

REFLECTIONS

ON *Gal 7 Mc*

SLOW *and* PAINFUL

LABOURS,

And other

SUBJECTS in MIDWIFERY:

Together with

OBSERVATIONS on several DISORDERS
incident to Pregnant Women.

Interspersed with

REMARKS on Dr. BURTON's LETTER to
Dr. SMELLIE, in which the Merits of the Cause
between these two Authors are, in some Measure,
considered.

Τὰ γυναικεία νοσήματα καλεούμενα, αἱ ὑγέραι
πάντων τῶν νοσημάτων ἀλλὰ εἰσιν.

HIPP. de Locis in Homine.

By GILES WATTS, M. D.

K.
L O N D O N :

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(By the same AUTHOR.)

A DISSERTATION on the Antient and Noted Doctrine of Revulsion and Derivation, wherein the Absurdity of the Principles on which the Notion of Revulsion was originally founded, is evidently demonstrated, and the immediate Consequences of Blood-letting plainly proved, both from the Laws of Circulation, and the obvious Effects of this and several other spontaneous and artificial Evacuations in the Cure of Diseases, to be the emptying and exhausting those Vessels in particular that more immediately communicate with the Orifice; and consequently, that all Drains, whether by Bleeding, Issues, Setons, &c. should be made, as near as they conveniently can, to the Part affected.



INTRODUCTION.

NOtwithstanding the Obstetrick Art has received so many and such grand Improvements within these last hundred Years, it must however be confessed, that it is not yet arrived at the utmost Perfection it is capable of admitting : There still remain, without Doubt, many useful Particulars relating to it entirely unknown, the Discovery of which is reserved for succeeding Practitioners. He therefore that makes it his Business to attend closely to such Cases, as fall under his Inspection, to observe carefully the various Symptoms with which they are attended, and to endeavour to account rationally for the Causes of such Appearances, will still find ample Room for the Exercise of his Ingenuity ; and will, doubtless, in the Course of some Years Experience, furnish himself with at least a few Observations worthy the Notice of the Publick. 'Tis well worth observing, as it may be an Encouragement to every Practitioner in the Prosecution of his Endeavours, for the Improvement of his respective Art, in how gradual a Manner this, and all other Arts,
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have attained their present Height of Perfection. One useful Discovery has been made, or Hint given, by one Person, another by another, and so on: Nor indeed have such Discoveries, or Hints, been always owing to any extraordinary Share of Genius in such Persons: 'Tis mere Application that has frequently done extraordinary Things in this Respect. Hence it is, that every one, however indifferent his Genius may be, has, even by his Industry, a Chance of adding somewhat to the Improvements already made in the Art he professes. And this indeed is the only Consideration, from whence I was induced to contribute my poor Mite to the publick scientifick Fund of the *Ars Medendi*: And however inconsiderable the Performance may be deemed in itself, there is, I presume, one Circumstance attending it, whereby it is in some measure intitled to the Attention of the Publick, and this is its being wrote by way of Reflections and Observations only on particular Subjects. To compile a System on any Art or Science merely to introduce a few, even granting them useful, Observations to the Knowledge of the Publick, however common the Practice, is certainly in the highest Degree culpable and ungenerous: 'Tis imposing on it in an extravagant Degree, and making it pay too dearly for being Pariaker of the Benefit
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of such Observations. Besides, the Mind of Man, when attending to only a few Particulars, and these such as have a mutual Relation to one another, is capable of observing them more carefully, prosecuting them more closely, and examining them more minutely, than when engaged in the Consideration of a Variety of Subjects, widely different from each other: Hence it is, that in Treatises comprehending Observations only, the Reader generally meets with something entertaining and useful, and even if he does not, has however the Satisfaction, that they cost him but little; whereas, in general Systems, that profess to take in every Particular relating to an Art, he frequently meets with little or nothing new, and has, moreover, the Mortification of having thrown away both his Time in the Perusal, and what is more material, as the World goes at present, a round Sum of Money in the Purchase: And I am firmly persuaded, that more real Good has accrued to every particular Art from Productions of the first, than of the last Kind. 'Tis true, voluminous Treatises frequently contain many useful Observations, but then they are generally buried in so much Rubbish, intermixed with such a Farrago of injudicious, as well as judicious Precepts, repeated from other Authors, that the Difficulty of getting at

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them.

them is almost equal to the Acquisition: And hence it is that the Generality of People are extremely averse to the Perusal of systematick Writers; and indeed, for my own Part, I confess, I was ever inclined to look on a large Book as a large Evil. The Arts and Sciences are at present in great Perfection; they are deficient only in some few Particulars: He therefore that has Reason to think he can inform the World of any thing useful with regard to these, ought to confine himself solely to them, and not launch out into those other Branches, which are universally deemed perfect. And with respect to the Obstetrick Art, which is now in an eminent Manner improved, and that chiefly by the indefatigable Application of the great Dr. SMELLIE, general Treatises are become, in a Manner, altogether unnecessary. And yet, how have Systems of Midwifery of late multiplied among us! one would think a general *Cacethes Scribendi*, an ambitious Emulation of writing voluminously on the Subject, had infected the whole Fraternity. 'Tis true, every Art and Science, in as much as all are, by the continual Industry of their several Professors, in some Respects improving, stand in need of now and then a Compiler, who, by retrenching what is superfluous and useless, and embracing what is material, may reduce
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the whole of the scattered and useful Particulars, Observations, &c. relating to it, into one regular, uniform Body or System : But then this is a Work that is not required above once, perhaps, within a Century or two, and is manifestly superior to the Abilities of any one, but of him who is possessed of a sound Judgment, and an extensive Knowledge through the whole Compass of the Art he professes ; whether or no this has been tolerably executed, with respect to Midwifery, by any Writers, since the Publication of Dr. SMELLIE'S Treatise on this Subject, I leave to the Determination of more competent Judges.

But to come to the present Performance ; far be it from me, who am sufficiently sensible of my own Want of Abilities, to intimate, by any Thing that has been said above, any extraordinary Share of Merit in the following Treatise, more than what naturally accrues from the above-mentioned Consideration, to every Performance, that professes to treat of only a few Particulars, and those such as have a mutual Connection with one another : Had I indeed not thought it might be of some Use to the Publick, I had never attempted to publish it : And if this be a Fault, 'tis no more than every Writer is, or at least ought to be, guilty of. With this View of writing usefully it is, that I have endeavoured to avoid repeating the

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Precepts of others, as far as is consistent with the Nature of the Subjects: 'Tis true, Chapter the first may be probably thought to bear too near a Resemblance to what has been already advanced by the great Dr. SMELLIE on the same Subject; and if this be the Case, I must, in Justice to myself, observe, that 'tis an Error I have run into unwillingly, and merely in Consequence of having received the first Rudiments of the Art from that Gentleman, not of having pilfered from his Treatise; and humbly hope the Resemblance is not so great, but it will at least bear the Appellation of a Comment on, or Illustration of, some Passages in the Dr's Treatise, in which Light I am inclined to look on it myself. Chapters the 2d and 3d will, perhaps, be deemed too theoretical, but this will, I flatter myself, be easily forgiven, as the main Intent of what is therein advanced by way of physiological Argument, is to enforce the Administration of such Methods as are, it is to be feared, too commonly superseded in Practice, and the Neglect of which is frequently, and has, to my certain Knowledge, sometimes been attended with fatal Consequences to Infants. The making a Ligature indeed, in Cases of violent Hæmorrhages from the Navel, as advised, Chapter the 3d, is obvious to every judicious Practitioner, but then the Necessity of doing it is still further evident from the great Probability

bability there is, that such Hæmorrhages proceed from the umbilick Vein: And as to the Method inculcated, Chapter the 2d, I was under a Necessity of insisting the more fully upon it, as many Authors only just mention it in a cursory Way, and as a Matter of little, or no Consequence; others take no manner of Notice of it; and others, and those too of great Note, as MAURICEAU and DAVENTER, look on it as of no Use, and that especially in those Cases, (*i. e.* of weakly Children, who slowly exhibit Signs of Life) wherein there is the greatest Occasion, if not an absolute Necessity, for its Administration: With respect to the Hypothesis advanced in this Chapter concerning the first Occasion of Respiration in Infants, I can't forbear observing, that I had pitched on the sudden Application of the cold Atmosphere to the Body of the Child, as the most probable Cause of that Action, long before I took any Notice of the Hint, the great HALLER has given us of this Matter in ^a Note (*a*) on §. 691st of *Boerhaave's* medical Institutes. The Substance of both these Chapters was published some Time ago in the Gentleman's Magazine, but as there were several considerable Mistakes committed in the Printing, this would be a
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^a Mihi evidens videtur esse, quod vagitum moliatur, in loco incommodo, ubi varias afflictiones patitur, adfectus mollissimis aquis, à frigoris contactu, &c.

sufficient Apology for my presenting them to the Publick again, even though I had made no material Alteration in, or Addition to either. I shall conclude this tedious, and (as it may appear to some) impertinent Preface, with observing, that the Contents of the subsequent Chapters are the result of Experience in the Disorders therein mentioned, and that I submit, whatever is advanced either in them, or the preceding ones, with all due Reverence, to the Consideration of the Publick, humbly hoping, that my Want of Years, and consequently of long Experience, will in some measure atone for the many Faults which occur in this Performance, and that Maturity of Age will enable me to present it with a Work more worthy its accepting.

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	REFLEC-

REFLECTIONS

ON

Lingering Laborious Labours, &c.

CHAP. I.

*Of tedious lingering Labours, from the too great
Strength and Weakness of the Membranes.*

AMONG the many Circumstances, that have been generally thought to render Labours tedious and lingering, those of the Membranes remaining too long entire, and of their breaking before, and at the beginning of Labour, certainly deserves a Place. We shall begin with the last of these Cases.

