents are troubled with Faintiness; Rheumatica, Pleuritica, Anginosa, Erysepelatosa, Dysenterica, &c. where 'tis accompany'd by these Symptoms. It has Remissions.

#### A SYNOCHOS, or Continual Fever,

Is a Malignant Fever: And though both Ardent Fevers and Hectical ones be Malignant, yet the latter is most commonly term'd so. The Heat, Pulse, Thirst, and all the Symptoms continue without Remssions, till it terminate by a Criss. The main Complaint is, a great Dejection and Prostration of Strength, a weak Pulse, and an unequal one; dangerous Symptoms of the Nerves soon after seizure, cold Sweats, dry Tongues, Black Thrushes, Watchings, Deliria, pale Water or undigested; and many more bad Symptoms.

#### APESTILENTIAL-FEVER,

Is a Fever with Spots (whether Morbillose or Petechial) with a Pulsus Myurus, formicans, and imperceptible Heat. They often die, though the the Urine appear concocted (though in many there is the remarkable Hypostasis and in others the segul avalelae application according to Willichius, and I have observed them.)

#### The PESTIS.

Befides the Urine mentioned in the Pestilential Fever, there is small Heat, a formicant and intermitting Pulse, not frequent; great Syncope's and Languors, Buboes, Carbuncles, black Spots, great Mortality, and very sudden Death.

The Hungarian Fever, (or, The Camp-Fever.

A Fever with violent Head-achs and Cardialgia's, a Languor, Naufeoufness, Hiccups, and Pain.

The HERPETICAL FEVER.

From a Fever join'd with a Herpes miliaris.

The MILIARY FEVER. The RASH. COMPOUND MILIARY FEVER.

The Simple Miliary Fever is known by a Fever, and watry Blisters breaking out about the Eleventh Day after the Seizure. This is the Crystalli of the Ancients.

The Rash or Rubeola, are a Fever with Cough and some short Breathings, and then red Tubercles breaking out.

The Compound Miliary Fever, is when a Fever fiezes, with veficated Eruptions, join'd with the

Rubeola, Small-pox, Measles, or Petechia.

Sir D. Hamilton adds to his Trait, that it is obfervable these Fevers are discoverable by a Languor,
an Oppression at the Breast, and Sighings; which
indeed are Symptoms common to all Eruptive Fevers, and observed by all Authors. But this Gentleman having own'd, in his Presace, that he had
not remember'd that Etmuller ever wrote of such a
Fever; though it be no Argument of his great
Reading, 'tis a pregnant one of an honest Symplicity.

#### The SCORBUTICK FEVER,

Is a Fever of what fort foever, accompany'd with Scorbutick Eruptions.

#### The CRAPULAR FEVER.

This Fever is often accompany'd with Lurid Eruptions appearing the 7th or 9th Day.

#### PARTICULAR FEVERS.

Ballonius L. de Virgin. & Mulier. Morb. C. 7. calls some Fevers Cephalick, Hepatick, Stomachick, Lienose; and we often see Pleuritick, Anginose, and such Fevers seizing on a Part. These sort of Fevers are never Intermitting, but Continual, says Forestus, if they be Symptomatical only.

# A FEVER on the SPIRITS, (SYNCO-PAL FEVERS, CORDIACA PAS-SIO.)

They are only Malignant Fevers join'd with a Despondency.

#### The LACTEAL FEVER.

A Fever coming on the Third Day after Labour, from the Milk in the Blood: There is a Horror goes before it, if it turn into a Synochus putrida: The Breafts fwell: They are pain'd in their Backs and are Restless.

#### The PUERPERAL FEVER.

They have Pains in the Abdomen, Hypogastria and Loins. I suspect it to be Inflammatory mostly. Tis from the Lochia suppress'd.

## A COLLIQUATIVE FEVER,

Is a Fever attended with Sweats, Diarrhaa's, or fome fort of Evacuations.

#### The WORM-FEVER,

Is a Fever rais'd by the Seminium of the Worms in the Intestines, and is judg'd to be one by Verminous Symptoms with a Fever.

#### The DIETETICK FEVER,

Is only a Fever occasion'd by playing the Gourmand.