When ^a the Water comes off, as sometimes happens, before Labour begins, and consequent-
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^a In most of these Cases the Water passes off in a dribbling Way, and is mistaken for the Urine : But there are others, in which

ly none at all is discharged before, nor after the Birth of the Child, the Labour is rightly nam'd Dry : But, if the Membranes burst at the beginning of Labour, and the Water comes off in small Quantity at every Pain, the Labour may be more properly styl'd Dribbling. Be this as it will ; every old Woman knows both these kinds of Labour are extremely apt to be lingering. Now the tediousness of the Labour, in the first Case, has been generally attributed to the Dryness of the Parts, thro' which the Child is to pass : But, surely, this can't be the Cause in the last, since this Circumstance is sufficiently prevented by the continual dribbling of the Water. The Labour, generally speaking, in both Cases proceeds nearly alike : The Pains are small, little forcing, return at distant Periods, and last but a little Time : One would, therefore, be naturally induced to imagine, there must be some Cause common to both, which thus protracts it. And, indeed, this seems to be no other than the want of Irritation on, and Distension of, the *Os Tincæ*, by the Water contain'd within its Membranes. We may observe in all Labours, when they first begin,

which one can't possibly imagine what becomes of it : A Case of this sort I lately met with, which prov'd extremely tedious, and in which I could never satisfy myself how, nor when, it came away ; the Gentlewoman never having had any Dribbling. HARVEY says, *Vidi sæpe aquas medio gestationis tempore prætere citra abortum : salvo interea, & vigente ad partum usque robustiore fœtu.*

Vid. de Ut. Membr. & Humerib.

begin, and before the Membranes and Water are push'd in any considerable Degree thro' the *Os Tincae*, the Pains are ever extremely weak, and return at long Intervals ; but, when they begin to distend and dilate this Part, they soon grow strong and forcing. 'Tis likewise very observable, that if the Membranes happen to burst at this Time, the Pains either go off almost entirely, or else in a great Measure abate. Nay, the same Circumstance is to be observ'd, if at any Time the Membranes, after they have fully dilated the *Os Tincae*, and the Pains are become extremely forcing, happen to burst, and the Back, Belly, Side, or any other Part of the Child, that is too large to enter the *Os Tincae*, chances to present : While, on the contrary, if the Head falls into the opening, the Pains rather grow stronger : From all which I would conclude, that the grand Occasion of true Labour-Pains is the Irritation, which the Membranes, distended by the Water, or the Head, makes on the *Os Tincae*. Much in the same Way as the *Fæces*, by distending the *Rectum*, produces an almost insuperable Inclination to go to Stool. Now, if the Water passes off before the *Os Tincae* be open, the Head must necessarily supply its Place ; but the round globular Form of this Part is by no Means well calculated to insinuate itself into so small an opening as the *Os Tincae* is at this Time : On the contrary, it pushes it along before it : So that were the Pains, at this Time, never so strong;

which, so far as I can find, is never the Case, yet the narrowness of this opening would necessarily, in a great Measure, prevent its Progress. The Head indeed may, and frequently does, produce a kind of Irritation on the Parts investing the superior Part of the *Pelvis*, but the Pains this occasions are by no means genuine Labour-Pains, but are chiefly confined to the ^b Back, and seldom force down in any considerable Degree. And here one can't forbear admiring the immense Wisdom of the Divine Architect, in making so excellent a Provision as the Water in its Membranes is, for the gradual Dilatation of the *Os Tincæ*, and at the same Time constituting the various Parts of the Woman concern'd in Child-Birth in such manner, that the least Dilatation of this opening is really the Occasion of a larger, (and so on 'till it be wide enough to admit the Head) inasmuch as it inevitably excites the Labour-Pains, by which more Water is continual push'd down, and consequently this Part farther

^b 'Tis in these Cases generally, that we meet with those intolerable grinding Pains in the small of the Back, which Women in Labour so often complain of, and which are of extremely little Service towards the Propulsion of the Child. There is indeed another kind of Pain, which they sometimes complain of, when the Head is farther advanc'd in the *Pelvis*, but this is confin'd to what they call the shutting of the Hips, and seems to be owing to the Force the Head exerts on the conjoin'd *Offa Hia* and *Sacrum*; a Circumstance that may be known by the elastick Swelling of the Integuments of the hind Head.

farther open'd. But to return : It must be confessed, there is little or no Danger from this Circumstance of the Membranes bursting too soon simply of itself : But then, one must acknowledge it is some satisfaction to know the Reason why it thus retards Labour, and still greater to be able from thence to apply a proper Remedy ; and to shorten the duration of a Disorder, on which Sorrow, and a kind of Despair of Recovery are, by the express Order of Heaven, intail'd. And, indeed, ever since I have been convinc'd of the manner in which this Circumstance protracts the Delivery, I have pursued a Method, by which, I flatter myself, I have deliver'd Numbers much sooner than they could have been, had they been suffer'd to linger out the Labour in the ordinary Way. As soon as I find this is the Case, I order my Patient to walk, sit, stand, or lie, as she likes best, and now and then, during a Pain, dilate the *Os Tincæ*, by introducing my Finger backwards, and running it round its inner Edge, which, in some Measure, makes amends for the want of Irritation from the Membranes and their Water. In this manner I proceed, 'till the *Os Tincæ* becomes so wide, that I can reach its inferior and anterior Edge, by introducing my * fore and middle Fingers forwards : So soon as I can do this, I seat the Woman, and during every Pain stretch it gently, now and then introducing a

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little

* I can reach farther with these together, than with either separately.

little Lard, by which means the Pains grow stronger, the Head advances, and the opening becomes wider and wider. Now 'tis observable, that the superior and posterior Edge of the *Os Tincæ* is always obliterated, before its Inferior and Anterior, so that the back Part of the *Uterus* and *Vagina* become one continued canal, while the fore Part of the *Os Tincæ* lies below the hind Head in form of a large Fold, and consequently keeps back the Head : For this Reason I make it my Business, during every Pain, to stretch and slip this Part back behind the Head : Which, if I can once accomplish, I am pretty certain of a very speedy Delivery, especially if the Integuments of the *Occiput* are not much ^c tumefied, but only contracted into thin small Folds : And, indeed, should the first be the Case, I am sensible I can soon deliver with the *Forceps*. Many Authors

^c One may sometimes, in the beginning of Labour, when the hind Head is but just enter'd the superior Part of the *Pelvis*, feel the Skin very tense, and tumid, thro' the *Os Tincæ*, tho' not broader than a Shilling : In this Case one is apt to mistake the Swelling of the Integuments for the Membranes and Water just entering the opening, 'till it becomes wider, at which Time one may easily distinguish it from them ; and may, likewise, be pretty certain the Labour will be long and difficult ; inasmuch as this Circumstance shews the Head to be strongly compress'd, and that it is full large for the *Pelvis*. As the Head advances in a Case of this sort, this Tumour grows much more large, smooth, and tense : So that I remember once to have seen an Instance of its being open'd instead of the Membranes, but it is easily distinguish'd from them by a judicious Practitioner.

thors advise, when the Head sticks thus low, to introduce the Finger in *Ano*, and by this Means detain the Head from receding on the Remission of the Pains; this indeed may be effected, when the Head is low, and Forehead turned almost fully into the Concavity of the *Os Sacrum*; but when 'tis higher, one can't possibly reach high enough to effect it: A much better Method, in my Opinion, is to introduce one Blade of the Forceps between the fore Part of the *Os Tincæ* and the *Os Occipitis* in the Interval of the Pains, and as soon as a Pain returns, to press the Head downwards, at the same Time taking Care not to bruise the Integuments of the *Offa Pubis*: This is the Method which the famous Mr. GIFFARD made Use of with great Success, and may be put in Practice long before the Head is low enough for one to do any Service with the Finger in *Ano*.

We come now to the other Case we proposed to treat of under this Head, to wit, that of the Membranes remaining too long entire. This is a Case that pretty frequently occurs in Practice, and doubtless requires some Judgment in the Man-midwife. The Use of the Membranes and Water (with respect to the Labour) is certainly to dilate the *Os Tincæ*, in order to facilitate the Passage of the Child. When this Opening is fully dilated (which it will be at least before the Membranes are push'd far enough into the *Vagina*, as to appear at the *Os Externum*) it matters

not how soon they burst, for they have now done their office : But before this is effected, in a great Measure, they should never be broke, I mean in natural Labours, unattended by Flooding or Convulsions. This is a Rule, which, in my humble Opinion, will admit of no Exception, unless in the Case below specified : For if it be done before, the Pains will be apt to go off, and the Delivery be protracted for the Reasons above assign'd. It often happens, as the great Dr. *Smellie* has justly observ'd, that when the Quantity of Water is large, the *Uterus* can't come into Contact with the Body of the Child, so as to press it down, until the Membranes and Water are push'd down a considerable Way before it into the *Vagina* ; in these Cases the Water, that is already down, buoys up the Head above the *Os Tincæ* and Brim of the *Pelvis*, and prevents its entering either of them : For this Reason, there is a free Communication between that, which is in the *Vagina*, and that which remains above in the *Uterus*, and consequently the whole Force of the Labour-Pains is exerted in driving down more Water, and further distending the Membranes : So that these must be excessively strong, otherwise they must necessarily burst of themselves. In these Cases there is seldom or never Occasion to break the Membranes. When the Quantity of Water is somewhat less, by such Time as the Membranes and Water are pushed down a considerable Way into the *Vagina*,

gina, almost to the *Os Externum*, the Head will be just entering the *Pelvis*, and partly insinuated into the Opening of the *Os Tincæ*, in such Manner, as to obstruct the Passage of the Water through it, during the Time of the Pains; the Membranes being at the same Time compress'd between the Head, and the Bones of the Brim of the *Pelvis*, can advance no farther. Now, as no more Water can come down, by reason of the *Os Tincæ* being obstructed by the Head, the whole Business of bursting the Membranes lies upon it. The Head, perhaps, is pretty strongly compressed between the Bones of the superior Part of the *Pelvis*: It has therefore this Resistance, together with the additional one of the Water already pushed down in its Membranes, to overcome, before it can advance any farther. In the former Case the whole of the Pains is exerted on the Water and Membranes, but here the greatest Part of them is exerted in pushing forwards the Head, and consequently little on the Membranes; no Wonder then if the Labour in such Case many Times, notwithstanding the Violence of the Pains, seems at a Stand, neither the Head nor Membranes advancing for a considerable Time. When the Quantity of Water is still smaller, the Head frequently advances farther in the *Pelvis*, before this Circumstance of the Labour being at a Stand happens: Now, my Method in all these Cases is, as soon as I begin to suspect the Labour is obstructed by the

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too great Strength of the Membranes, to observe, as carefully as I can, the present Situation of the Head and Membranes, and if I find that, notwithstanding the Strength of the Pains, neither of them advance, during the Space of five or six Pains, immediately to break them; and though I have done it a great Number of Times, I don't know that ever I failed delivering the Woman within an Hour, and many Times have done it in two or three Pains after it. In Women that have been delivered of stout Children in the ordinary Way, where one is certain of a good *Pelvis*, the Child often follows the next Pain or two. And even in a narrow *Pelvis*, surely the Head will advance better, when this anterior Obstacle to its Progress is removed. 'Tis to be observed, that in all these Cases the Membranes are pretty turgid and tense, even when the Pains are off, and especially in the two first: But there is another Case, which sometimes happens, and in which this Remedy is more especially necessary, to wit, when the *Os Tincæ* is somewhat wider than a Crown-piece, the Membranes pushed about half or three Fourths of an Inch through it, forming the Half of a globular, rather than an oblong Tumour, and the hind Head presents close to the Opening, and yet, notwithstanding the Assistance of pretty good Pains, neither this nor the Membranes advance. This is a Case that requires a great deal of Caution, because, if be-

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ginning Labour be mistaken for it, to which it bears a great Resemblance, and the Membranes broke, the ill Conveniencies above-mentioned, under the Article of a dry Labour, will be induced, and the Delivery consequently protracted. In order to avoid making this Mistake, we are to observe, that the *Os Tincæ* in this Case is pretty low down in the *Vagina*, and that the *Abdomen* of the Woman is but small, but more especially to take Care to wait, and be certain that the Labour is at a Stand, before we have Recourse to this Remedy. The Difficulty of this Kind of Labour proceeds from the small Quantity of Water, and the Smallness of the Membranes, to which, if a præternatural Strength happens to be conjoined, the advancing of the Head will necessarily be prevented. In order more fully to illustrate the Manner in which the Delivery is, in this Case, obstructed, and to demonstrate the Necessity there is of breaking the Membranes, in order to facilitate the advancing of the Head, we shall take a more particular View of the several Circumstances of Labours, in which there is a sufficient Quantity of Water. The Membranes of the *Fætus* in *Utero*, with their contained Water, form a spheroidal Figure; now it is very notorious, that the nearer any Form approaches to a perfect Sphere, so much the more capacious such Form is, *et. è contra*. Whatever then tends to reduce the Form of the containing Membranes further from a spherical one, the same will

will necessarily diminish their Capacity : The Consequence of which will be, that, in Cases in which they are already full, the contained Water will make an extremely great Push against that Part, which is not sustained by the *Uterus*, &c. to wit, which is opposed to the *Os Tincæ* ; and such *Nisus* will grow greater and greater in Proportion, as they recede, by Means of the Pains, further and further from a spherical Form. The Connection between the *Chorion* and *Uterus* being ever extremely weak, and the Membranes and *Uterus* being in this Case fully large, the Force of the Pains will push down that Portion of the Membranes which lies nearest to the *Os Tincæ*, a great Way into the *Vagina*, and yet that which remains behind, and the *Uterus*, will be capacious enough to contain the *Fætus*, without forcing the Head down into the *Pelvis* : The Membranes, therefore, not being compressed between the Head and superior Part of the *Pelvis*, will be pushed by every Pain further and further down into the *Vagina*, 'till their Form is so far altered from a spherical one, that the *Nisus* of the Water becomes so great as to overcome their Resistance. Now in the Case we are treating of, the Water is very little in Quantity, and consequently the Membranes and *Uterus* very small likewise ; these, therefore, can't advance, unless the Child advances too : But this can't advance, because the Head is generally, by the long Continuance of the Pains, pushed into the superior

Part

Part of the *Pelvis*, and therefore the Membranes being compressed between these two Parts, and thereby prevented from descending any lower, that Portion of them which is already in the *Vagina*, together with its contained Water, obstructs its Progress; a Circumstance that it will be much more likely to produce, if the Membranes themselves happen to be preternaturally strong; nay, if they are no stronger than common, the same will probably be the Consequence, as little Force is exerted by the Pains on the protruded Portion; which indeed is evident from its being but little tense during a Pain. From hence it appears, that breaking the Membranes in this Case will remove one great Impediment to the advancing of the Head; and indeed I have sometimes done it in this Case, and the Woman has been delivered in a Quarter of an Hour after it: I would, however, advise never to attempt it, till the inferior and interior Edge of the *Os Tincæ* descends so low, as to be easily reached with the Finger introduced forwards: The best Method is, in my Opinion, to introduce the sharp End of a Probe on the fore Finger, and pierce them with it. This Method reduces the Case to that of a dribbling Labour, with this Difference in favour of the present one, that the *Os Tincæ* is wider than in the Beginning of that, and the Membranes being somewhat advanced in the Passage, when they are broke, their Inside forms a more slippery Passage than the Membrane

brane of the *Vagina*. 'Tis in this Case, as well as that of dry and dribbling Labours, that the Child is apt to stick at the Shoulders, a Circumstance that is owing to the want of a Portion of the Water remaining in *Utero*; for this, though little adverted to, has its use, not so much indeed in driving the remaining Part of the Child along, as in preventing the *Os Tincæ* from closing around the Neck and Shoulders.

CHAP. II.

Of Tying the Funis Umbilicalis.

TIS an Observation as ancient as ^a HIPPOCRATES, that, in difficult Labours, wherein the Child sticks in the Birth, the Naval-String is not to be cut 'till the Child has made Water, sneez'd, or cried. It would, I presume, be to little purpose now, that the *Obstetretic Art* is so extremely improv'd, to propose the laying any stress on the preceding Precept of HIPPOCRATES in Practice; unless it is at the same Time demonstrated to be no random Expression thrown out at a Venture, but to be a Maxim probably derived from long Experience, and to admit of the strongest Arguments in its behalf; deduced from Practice, and the Laws of the Circulation in *Natis & non Natis*. These are Particulars that I humbly hope to make appear, before I quit the Subject

^a Liber de Super Fætatione.

Subject of the present Chapter, as likewise to the immortal Honour of the Good Old Man that we lie under, and that, more especially in the Case he has specified, an indispensable Necessity of attending to the above-mention'd Rule in our Practice.

'Tis observable that he says, in such Cases, the Children are ἀγλίζωα, that is, as I understand him, not *Vitæ Brevis*, or *Imbecilles*, but *Nuper Viventes*; in other Words, they were lately living, they shew'd Life by kicking and stirring in the Womb. This, perhaps, may be deem'd too far-fetch'd a construction; but if we consider that the most literal Signification of the adjective ἀγλίζωος, is *Nuper Vivens*, and that in the Cases specified, the Children are more especially apt to be stout, and consequently to move violently before their Heads are too strongly compress'd between the Bones of the *Pelvis*, i. e. some Time before Birth, it will appear in no wise unreasonable: Since no doubt is to be made that HIPPOCRATES look'd on such stirrings as a certain sign that the Children were alive some Time before; and, therefore, order'd them to be let alone, and the Navel-Strings not to be cut, 'till they had made Water, or sneez'd, or cried. Now 'tis very evident a Child can't perform any one of these Actions, 'till it has first inspir'd, as likewise that it must act strongly with the expiratory Muscles in performing the first, and must actually expire in order to perform the two last. All the
three

three then seem to consist in, or at least to be no more than natural Consequences of that irregular Respiration, which happens immediately on Birth. It would seem then, that he means no more in this precept, than that we should not cut the *Funēs* of such Children, 'till they breathe : And, indeed, this is confirm'd by what he adds almost immediately afterwards: καὶ ἢν ὁ ὀμφαλὸς ἐμφυσῇται ὥσπερ τὸ μαχός, καὶ κινήσῃται, καὶ πλάσῃται τὸ παιδίον, ἢ φωνὴν ῥῆξῃ, καὶ τότε ἀποκόμειν ἀναπνεύοντος τοῦ παιδὸς. “ If the “ *Funis* be inflated, and move, *i. e.* beat, and “ the Child sneeze, or cry, then cut it, *for the* “ *Child breathes.*” This we see is a plain demonstration that the chief Circumstance he insists on, as necessary to be observ'd before cutting the Navel-String, is that of the Infant's breathing. In order, therefore, to demonstrate the great Weight of this Maxim of his, we shall endeavour, 1st, To shew the Cause that determines the Child, on its first coming into the World, to breathe, together with the process Nature makes use of, in effecting the grand Revolution in the Circulation that happens at Birth. 2^{dly}, To demonstrate the Reason, why this Maxim is more particularly suited to, and necessary to be observed in the Case specified. And, 3^{dly}, Why cutting the *Funis*, in such Case, before the Commencement of Respiration, must necessarily be attended with fatal Consequences to the Child.

First

First then, with Respect to the Cause, &c. Various have been the Conjectures of the Learned with Relation to this Matter. Some have imagin'd that the ambient Air rushes into the Lungs immediately on Birth, merely by its elastick Quality, and dilates the *Thorax*, as in Inspiration : But surely it might, with equal Reason, be expected to enter into a Pair of Bellows, and distend them, when lying still, as into the Lungs of a new-born Infant, before a *Vacuum* is made in the *Thorax*, by the Action of its inspiratory Muscles; besides, the Falsity of this Opinion is evident from the noted Circumstance of all dead Bodies remaining in a State of full Expiration.

Others have suppos'd, that the *Thorax* is expanded by the violent Motion of the Child at Birth, in which the inspiratory Muscles act in common with the rest ; but this Supposition is certainly erroneous ; for, generally speaking, the first Action it performs is that of Inspiration.

The learned and ingenious Dr. WHYTT of *Edinburgh*, in his excellent Treatise on the Vital and other Involuntary Motions, has attempted to solve this Question ; but for want of being conversant in the Practice of Midwifry, I presume, has proceeded on false Data : He says, “ The
 “ uneasy Situation of the *Fœtus*, when the Birth
 “ is just at hand, and its various Motions and
 “ Struggles, in consequence of this Uneasiness,
 “ must remarkably quicken the Circulation of
 “ the Blood thro' its Vessels ; whence the Lungs
 C “ will

“ will not only receive a larger Share of Fluids
 “ in a given Time, than formerly, but the Blood
 “ passing in greater Quantity than usual from
 “ the left Ventricle into the *Aorta*, and making
 “ therefore a stronger Resistance to the Passage
 “ of this Fluid through the *Ductus Arteriosus*, it
 “ must now be more copiously determin’d into
 “ the pulmonary Artery, from whose beginning
 “ this *Duct* arises.” From hence he infers, “That
 “ there will ensue a greater Degree of Heat and
 “ Fulness, a more active *Stimulus* and Uneasiness
 “ in the Vessels of the Lungs ; or, in other
 “ Words, an Appetite of breathing, in order to
 “ promote the Passage of the Blood through
 “ these Vessels, and remove this uneasy Sen-
 “ sation.” Now, that the whole of this Reason-
 ing is founded on false and erroneous Principles,
 is plain from hence, that Children are so far from
 moving, generally speaking, during the latter
 part of Labour, that they seldom move at all
 during this Period, especially in laborious Cases ;
 and that Children, which have stirr’d violently
 during the beginning of Labour, frequently lie
 still, and in an apoplectick Condition during the
 latter Part, in Consequence of their Head’s being
 strongly compress’d between the Bones of the
Pelvis, and yet cry out stoutly immediately on
 Birth.

The same Gentleman, in order further to de-
 monstrate the Commencement of increase of an
 Appetite of breathing at Birth, from which he
 would

would account for, as well the beginning of Respiration, as its continuance, when begun, adds; that “so long as the *Fœtus* remains in the Womb, its Fluids are supplied with a certain vivifying Quality of the Air, by their having sustain’d the Action of the Mother’s Lungs ; but, at the same Time of Birth, when the Communication lately kept up, by means of the umbilical Vessels, between the Mother and the Child, is at an end, may not the Defect of this *Pabulum Vitæ*, which the Air is suppos’d to convey, and which was wont to be transmitted to the *Fœtus* along with the Mother’s Juices, produce some sort of Uneasiness not hitherto perceiv’d, which shall beget, or, at least, enhance the Desire of breathing ?” To strengthen this Notion he adduces the Experiment of opening a living Bitch big with young ; in consequence of which; he says, “The Puppies inclos’d in their Membranes remain quiet for some Time, but about the Time of the Mother’s Death, begin to stir and struggle; as if affected by some very uneasy Sensation ; and if their Membranes be laid open at this Time, or a little after, so that the Air is admitted to them; they immediately begin to breathe, and seem to be reliev’d from what before oppress’d them ; but if this be not done, they quickly begin to languish, and at last die.”

Now that Children are not determin’d to breathe, in consequence of an Appetite of breath-

ing commencing or increasing at Birth, for want of the Transmission of any vivifying Principle of the Air, or indeed of any other Quality inherent in the Mother's Fluids, is evident from hence ; that they begin to respire, while the Pulsation of the Umbilick Arteries is strong and vivid, and very frequently while the *Placenta* adheres strongly to the *Uterus*, and consequently before their Communication with the Mother is intercepted. Nor can I think the Experiment of opening the Bitch, which the Dr. mentions, makes in any wise for his Opinion : For there is, in my humble Opinion, much more Reason to think the stirring of the Puppies, at the Time of the Mother's Death in this Experiment, is owing to the disagreeable Sensation which the external Cold will be much more apt to excite, at the Time of her Death, than before, than to their Communication with their Mother being cut off by her Death : That Cold will affect the *Fetus* in the *Uterus* of even living Animals, in the same Manner, is notorious to all : It being common to give Mares a large Quantity of cold Water to drink, in order to discover whether they are Pregnant, by the stirring of the *Fætus*, which this Experiment is known to produce.