#### A CATARRHAL FEVER.

From catching Cold, and a Cough with a Fever coming on after it; small Shiverings, with Heat and Cold succeeding each other; a Heaviness of the Head as in wet Weather, red Eyes, a Noise in the Ears, a Stoppage of the Nose, Hoarseness, and all other Symptoms of a Cold. It may be called a Feverish Catarrh or a Lymphatick Fever.

Is a Symptomatical Fever produc'd from some Ulcer in the Lungs, or elsewhere. This has three Degrees, according to the Antients.

#### A HECTICK,

Is discoverable from a constant though gentle Heat (encreasing after Meat) a frequent Pulse, and an Atrophy. The Heat is mostly perceptible in the Palms and Soles: The Pulse is, according to Floyer, 100 out of the Fit, and 120 in the Fit: The Atrophy is from the Colliquation by Sweats, Diarrhad's, &c. of the Williams has own the Constant the own the Constant that the own the Constant the own the Constant that the own the Constant the own the Constant that the own the Constant that the own the Constant the own the Constant that the constant the Constant that the constant the Constant the Constant that the Constant the Cons

#### A HYSTERICK FEVER,

A Fever with Hysterick Symptoms. The same of Hypochondriack ones.

#### An ERRATICK FEVER,

Is a Fever that observes no certain Order nor manner of Invasion: sometimes it seizes with Rigors; sometimes with Sweats, at other times with neither; sometimes with Vomitings, at other times not: Tis call'd *Erratick*, because it wanders in a Variety so as neither to keep any stated Time nor Order in its Accessions or Remissions. Tis never Continual, but Periodical, says Forestus.

#### The SMALL-Pox. The Distinct Species.

From a Pain in the Head and Back, Weeping Eyes, Vomitings, Coughs, and Fever; one or two breaks out in the Apparatus. The 3d Day the Pustules

#### 210 Criticon Febrium: Or,

Pustules break out, red, and rough, and very small; and daily grow bigger till the 4th and 5th Day, by rising higher, and growing broader, and inflaming. The 6th Day they begin to ripen. The 9th Day they scab and fall off gradually.

#### The COHERENT KIND.

They run together in two or three Places in the Face. They appear the 3d Day: And fall off the 11th or 14th Day. They Salivate.

#### The FLUX KIND.

Their Numbers are so great, that they rise very little in the Face. The 8th Day they ripen, and are first White, then Yellowish, and lastly Black: The Fever is continual, through all the Stages of them. They fall off the 17th or 20th. The 3d Day they appear: The 11th, the Salivation lessens till the 13th, when it stops, and the Face falls.

#### The MEASLES and SCARLET FEVERS.

They differ as the Distinct and Flux-Pox.

Over and above the common Signs of Fevers, they breath short, have an Oppression of the Hypochondres, and Cough, and Sneeze. On the 4th Day, or 5th, a Redness seizes the Scarss-skin, which is of no certain Figure. The 6th Day they grow rough. The 8th they scale, and then vanish.

#### In the SCARLET.

They appear later: The Skin is as if it were dyed with Claret; they Scale in great Fleaks; and the Fever is often Continual.

#### INTERMITTING FEVERS,

Is when every Day, or other Day, or every fourth Day, there is an 'Amopegia. But Chesneau having mark'd 'em after a peculiar Manner, I shall take the fame Liberty with all of them; which will spare me fome Words:

A Quotidian iij. A Quintan iiij.
A Tertian iij. A Sextan iiiij.
A Quartan iiij. A Novan iiiiiij.

A Double Tertian iiij. then A Doub. Quintan iiniinij.

A Semitertian is compounded of a Quotidian Continual and an Intermitting Tertian: So that one Day they have Vomitings, &c. The next Day, (or your Well-day, as it is commonly term'd,) they only have the fimple Fever.

When the contract the form of the state of t

A Bastard Tertian is only a Protraction of the

Fits.

I'm afraid I have by this Time fufficiently tir'd my Reader, and shall only add, That having rang'd the Prognosticks of all Diseases into such a particular Order, that they can't eafily be difmember'd; I must crave the Reader's Patience till my Leisure allows me to publish that Piece.



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