If it be urged, that if it were the Cold which causes the Strugglings in these Cases, then the Admission of the cold Air would be more likely to increase, than to abate them, as we find by the preceding Experiment it does. To this I answer,

swer, The Circulation between a *Fætus* and its *Placenta*, is indispensably necessary, as will be shewn hereafter, to its Life, till the Lungs are fully inflated by breathing, and a new Circulation opened within its own Body; before this, a great Part of the Circulation is performed at a Distance from the Heart, and entirely out of the Body; and must consequently be very liable to be impeded by Cold: But when a *Fætus* has breathed, and a free Passage is thereby opened for the Blood through the Lungs, the Circulation through the *Funis Umbilicalis* is no longer necessary, but it becomes confined within the Limits of the Body, and such *Fætus* is qualified to bear the Light and Air: And hence it is, that the same Degree of Cold, which is indispensably necessary to the Life of a *Fætus*, after it has breathed, &c. will, probably, if admitted to one, before Respiration begins, first produce a very uneasy Sensation in it, by retarding, and if long continued, at last actually destroy it, by putting a total Stop to the Circulation in the umbilick Vessels. On these Principles, I presume, we may easily account for all the Phœnomenon above observed, in the Experiment of the Puppies; and I am much mistaken, if those Motions of the *Fætuses* (in the Experiment which the Dr. quotes in the Margin from VESALIUS) were not rather Struggles in Consequence of an uneasy Sensation, excited by the

Admission of the external Cold, than any Endeavours to breathe, as VESALIUS terms them.

The Dr. urges farther in Support of this Notion of an Appetite of Breathing commencing, or increasing at Birth, that it may be owing, in some Measure, to the Presence of a Fluid fitly answering its Demands : “ For, says he, we may
 “ observe that a new-born Child rarely performs
 “ the Motion of Sucking, till something be ap-
 “ plied to its Mouth :” But here I can by no Means agree with the Dr. for they frequently do perform this Motion when nothing is put to their Mouths, before they have been applied to the Nipple, and sometimes before they have tasted any Thing ; nor indeed do I see any Reason to argue for the Necessity of the Presence of any one Object of our Appetites, in order to excite or increase its corresponding Appetite : We hunger and thirst, without the Presence of Meat or Drink ; though indeed we can’t gratify these, or any other Appetite, but by the Presence of their respective Objects.

I have been the more particular in considering this Hypothesis, as it carries with it by far the greatest Air of Probability of any one yet wrote on the Subject ; and I hope the ingenious Author, for whose great medical Abilities I have all due Reverence, will pardon the Liberty I have taken, when I assure him, it was not done to satisfy any Humour of contradicting, but partly that I was unable, on seriously consider-
 ing

ing it, to reconcile it to the above Objections ; and partly, that I have been long persuaded beginning Respiration is owing to a quite different Cause from what he has assigned.

'Tis very remarkable, that all Children begin to cry, provided they are alive and well, as soon as delivered from their Mothers. This is what constantly happens on Birth : Now as this Circumstance never fails to attend at this Time, I can't forbear thinking beginning Respiration is owing to an Endeavour to cry. I am very sensible of the obvious Objection to, and seeming Absurdity in, this Opinion. Crying, it will be said, is evidently a Kind of Breathing ; this then is saying no more than that beginning Breathing is owing to an Endeavour to breathe ; and whence, pray, arises this Endeavour to breathe ? So that the Question remains just in *statu quo*.

That Crying is the first Action Children perform, and this immediately on Birth, has been already observed : This then, so constantly an attending Circumstance, must be owing to some Cause, as constantly attending at Birth ; and this indeed I take to be no other, than the sudden Application of the cold Atmosphere to their whole Bodies. We all know how very disagreeable a Sensation plunging from the Air into cold Water excites ; nor is the Water of a Pond, or Spring, more cold, with respect to the Air in a Summer's Day, than the Air in a Bed-chamber is, with respect to the *Uterus* of a living Woman.

man. Well then may a Child, cherished for many Months in the warm *Uterus* of its Mother, be frightened and pained at its sudden Transition into the cold Air : 'Tis this, I presume, that excites in it a painful Sensation, and determines it necessarily to express such Uneasiness by an Act, to which it is extremely prone on every the most slight Occasion, *i. e.* Crying, in other Words, acting more forcibly than in ordinary Respiration, with first its inspiratory Muscles, the Consequence of which is the forcible Entrance of the Air into the Lungs ; then its expiratory ones, the Consequence of which is its as forcible Expulsion, in other Words, Breathing. And, indeed, if we consider the great Advantages that accrue in more than one Respect to the *Fetus*, from its thus meeting with a very painful Sensation at its first Entrance into the World, in as much as it compels it to cry, *i. e.* breathe forcibly, we shall be farther confirm'd in this Opinion.

The Lungs in the *Fetus*, before it has breath'd, are widely different from those in one that has breathed. The Substance of them in the first is close and compact, in the last lax and spongy. In those of the first the *Aspera Arteria* and its Branches, together with the *Rima Glottidis*, are infarcted with a thick viscid Mucus ; in those of the other; these Passages are open and pervious. 'Tis but a small Portion of the Mass of Blood that passes through them in the first, whereas the whole

whole is to pass through, and that with great Velocity, before it can be qualified for an Inhabitant of this World, and live independent of a Connection with the *Placenta*. Now 'tis in no wise probable, the Force of the Air, in ordinary Respiration, would have been sufficient to have broke through the Obstructions in the *Bronchia*, and at the same Time unravel their various Windings and Convolutions in the compact Substance of the Lungs, before Respiration is begun, in order to open a free Passage for the Blood through the pulmonary Artery and Vein; for this Reason, I presume, the all-wise Creator has so ordered, that the Child, in Consequence of an uneasy Sensation felt immediately at Birth, shall be determined not only to open its Chest quicker and wider, in order to make a larger, and (if I may so express it) a more speedy Vacuum, and thereby give the Air a greater Force in its Passage through the *Aspera Arteria* and its Branches; but likewise more forcibly and quickly to expire, than in ordinary Respiration, at the same Time that it straitens, and, for a while, almost totally closes the *Rima Glottidis*, and by this Means forces the inclosed Air more violently through the Substance of the Lungs. Thus we see the obvious Effects of this irregular and laborious Respiration, which constitutes Crying, will be to inflate the compact Substance of the Lungs, and thereby open the numberless Convolutions of the different Sorts of Vessels, of which

which they are composed, in order to facilitate the Passage of the Blood through them. It is, besides, probable, that the Act of Crying at Birth answers several other important Purposes, such as that of propelling the *Meconium*, collected during the many Months of its Stay in the *Uterus* down into the *Rectum*, to be there ready for Expulsion, forcing off the Urine, &c. into which it is foreign to my present Purpose to enquire. Should it be asked, How it happens that the Child does not cease to breathe, when its uneasy Sensation is removed, and it ceases to cry ? I answer, That the Crying continues till the grand Intention of fully inflating the Lungs, and opening the new Circulation through him is answered ; and then it is, that a Necessity of respiring commences. A Portion of Air is left in the Lungs after every the most full Expiration, nor can this, by any Means that I know of, be expelled, (a Circumstance, by the bye, that is of great Use in assisting us to determine in Cases of supposed Murders of Infants ;) and hence it is, that the Passage of the Blood will be infinitely more free than it was before Birth. The right Ventricle of the Heart will therefore continue to propel a great Quantity of Blood into the pulmonary Artery, whether the Child continues to breathe or not : But this can't be driven through the Lungs, but by a continual Repetition of Inspiration and Expiration ; the uneasy Sensation, therefore, that constantly attends a beginning Accumu-

Accumulation of Blood in this Viscus, if Respiration be intermitted, will necessarily determine it to continue it.

We shall now proceed to take a View of the Method, in which Nature proceeds in producing the grand Revolution, that happens in the Circulation at Birth. In the *Fœtus* the whole Force of the left Ventricle of the Heart, together with the greatest Part of that of the right, is employed in propelling the Blood through the *Aorta*, and the umbilic Arteries. The Passage through the *Foramen Ovale* from the right *Sinus Venosus* to the left is open, because extremely little Blood return now through the Pulmonary, and consequently little Resistance is made to its Transit through this *Foramen*. The Passage likewise through the *Ductus Arteriosus* into the *Aorta* is equally free, partly for this Reason, that no great Quantity of Blood is passing from the left Ventricle through the *Aorta*, but more especially because the umbilical Arteries, with their Ramifications, afford a large Space for the Blood that is passing through the *Aorta*. Now the Circulation between a Child and its *Placenta*, when it is first born, is strong and vivid, but gradually grows weaker and weaker, as Respiration proceeds, till at last it totally ceases. For as the Lungs gradually become more and more inflated, and the Passage through their Blood-vessels more free, so the Resistance to the Blood's Transit through the *Foramen Ovale* and *Ductus Ar-*

Arteris/us grows gradually greater and greater; the Consequence of which will be, that the right Ventricle will be able to propel little, if any, of its Blood by the *Ductus Arteriosus*, but the whole will be driven through the pulmonary Artery, and of course the other Ventricle at length be left solely to the Business of pushing the Blood through the *Aorta* and umbilic Arteries; but as its Strength is insufficient to answer this Purpose, the Pulsation of these will, after having gradually diminished, at last totally cease. From hence we see not only the great Care of Nature in gradually opening the new Circulation, but likewise that the Cessation of that in the *Funis Umbilicalis* and *Placenta*, and consequently its Uselessness to the Child, are but the natural Effects of this new Circulation.

We proceed in the next place to consider, why this Precept of waiting till the Child breathes, before we cut the *Funis*, is peculiarly suited to, and necessary to be observed in, the above-mentioned Case. 'Tis well known, that in Cases wherein the Head sticks a long Time in the Passage, it is fast locked and compressed between the Bones of the *Pelvis*, that the Bones are made by such Compression to ride over one another in a very remarkable Manner, and that consequently the Brain must necessarily be much compressed: In Consequence of this it is that such Children never stir while their Heads are so strongly squeezed, the Compression of their
Brains

Brains inducing a Kind of apoplectick or lethargick Disorder. Now, as it frequently happens that they continue many Hours in this Condition, 'tis not in the least surprizing that the Effects of so long continued a Cause frequently continue, even after the Cause itself be removed by the Delivery; in other Words, that such Children remain; after Birth; lethargick; motionless, and insensible to the Impression of the cold Atmosphere. 'Tis very observable; that in Apoplexies, Lethargies, and other similar Disorders of the Brain, the Heart still continues to perform its Motions, and that regularly enough, even when the Patient is almost altogether deprived of Sensation and Motion. In the same Manner, in the Infants we have been speaking of, the Heart; notwithstanding the morbid Affection of the Brain; still continues to act, and the Circulation between them and their *Placenta's* is strong and vivid. Sometimes indeed it happens, that the Compression is so violent, or continues so long; as to destroy the Function of the Heart, and consequently the Pulsation of the *Funis*; in this Case 'tis in vain to ^a strive to recover the Child: But if this Pulsation be sufficiently strong, we may be fully satisfied the Child, notwithstanding its lethargick Condition, is (if I may so express myself)

^a Agreeable to this is the following Observation of *Hippocrates*, which immediately succeeds the foregoing, *ὡς δὲ μὴ φρεσίναι ὁ ὁμοαλός, μὴ δὲ κινήσαι, χάρις ἐγχειρόμενος ἔβριώσεται.*

myself) full of Life : This then is a Case in which we are more particularly to observe this Precept of *Hippocrates*, of waiting till it breathes, e'er we cut the Navel-String. In order to effect this, we are not to let it lie in Expectation of its coming-to of itself, but to put in Practice the ordinary Means used in lethargick Disorders of Adults, such as applying volatile Spirits to the Nose, pinching it, &c. If these fail, some advise to inflate the Lungs with a Blow-pipe ; and this indeed is a Remedy which I once saw used with Success, and which seems peculiarly adapted to remove the Disorder, when complicated, as sometimes is the Case, with a præter-natural Infraction of the *Fauces* and *Rima Glottidis*, with a large Quantity of viscid Mucus : However, if the Bones of the *Cranium* still ride over one another, we are, previous to using the Means above-mentioned, to take Care to reduce them. We shall, by way of demonstrating the third and last Article proposed under the present Head, suppose a Child, whose Head has been compressed in the *Pelvis* so violently as to render it lethargick, and to deprive it of all Sensation and Motion, but whose *Funis Umbilicalis* beats strongly, to have the Naval-String cut immediately at Birth before it respire : The Consequence of this will be an increased Resistance to the Passage of the Blood through the *Aorta* and *Ductus Arteriosus* ; the right Ventricle will therefore impel a larger Quantity of Blood into the pulmonary

monary Artery than before ; but as the Child does not breathe, and it cannot therefore be transmitted through the Lungs, it will of course be accumulated and stagnate in them : The Blood continuing to return through both *Cavas* towards the Heart, will push with greater Force than ordinary at the *Foramen Ovale* ; but this is so small, that it cannot transmit more, perhaps, than one fifth Part of the Mass of Blood, so that the Lungs, Heart, and Brain, the true *Domicilia Vitæ*, will consequently be overcharged with Blood, their Functions be destroyed, and inevitable Death ensue. One would scarcely venture to be so hardy as to affirm this to be the precise way, in which, tying the *Funis* before Respiration commences, will destroy a child, however specious and probable it appears ; but what is more to my present purpose, that it will, is sufficiently evident from hence, that whenever the *Funis* falls down during Labour into the *Vagina*, so as that the Circulation through it is prevented for any considerable time, it never fails to kill the Child. Now if we consider the great Probability there is, that a Child, the violent Compression of whose Head in the *Pelvis* has induced a lethargick Disorder, and consequently prevented it from being excited by the Impression of the cold Air to cry and breathe immediately at Birth, may, now that the compressing Force is removed, be recovered and brought to itself, provided it be suffered in the mean time to live in

in

in its own way, *i. e.* have the Circulation between it and the *Placenta* kept up, till it can be brought to cry, we shall be abundantly convinced of the great Moment of the above-mentioned *Hippocratic* Precept; and sure I am, I have seen two Children saved in such cases, by deferring to tie the *Funis* till they cried, one of which is now alive and well; but the other was ever after subject to Convulsions, a Fit of which at last carried it off. I can't conclude this Chapter without observing, that it is not sufficient for the Welfare of the Child barely to wait for its crying or breathing, before we cut the *Funis*, but that it ought to be deferred so long, till its Respiration becomes easy and regular; and the Pulsation of the *Funis* is in a great measure stopped; being firmly of Opinion, and that from practical Observations, that many Infants die convulsed merely in consequence of the *Funis* being cut, before the grand Revolution in the Circulation is fully accomplished. Here then I might put an End to this Chapter, were it not that some may think the Arguments advanced against this Method by a late Letter-writer require a particular Consideration. This Author (Dr. *Burton*) after having quoted some Passages from *Mercatus* and others against this Method, observes, “ ’Tis plain that, by Observation, the
 “ Ancients had found the Child’s Life in Danger; while the Passage through the umbilical
 “ Chord was open, and permitted the Blood to
 “ pass

“ pass to the *Placenta* :” Here the Dr. would urge the Observations and Experience of the Ancients in this Case, as an insuperable Argument against deferring the tying the Navel-String for a while after Birth : But, unluckily for him, *Hippocrates*, the very Father of Physick, and most ancient Writer on the Subject, expressly orders, as we have seen above, the tying of the Navel-String to be deferred till the Child has made Water, sneezed, or cried. He further observes, that Dr. SMELLIE, to whom this polite Epistle is addressed, “ seems to found this
 “ Practice of his (to wit, of delaying to tie the
 “ *Funis* till the Child breathes) upon the chimerical Notion, that the *Placenta* does the same
 “ Office before the Child breathes, that the
 “ Lungs do after Respiration begins.” I will not pretend to say, the *Placenta* so far performs the Office of the Lungs, as actually to produce the same Effects on the Blood in the *Fetus*, which the Lungs do in the breathing Child ; but this I will be bold to assert, that a Communication between the *Placenta* and Child is indispensably necessary to its Life, till the Lungs begin to act in Respiration, and no longer : I shall refer the Reader for the Arguments, on which this Assertion is founded, to the former Part of this Chapter, and only observe at present, by way of Queries, if this be not actually the Case, why does it so constantly happen, that, in case the Navel-String be protruded through the *Os Tincæ*, and

compressed greatly for any considerable Space of Time, the Child always dies? Does not the universal Testimony of almost every Writer on Midwifry, with respect to the immediate Danger of the Child's Life in such a Case, together with the Method therein constantly recommended, abundantly demonstrate, that all are sufficiently apprised of the Necessity of a Circulation through the *Funis*, till the Child is born, and as all sound Children breathe immediately on Birth, I may say, till Breathing commences? And why will a *Fœtus*, as we are informed by that accurate Observer * HARVEY, live Hours out of the *Uterus*, provided the *Secundines* are preserved entire? For my Part, these Phœnomena are to me unaccountable from any other Supposition, than that of the great Use the *Placenta* serves to the *Fœtus* before Respiration begins, and indeed that of its performing the Office, which the Lungs afterwards do. So that this Notion is not perhaps so chimerical as the Dr. may imagine.

He observes further, that Dr. SMELLIE tells us, "Whatever augments the circulating Force, promotes Respiration." I will by no Means take upon me to defend Dr. SMELLIE in this his Assertion, or to determine how far an encreased circulating Force may be properly said to promote Respiration; but this I will venture to assert, that the Arguments Dr. BURTON has deduced

* *Et Op. emm. Lugd. B. Ed. Ann. 1737. p. 353.*

duced from this Assertion of Dr. SMELLIE, are by no Means so candid or perspicuous as he may imagine, nor indeed do they in the least make against Dr. SMELLIE's Side of the Question. He says, "As an Application to the Part itself
 " must be of more Service than when remote,
 " the Navel-String should be immediately tied,
 " to prevent the Blood from passing that Way ;
 " by which Means the Heart will drive it sooner
 " into the Lungs, than if the same Quantity of
 " Blood had two Out-lets, or Ways of passing."
 In the first Place, I can't see what Analogy there is between the Effect of an external Application, and the Operation of tying the Navel-String immediately on Birth ; or, in other Words, how the greater Effect of an Application, when made to the Part itself, than when at a Distance, can be brought as an Argument for tying the Navel-String immediately on Birth : This is, I must own, to me no perspicuous Way of arguing ; for even granting all external Applications to be repellent, and thereby to force the Blood in greater Quantity on the adjacent Parts, which is, perhaps, scarcely the Case with any one in any considerable Degree, yet the Comparison is, it must be confessed, very gross, not to say unintelligible ; nor can the Effect the Dr. asserts to be the Consequence of tying the Navel-String, *i. e.* driving the Blood sooner into the Lungs, &c. make in any wise, as he pretends it does, against Dr. SMELLIE. Here surely Dr. BURTON

is guilty of wilful Misrepresentation, in affirming Dr. SMELLIE has, in this Assertion, brought a strong Argument for tying the Navel-String immediately on-Birth against himself; for Dr. SMELLIE says not a Word of augmenting the Circulation on, or through, the Lungs, but is evidently speaking of increasing the circulating Force in general; and, I fancy, Dr. BURTON would find it a pretty difficult Task to prove, that tying the Navel-String does this. The Case, I presume, stands thus: Whatever augments the circulating Force in a breathing Animal, the same will necessarily promote Respiration, supposing it capable of respiring, in as much as it increases the Flow of Blood to the Lungs, and thereby lays it under an unavoidable Necessity of repeating the Acts of Inspiration and Expiration more often than before, in order to facilitate the Transmission of this greater Quantity of Blood through that Viscus, in other Words, to preserve Life: So far, augmenting the circulating Force may be said to promote Respiration; but then the Cases of a sound breathing Child, and of a *Fetus*, which does not breathe immediately on Birth, are widely different: The first can accelerate and retard Respiration, in a Manner *ad libitum*, and consequently can, whenever a stronger Appulse of the Blood to the Lungs requires it, breathe quicker, and thereby promote its Transit through this Organ: But the Want of Crying, in other Words,

Words, of Respiration in the last, immediately on its Birth, is owing to an Inability in it, either from the Compression its Brain has undergone in the *Pelvis*, or some other Cause, to breathe at all for the present. Hence 'tis not so plain, that, supposing with Dr. BURTON, a greater Motion in the Vessels of the Lungs will ensue from tying the Navel-String, that this greater Motion will promote Respiration in this Case, on the Method of proceeding in which the whole Dispute rests; but, on the contrary, extremely probable, that for want of Ability in such *Fœtus*, to exercise this particular Function of Respiration, a præter-natural Accumulation, and fatal Stagnation of Blood in the Lungs, would be the immediate Consequence of the Practice that Dr. BURTON espouses. Nor can I think this Effect of tying the Navel-String, immediately on Birth, which Dr. BURTON argues for, is, as he pretends, in any wise confirmed by the Observations of Authors, who tell us, “*Unde Obstetrices peritiores reprimunt intro de umbilico sanguinem, quo facto statim infans, qui modo exanguis deficiebat, recreatur, vitæque restituitur.*” For this Operation will squeeze the Blood back thro’ the Vein into the Liver, and not into the *Iliacs*; and, indeed, notwithstanding his great Approbation of it, seems to be a very dangerous Practice, as was the Opinion of that great Improver of the Art, the most experienced Man-Midwife, MAURICEAU, who has given us his Opinion

of it as follows. “Tis a very bad Custom some
 “Midwives have, before they make the Knot,
 “they drive all the Blood out of the String into
 “the Infant’s Belly, believing that by this
 “Means they fetch it to itself, and strengthen
 “it when it is weak : But ’tis no such Matter,
 “for as soon as these Vessels are ever so little
 “cooled, the Blood it contains quickly loses its
 “Spirits, and is half coagulated in an Instant ;
 “which is the Reason, that being driven back
 “into the Infant’s Liver, it is enough to cause
 “great Accidents ; not because of its Abund-
 “ance, but because having quite lost its natural
 “Heat, it is afterwards soon corrupted, and
 “changeth and spoileth the Child’s Blood, with
 “which it comes to mix. They commonly
 “put this ill Custom in Practice when the Child
 “is weak ; but this doth sooner suffocate it :
 “For if they need Blood to give them Vigour,
 “it must be good and laudable, and not that
 “which is half clodded, and destitute of its na-
 “tural Heat. Wherefore, whether the Child
 “be strong or weak, if you will not put it in
 “Danger of its Life, or at least cause him to
 “have great Oppressions, Pains, and Gripes,
 “forbear driving his Blood thus out of the
 “String into the Infant’s Body.” Chap. xvi.
 lib. iii.

Having been naturally, as it were, by my
 Endeavours to support the Opinion I have es-
 poused, led to the Consideration of that Part of
 Dr.

Dr. BURTON's Letter, in which he has advanced the preceding Arguments : I must beg Leave to observe a few Things with respect to that most extraordinary Performance.

I was extremely at a Loss, when I first saw Dr. BURTON's Letter to Dr. SMELLIE advertised in the Papers, in considering what could possibly be the Dr's. Motive for treating the other in so severe a Manner, as he professed to do in the scandalous Title-page of that Piece. I was indeed naturally led to imagine, that some unpardonable Affront had been given on Dr. SMELLIE's Side ; but, as I knew him to be remarkably inoffensive, I could not fix on any one that seemed probable : But, alas ! the Perusal of the Piece soon satisfied me with regard to this Particular ; I there found, that with the Dr. it was, in Dr. SMELLIE, an unpardonable Crime, to have dared to write a better Treatise than, and that without having taken due Notice of, and paid due Deference to, his (BURTON's) own : And, for the Truth of the Assertion, I appeal to innumerable Passages in that Piece, in which he has but too plainly discovered, how greatly he has at Heart the Encomiums bestowed on Dr. SMELLIE's Performance by the learned Reviewers : However, I will not say, but the Loss of Business by Means of the too near Residence of some of Dr. SMELLIE's quondam Pupils, may have, in some Measure, as was the Case with Dr. BRACKEN, of

Lancaster, contributed to exasperate Dr. BURTON against him ; but, I think, 'tis sufficiently plain, the grand Occasion of it was no other than that above-mentioned, to wit, the most laudable one of Envy. And this leads me, and that more especially in Consideration of Dr. BURTON's having expressed his Approbation of the Maxim of regarding " In every Work the Writer's End," to observe, what seems to have been the End the Dr. had in View in composing that Performance ; and this indeed appears to be just as commendable as his Motive, to wit, that of derogating from the Merit of Dr. SMELLIE's Treatise, with the aggravating Circumstance of endeavouring to add to that of his own. Whether or no Dr. BURTON was afraid nobody would have done this, had he not undertaken it himself, or rather was conscious of the abundant Merit of Dr. SMELLIE's, and the little of his own Performance, and therefore was willing, by transferring from the first to the last, to render them more on an Equality, I shall not pretend to determine ; but this I will venture to say, that in order to accomplish this End, he has robbed *Peter* to pay *Paul* with a Vengeance. Thus much then with regard to Dr. BURTON's Arrogance, and Spirit of Envy and Detraction : And what trifling Cavillings, what wilful Misrepresentations, scandalous Plagiarism, unfair Argumentation, and abusive Language, may not the World reasonably expect from an Author, actuated

tuated by such base, not to say, detestable Principles? And indeed, I am much mistaken, if several Instances of each of these may not be produced in the above Letter.

That Dr. SMELLIE has made several, and some of them pretty considerable, Mistakes, especially in the historical Part of his Treatise, and that it contains some few Inconsistencies and Inaccuracies, which are almost entirely unavoidable in a Work of that Length, and are more especially to be excused in a Man, who is not possessed of the most happy Talent of expressing himself, all will allow: But then, on the other Hand, it must, it has been acknowledged, by some of the best Judges in *Britain*, that Dr. SMELLIE has made great Improvements in Midwifry, that his Doctrines are judicious, and his general Method of Practice unexceptionable; and this, I am well satisfied, may be fully demonstrated to impartial Judges, notwithstanding any Thing that Dr. BURTON has, or can, advance to the contrary: And surely he has been too unmercifully severe on a few Faults.

*Quas aut incuria fudit,
Aut humana parum cavit natura.*

A Circumstance, which, were it not for the Reasons above assigned, would have appeared somewhat wonderful in one, who is so great an Admirer of HORACE's *Ars Poetica* as the Dr. seems to be.

What

What can have been Dr. SMELLIE's Reason for not having endeavoured to vindicate himself from at least that Part of the Charge which relates to his Practice, is best known to himself: But sure I am, the publick Manner in which the other has accused him of Male-Practice, loudly calls for an Answer, if not on his own Account, at least on that of his *quondam* Pupils, whose Business may be greatly affected by Dr. SMELLIE's Reputation as a Man-Midwife, being thus publickly, however unjustly, traduced: Be it indeed what it will, I am fully satisfied, 'tis not because Dr. BURTON's Objections are in any wise unanswerable: However, lest he may put such Construction on Dr. SMELLIE's Neglect, and look on it as giving up the Cause, may he know that a *quondam* Pupil of his is, at any Time, ready (on Dr. BURTON's signifying his Approbation) not only to prove the Truth of the above Assertion with respect to his Plagiarism, &c. but likewise to argue out the Case of the next Method of Practice of Dr. SMELLIE's, which he has objected to in his Letter; a Method which he chuses to follow, not because he imagines Dr. SMELLIE's Practice to be less defensible in other Particulars than in his, but because he is by no Means disposed to write more on the Merits of the Cause, than may be comprized within the Limits of a Shilling, or at least of an Eighteen-penny Pamphlet, and would willingly leave the next Methods in the Course
objected

objected to, to be justified by some one or more of Dr. SMELLIE's Pupils, who care to undertake the disagreeable Task of engaging in a Dispute with a Man of so cavilling a Spirit, as Dr. BURTON evidently is.

CHAP. III.

Of the Umbilical Hæmorrhage.

IT sometimes, tho' very rarely, happens, that after the Separation of the *Funis Umbilicalis* from the Navel of the Child, a violent *Hæmorrhage* ensues: 'Tis true, though there are many instances of such *Hæmorrhages* extant in medical Records, a Man may practise Midwifry very extensively during many Years, without meeting with such an Accident: There have however been some Cases of this sort, that have proved fatal, within these few Years in this part of the Country: One of which I shall relate, as I received it from the Mouth of the Father, a Gentleman of singular Veracity. The Child continued well, till the fourth Day after the natural Separation of the *Funis*, (which happened in the ordinary Way, and on the seventh Day after Birth) at which time it was seized with a violent *Hæmorrhage* from the *Umbilicus*: The Blood came away not by starts, but flowed down the Belly in an equable uniform Stream, and

and the bleeding continued to recur by Intervals, notwithstanding the Application of various Stypticks, with Compress and Bandage, in so violent a Manner, that the poor Babe expired within 36 Hours from its beginning. Cases of this Sort are so extremely rare, that I own I have never had the Opportunity of seeing any considerable one, and tho' there are many to be met with in Medic Writers ; yet they are related, at least those I have happened to peruse, in such a Manner, that 'tis impossible to determine, whether the *Hæmorrhage* has proceeded from the Arteries, or the Vein. By the Nature of the *Hæmorrhage* above mentioned, I own, I should suspect it to have proceeded from the Vein, and in no wise from the Arteries ; as likewise those others, that have been related to me by Nurses to Lying-in Women. 'Tis true, the Blood must, provided this were the Case, have flowed in a Course directly contrary to the Natural one before Birth : And indeed, as this Vein has no Valves, but allows a free Passage to the coloured Matter, used in Anatomical Injections, from the Child to the *Placenta*, an *Hæmorrhage* from it, (provided its external Orifice be not closed, and, by the bye, it has been found pervious its whole Length, a great while after Birth, in Dissections, as often as, if not oftener than the Arteries) does not appear in anywise extraordinary. Nay, if we consider the following Circumstances relating to it, we shall find

find it seemingly much more likely to bleed, and that more violently, than the Arteries.

First, the *Lumen*, or Area, of a transverse Section of the *Vena Umbilicalis*, is very large in proportion to the conjunct Areas of the two Arteries : The first of which, to those of the two last, Mr. HALLER makes as 900 to 392 : It's Coats likewise are extremely lax; and, consequently, on both these accounts, it will make less Resistance to the *Nisus* of the Blood, than the Arteries. 2dly, This Vein arises from, or rather considering it's use in the *Fœtus*, is inserted immediately into the Sinus of the *Vena Portarum*, and, by means of the *Ductus Venosus*, has a free and open Communication with the *Cava*, from both, or even any one of which Veins it may be immediately supplied with a large quantity of Blood. The *Vena Portarum* is considered generally in the Light of an Artery, (which with regard to its use in the Liver it certainly is) but some have proceeded so far, as to attribute to it a Pulsation, (or *Systole* and *Diastole*) somewhat analogous to that of the Heart : How far this is true, I don't pretend to determine ; but, that that force, whatever it be, which is exerted in propelling the Blood of the *Vena Portarum* through the Liver into the *Cava*, will of necessity drive some of it back through the *Vena Umbilicalis*, if its Trunk be pervious, or if it be not, will at least add much to its *Nisus*, to break through any obstruction formed
in

in it, is, I think, most obvious and reasonable to imagine.

Now the *Umbilical* Arteries are very small, their *Tunics* extremely contractile, they rise at a great Distance from the Heart, and in so retrograde a Manner, as to make a very obtuse Angle with the lower Part of the *Iliack*, from which they are derived: All which Peculiarities of these Vessels will certainly tend much to impede the Motion of the Blood through them: Add to these the Observation of Mr. HALLER, that the sudden Change of Posture, which all Infants undergo at Birth, viz. from a conglobated one in the *Uterus*, to a strait one on Delivery, will not only increase the Resistance to the Passage of the Blood through those Vessels, in as much as it increases the aforesaid Angle, and consequently renders them more retrograde with respect to the Direction of the *Iliacks*, from whence they arise; but likewise will take off from the *Nisus* of the Blood on them, as it renders the Course of the *Iliack* and femoral Arteries more strait, and consequently the Transit of the Blood through them more easy. Besides, as was observed in the preceding Chapter, the Force with which the Blood is propell'd through the *Aorta* before Birth, depends on the united Actions of both Ventricles of the Heart; but afterwards the left Ventricle is left alone to this Business; and surely this Circumstance must greatly diminish the *Nisus* of the Blood on the
Umbilical

Umbilical Arteries. From all which I would conclude, that the *Vena Umbilicalis* seems much more disposed for discharging a large Quantity of Blood on the Separation of the *Funis*, than the Arteries: And likewise, when the *Hæmorrhage* proceeds, as I am apt to think it generally does from the former, the Application of Stypticks will not, by Reason of the want of Contractility in its Coats, as well as for other obvious Reasons, be so likely to produce their intended Effects, as in Cases, where it arises from the Arteries: And indeed, according to the Idea I have of the dangerous Nature of these Cases, the Ligature seems to be the only Remedy likely to take effect; which over and above the great Advantage it has over other Methods, in stopping an *Hæmorrhage* immediately, has this also peculiar to itself, that the casting off a Slough never happens after its use, if judiciously performed. And, indeed, I am persuaded, that two Gentlemen of my Acquaintance have lost each of them a Child in this Disorder, merely for want of this Remedy. I know not but of one Objection, that can be made to this Practice; and, that indeed will appear, at first thought, a very Material one, as it is deduced from Experience: I mean, the fatal Consequences said to ensue from it in a Case of an *Umbilical Hæmorrhage* related by LA MOTTE. But, whoever will but take the Pains to peruse it, will easily perceive, that the ill Consequences therein mentioned,

tioned, arose entirely from the Operation being injudiciously performed. However, even granting it to be attended with Danger, *Satius est anceps auxilium experiri, quam nullum.*

The Application of Compress and Bandage is doubtless of great use in many Cases of *Hæmorrhages*, if properly administered, but in the present Case, I am inclined to think, and that for the following Reasons, it would be apt rather to increase than diminish the Bleeding. There is an indispensable Necessity after a Child has once breathed, for a continual Succession of the Acts of Inspiration and Expiration; without the Assistance of these, the Blood can't possibly pass thro' the Lungs, since the former *Sanguinis Diverticula*, the *Foramen Ovale*, and *Ductus Arteriosus*, soon become, if not totally impervious, at least unfit for the Use they served in the *Fætus*: If, therefore, the Bandage around the *Abdomen* be applied so strait in this Case, as in any-wise to impede Respiration, it must consequently prevent the free Transit of the Blood thro' the right Auricle and Ventricle of the Heart: The Blood therefore that returns from all parts of the Body to the *Vena Cava* and *Sinus Venosus Dexter*, will, in Proportion, as it is hindered from entering the Auricle and Ventricle, be there accumulated; while that which is coming from the *Viscera Abdominalia* into the *Sinus Venæ Portarum*, in order to pass into the *Cava*, will meet with an uncommon Resistance by reason
of

of the Blood already collected in that great Reservoir, to its Passage either thro' the *Ductus Venosus*, if that be still pervious, or thro' the hepatick Branches of the *Vena Portarum*, to return by the hepatick Branches of the *Cava*. The Consequence of which will be, that it will regurgitate with the Imperus, with which it used to be propelled thro' the Liver, or *Ductus Venosus*, or both, *qua data porta*, or where there is the least Resistance, *i. e.* on the *Vena Umbilicalis*, which I now suppose to be pervious. And, indeed, the Gentleman above mentioned told me, he always thought the *Hæmorrhage* was more violent, when the Bandage was on.

C H A P. IV.

On Dropsies during Pregnancy.

AMONG the many Complaints which pregnancy is apt to induce, there is scarce one more frequently to be met with, than that of hydropic Symptoms, especially in Women of a leucophlegmatick Habit. In such, the Blood is of itself too thin and watry, the Solids flaccid, the Circulation languid, and consequently the Secretions and Excretions imperfectly performed. Hence it is, that when the *Uterus* begins to rise into the *Abdomen*, and produce any remarkable Degree of Compression on the urinary

nary Organs, so as to prevent, in a great Measure, the free Secretion and Excretion of Urine, the hydropick Symptoms soon come on: The Patient complains of first, Œdematous Swellings of the Legs and Thighs, sometimes of the Arms, and always of the Eye-lids; her Breath soon after this grows difficult, and on the least Motion laborious: She is continually thirsty, and tho' she can't refrain from drinking more than she ought, yet her Urine is very high coloured, and small in Quantity: all which Symptoms grow worse and worse, the further she advances in her Pregnancy, and that, I presume, by reason of the Compression the enlarged *Uterus* makes on the adjoining Vessels and *Viscera*. Sometimes indeed, I have known this Disorder begin to be troublesome in the first Month of Pregnancy, but then it has been in such, as has been remarkably disposed to the Disorder: In this case, I am inclined to think, the Alteration induced on the *Uterus* by the Conception of the *Crura*, affects the adjacent *Cervix Vesicæ*, or by Sympathy the Kidneys, in such Manner, as to produce a Paucity of Urine, and so to over-load the Blood with superfluous Water.

The Disorder, generally speaking, proceeds to no greater height than that Species, which is called *Anasarca*; tho' indeed I have seen some Cases, wherein I have had great Reason to think there has been Water extravasated into the Cavity of the *Abdomen*, if not of the *Thorax*, and *Cranium*.

There

There are several Circumstances, that render this Disorder of more dangerous Consequence to pregnant Women, than other Patients. In the first Place, the continual Increase of the *Uterus* is apt, by pressing more and more on the urinary Organs, to diminish the Quantity of Urine, and consequently to add Fuel to the Disease: At the same Time, that by straitening the *Thorax*, it remarkably aggravates the asthmatick Symptoms so peculiar to this Disorder. 2^{dly}, The salutary Effects of Diureticks are even more precarious in these than other Cases of Dropsies: Nor indeed can it be expected, that any internal Medicine should be capable of reserating and opening the various Vessels and Ducts concerned in the Secretion and Excretion of Urine, while so remarkably compressed, as they are in these Cases, by the turgid *Uterus*. Nay, even in Cases of the *Ascites*, wherein the compressing Substance is only Water, and consequently much more soft than the gravid *Uterus*; one shall seldom see the least Effect produced by the strongest Diureticks whereas a brisk Purgative, by cleansing the intestinal Canal, and thereby in some measure abating the Compression on the urinary Organs, generally increases this Evacuation; and the *Paracentesis*, in as much as it totally removes the compressing Cause, seldom fails to reduce it, at least for a while, to its natural Standard. That this Notion of the Secretion and Excretion of Urine being in a great measure

prevented by the Distension of the *Uterus* in these Cases, is in no wise imaginary, is further evident from hence, that hydropick Women with Child, who have made extremely little Water during the last Months of Pregnancy, generally make it freely enough soon after Delivery; as likewise, that however copiously Patients urine, after the Operation of the *Paracentesis*, yet gradually, as the *Abdomen* becomes more and more turgid with a fresh Collection, so this Discharge grows less and less. I am very sensible it may be urged, in Opposition to this last Argument, that the Re-distension of the *Abdomen* with Water in these Cases, may possibly be so far from being the Cause, that it may be the necessary Consequence of such Paucity of Urine: And, indeed, it must be confessed so far in Favour of this Objection, that from whatever Source a Collection of Water in the *Abdomen* arises, the Paucity of Urine, which will be the necessary Consequence of its Pressure on the urinary Organs, will tend immediately to increase the Supply of Water to such Source, and consequently to add to the Quantity already collected; so that they may be said to be in a great Measure mutually Cause and Effect. We see then, from what has been said, how difficult, or rather how impossible, it is to reduce the urinary Discharge during the gravid State of the *Uterus*, to its wonted Standard: And it is as just, as it is noted, an Observation, that while this Evacuation

uation remains imperfect, no Dropsy can possibly be cured.

3dly, The hydragogue Catharticks, which are evidently best adapted to draw off superfluous Water in dropfical Cases, can't be so freely used in Pregnancy as at other Times, to wit, for fear of inducing forcing Pains, and thereby causing Abortion. However, I once knew a Patient, who was remarkably hydro-pick, and at the same Time (though she was ignorant of it) with Child, that took large Doses of Scammony, Gutt. Gamb. & Syr. De Rhamnis, with Calomel, twice or thrice a Week for six or seven Months during the latter Part of her Pregnancy, and yet went nearly her full Time: Nearly I say, because from the large Size of the Child's Head, in Proportion to the rest of its Body (which was in no wise hydro-pick) I could not but judge it to have been born rather before its full Time, especially as it was very small. Her Case indeed was so excessively bad, that, if ever she intermitted the Use of the Purgatives for four or five Days, she was ready to expire with the Difficulty of breathing, which the excessive Quantity of Water induced; so that the great Relief, which she constantly received from this dangerous and threatening Symptom, by the Operation of a smart Purgative, obliged her to have Recourse to this Remedy whenever it became urgent. She recovered perfectly from the Dropsy in a Month after

Delivery, and remained totally free from it till the fifth Month of a second Pregnancy, when the hydropick Symptoms recurred, but with less Violence than before: She was now sensible of her real Pregnancy (which the early Origin of the Dropsy in the former Case had prevented her from being acquainted with) and though she grew very bad with it, before she was brought to Bed, she, however, protested against the Use of Purgatives, being possessed with a Notion that the Death of her first Child was owing to them: So that when I came to deliver her, I found the Legs, Thighs, *Pudenda*, and in short the whole Body, excessively tumified; and tho' she was delivered of a living Child in the ordinary Way, and seemed hearty enough for the Space of half an Hour afterwards, she notwithstanding was seized with a Delirium, which was soon followed by universal Convulsions, that carried her off in four and twenty Hours, and which, I am inclined to think, were owing to Water extravasated by the Force of the Labour-Pains on the Brain; for she had no other Symptom about her to which I could possibly attribute them: She did not flood, and as to her Urine, I drew it off with the Catheter, soon after the convulsive Symptoms began, suspecting that the Bladder might be, as she had made no Water for many Hours, over-distended with Water; but this was not the Case, for I drew off no more than about half a Pint. I am the

more

more inclined to this Opinion, as I have known several hydropick Patients, who have had great Collections of Water in the several Cavities of the Body, seized with violent convulsive Fits: And especially, as this Patient's Face was extremely bloated, both before, and particularly after the Fits came on. Far be it from me, from intending by what has been said to recommend the Use of strong draftick Purgatives in this Disorder of pregnant Women, since I was thus full in the Relation of the preceding Case, to shew that the Administration of at least the milder Purgatives, may not be so dangerous as some have imagined, in these Cases; but more especially to demonstrate the fatal Consequences of neglecting all means of drawing off the superfluous Water, which I have more than once seen exemplified in other hydropick Patients, when the whole Stress has been laid on diuretick Medicines.

4^{thly}, The superfluous Water is more apt to be extravasated on, or into, the Ventricles of the Brain in these, than in other Cases of Dropsies. In other Patients, when the Blood is by any means overcharged with Water, the Cavities of the *Abdomen* and *Thorax* are capable of containing a large Quantity, by its Extravasation, into which the Circulation is freed from too great a Load, and consequently the vital Functions relieved. But in pregnant Women, the Capacities of both these Cavities are greatly diminished

by the Distension of the *Uterus*; the superfluous Water therefore, that is retained in the Blood-Vessels, and whose Excretion is indispensably necessary to the Continuance of the Circulation, meeting with greater Resistance to its Extravasation into the Cavities in these, than in other Patients, will be more apt to be determined into the Ventricles of the Brain, in consequence of its meeting with less Resistance there, and thereby to destroy the Patient. In other Cases, wherein there is Danger of this Accident, by Reason of the over-distension of the *Abdomen* with Water, or of the Suffocation of the Patient, by the Interruption of Respiration, the *Paracentesis* may, and frequently is, to their great Relief administer'd: But in these, no one would be so hardy as to put it in Practice.

Now, notwithstanding these several obvious Disadvantages, that peculiarly attend the Cure of Dropsies, when accompanied with Pregnancy, in which the Disorder is the mere Effect of Pregnancy, (as is often the Case) even tho' the Patient be greatly disposed by a Chlorotick, or Leucophlegmatick Habit to this particular Complaint; there is not so much Danger, as in Cases wherein it proceeds from vitiated *Viscera*: In the last, the Cure depends on the Restitution of the corrupted *Viscus*, or *Viscera*, to a natural State, but this is generally impossible: Whereas in the first, the grand Indication is to draw off the superfluous Water from time to time in
such

ſuch Manner, as to prevent its overloading the Circulation, and being determined on; and corrupting ſome of the vital Organs; and if this can be effected for a few Months, we may be pretty certain the Patient will do well, ſince the Delivery ſeldom fails, inasmuch as it removes the Procatactick, or rather the immediate Cauſe of the Diſorder, to perfect the Cure.

It has been already obſerved, that the great Danger in theſe Caſes is, leaſt the ſuperfluous Water ſhould over-load this Circulation, or being diſcharged on the internal Parts, ſhould corrupt ſome of the Vital Organs, but more eſpecially the Brain; and hence appears the Neceſſity of attempting ſome means of drawing it off. Diureticks, as was remarked above, are of little uſe: The Draſtick Purgatives hardly ſafe: And as to Emeticks, which are evidently on many Accounts ſerviceable in other Caſes of Dropſies, they can't be adminiſtered for obvious Reaſons in theſe. There is, however, another Method, which I have ordered with Succeſs in theſe Caſes, and that as ſafe, as it is remarkably effectual; and this is the Application of *Veficatories* to the Legs. 'Tis remarkable that the Cells of *Tunica Cellularis*, which connects the Whole of the ſoft Parts of the Body together, which are in theſe Caſes replete with Water extravafed, have a free Communication with one another thro' the whole Body: Hence it is, that the Diſcharge of Water, which theſe Applications procure,

cure,

cure, is by no means confined to the particular Part to which they are made, but extends to the most distant Parts of the Body. To this their exhausting Effect it is owing, that they relieve the asthmatick Symptoms, which, in these Cases, proceed in a great Measure from an Infraction of the cellular Membrane of the Lungs with Water, sooner than the most inciding and expectorating Medicines. Nay, even the Water extravasated into the larger Cavities of the Body, may be, by these means, drawn off; as is evident from the several Instances there have been, of the Water having been drawn off in universal Dropsies by accidental Burns, and other Wounds on the Legs. Physicians frequently talk of the Administration of stimulating aromatick Medicines in Dropsies, in order to increase the Action of the Solids, quicken the Circulation, and cause a Resorption of the extravasated Fluids: But, if we consider the over-distention of not only the several Cavities of the Body, but also of the whole System of Blood-Vessels, with watery Fluids, the Slowness of the Circulation in every part of the Body, especially, such as are remote from the Heart, as the Skin, &c. and the consequent Impossibility of increasing the cuticular Discharge, all which Circumstances frequently concur in universal Dropsies; one would wonder, how any reasonable Person can expect any resorbing Effects from these, or indeed any other Medicines, but such as evacuate. The
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Circulation is already overloaded, and the several Cavities of the Body, together with the Blood-Vessels distended, *ad crepaturam usque*. How then is it possible for the Circulation to be quickened with such a Load upon it? Or how for the Vessels, which are so over-full, to resorb what is extravasated, the very Extravasation of which, was probably owing merely to the single Circumstance of their being over-full. One would think far the most likely Method to effect this Indication, would be to subtract somewhat from the Quantity already in the Circulation, and thereby to make room for the Vessels to receive more: And, sure I am, I have seen some Patients in universal Dropsies, by the Neglect of this, expire under the Load of Water which has been contained in the Circulation, and the several Cavities of the Body, while the Physician has been intent on answering the Indication of resorbing the Water, in order to throw in a Purgative after such Resorption, as tho' there was not Water enough already in the Circulation for the Purgative to operate on. I am the more confident in this Assertion, as they have been such Patients, as had, in all probability, tolerably sound *Viscera*.

C H A P. V.

Of Convulsions during Labour.

TH E Causes of Convulsions are so extremely various and intricate, that 'tis altogether impossible, generally speaking, to discover the Source from whence they arise. In pregnant Women, indeed, who are at, or very near, their full Reckoning, and are thus seized with convulsive Fits, the Cause is much more obvious, than in most other Cases of this terrible Disorder; when Labour begins immediately with convulsive Fits, the Cause seems to consist in a full Distension of the *Uterus* with the *Fetus* and its *Secundines*, or the Irritation of the *Os Tincæ*, or in both: There are, no doubt, many Women, whose *Genus Nervosum*, is extremely more irritable than that of others; and who are thereby much more disposed to convulsive Disorders: And hence it is, that such Women may, whenever the *Uterus* becomes fully distended, and the *Os Tincæ* begins to dilate, be seized with Convulsions, instead of regular Labour-Pains: And accordingly we find, that such Convulsions frequently begin with, and recur by Intervals, during the whole Time of Labour: At other Times the Cause seems rather to consist in the Woman's being deprived of Rest, by the long Duration of the Labour, and the Blood's being thrown too forcibly on
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the *Encephalon*, by the Violence of the Pains : Thus 'tis no uncommon Case to meet with Women in Labour, who discover no Signs of the Convulsions we are speaking of, during the first Part of Labour, but who, after they become worn out, as it were, with Want of Rest, and the Tedioufness of the Labour, fall into convulsive Fits : 'Twas an Observation of the great ^a Dr. *Boerhaave*, when speaking of the bad Effects of epileptick Fits on the Patient's Body, that one great ill Effect which it produces, is a morbid Affection of the Brain ; and I am greatly of Opinion, that the Convulsions of Women in Labour produce, if they are violent, and continue for any considerable Space of Time, the same ill Effect on the Brain ; and that, not only because the Blood must necessarily be impelled with great Force, and in great Quantity, on the *Encephalon*, by the Violence of the Fits, but likewise because it rarely, I may say, never happens, that the Patient recovers immediately on Delivery, but generally that she lies in a senseless, stupid Condition for many Hours after, and frequently that, notwithstanding all possible Assistance, she never gets up again at all. That this is the Case is likewise further evident from hence, that the stupor, or, as it seems, the morbid Affection of the Brain induced by the Fits, in these as well as in other Cases of violent Convulsions, generally lasts a longer

^a Aph. §. 1072.

longer or shorter Time, in proportion to the Violence and Duration of the preceding Convulsions. This I have frequently taken Notice of. Hence we see, with how great Reason it is, that speedy Delivery in these Cases is universally looked on as the only certain Remedy, in as much as it not only removes the immediate Cause, but likewise greatly tends to prevent the ill Effects of the Convulsions, by shortening the time of their Duration. It was the Custom of the famous Mr. GIFFARD, to bleed in these Cases, before Delivery, and I am persuaded, not only from theoretical Arguments, but also from Experience, that this Practice is extremely beneficial. I shall conclude this Chapter with the Relation of three Cases of convulsive Fits during Labour, two of which were very desperate, and which were notwithstanding cured by the Administration of this Remedy.

Mrs. N. aged about thirty, was taken in Labour of her first Child about six in the Morning; the Water coming off in the beginning of the Labour, the Pains were slow and weak, till about six at Night, at which time they grew much stronger, and the Accession of one of them threw her into a convulsive Fit. The Convulsions recurred with every Pain, and in the Intervals she lay speechless and insensible; these Fits were so violent, that two or three Persons were scarcely able to hold her; about twelve o'Clock they sent for Mr. BATCHELLOR, a neighbouring

bouring Surgeon, who finding her in a very dangerous Situation, dispatched a Messenger for me ; I was met on the Road by the Husband, who told me his Wife was delivered, and likely to do well, on which I returned : This happened about five in the Morning, however, being sent for next Day, I arrived at the House about four in the Afternoon ; this was near thirty-six Hours after the Time of her Delivery. She had made Urine, and the *Lochia* were in good Order ; but I found her insensible, and quite ignorant of every thing that had passed : Her Pulse were full and frequent, her Skin very hot, and on being any way disturbed, she raved a good deal. I was informed she had at times been very restless, so that 'twas with great Difficulty that they kept her in Bed ; but at this time she lay stupid and senseless, if in any way disturbed. As the Brain seemed so remarkably affected, and this, as I imagined, in consequence of the former Convulsions and violent Labour, I concluded the chief Indication of Cure consisted in relieving that *Viscus* : For this Reason, I not only ordered her to be kept extremely quiet, the Room, which was remarkably light, to be darkened, but likewise eight Ounces of Blood to be immediately drawn from the Arm, and an emollient laxative Enema to be injected ; as likewise, if she did not mend, the *V. S.* to be repeated. She took some gentle sudorifick Powders composed of Lap. Contr.

Camph.

Camph. & Nitr. together with a refrigerating nitrous Emulsion, which Mr. BATCHELLOR had brought her. Mr. BATCHELLOR informed me, afterwards in a Letter, that she became better after the first *V. S.* and that after the Second, (which was performed next Morning) she evidently continued to mend till she recovered. The Child was born dead.

It may possibly appear very extraordinary to some, that I ordered neither Blisters nor Anti-epilepticks in this Case; the Truth is, I always thought *V. S.* and the cooling refrigerating Method much more likely to succeed in Cases of Convulsions, wherein the Circulation is sufficiently strong, than those Remedies: And indeed, as to Volatile Spirits, Salts, &c. &c. &c. I cannot forbear thinking, they are extremely prejudicial to these, and all other Cases, unless the Circulation be languid, and the *Vis Vitæ* evidently and greatly impaired.

E. IV. A young unmarried Woman, aged about twenty-four, was found by her Mother and Relations, when they returned from Church Sunday in the Morning, in violent Convulsions, a Messenger being immediately dispatched to a neighbouring Surgeon, his Apprentice came and bled her very plentifully; some Hours after this a Blister was applied to the Shoulders, and an Enema ordered to be injected, but this last was omitted. About five in the Afternoon of the same Day I saw her, at which time she was
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under the most violent universal Convulsions, that ever I saw, so that several Persons could scarcely keep her in Bed : The *Mucus* was discharged in great Quantity from the Nostrils ; she foamed, her Eyes and Mouth were terribly distorted ; in short, I never saw a more frightful Object in my Life, and indeed concluded she could live but few Hours. As I had heard that a Suspicion had prevailed among the Neighbours that she was with Child, I was resolved to satisfy myself of the Truth of it, but in a way that might give no offence to the Relations ; for this Reason, I slid my Hand down to the Region between the *Umbilicus* and *Scrobiculus Cordis*, under pretence of feeling how the Stomach, (as they say in this Country) work'd, And here I had well nigh been led into a great Mistake, and therefore can't forbear cautioning every young Practitioner of Midwifery to be extremely circumspect in every Case that gives the least Room for suspecting Pregnancy ; (since a small Mistake of this Sort in the Eye of the World, is looked on, tho' undeservedly, as an infallible Sign of Ignorance) for finding this Part in no wise tumid, and not thinking just that Moment, that possibly the Child might be delivered, I had almost concluded, the World had belyed her. However, on Recollection, I passed my Hand below the *Umbilicus*, and how was I surpris'd, when I found the *Uterus* contracted into an hard round lump. This Method

of feeling for the contracted *Uterus*, I had always practised (in Cases, wherein the speedy Descent of the *Placenta* rendered the introducing my hand into the *Uterus* unnecessary) in consequence of Instructions received from the great Dr. SMELLIE, and therefore, by Experience, knew she had been very newly delivered of a Child, which I now began to think had been made off with. I therefore acquainted the Mother with my thoughts, but she positively denied she had ever been with Child, adding withal, “no more than yourself.” However, I insisted on searching, and accordingly on examining, found a dead Child altogether delivered, the Feet only excepted, and lying compressed between the *Femora*, which having disengaged, and shewed to the by-standers, I extracted the *Placenta*, and the Violence of the Fits considerably abated soon after: However, she continued in a stupid senseless Condition, till the Tuesday Morning following, when she came to herself so far, as to be able to speak, and from this time she continued to mend, till she totally recovered. I have mentioned this Case, in order to shew, that bleeding, during these kinds of Labours, may safely be administered: And, indeed, I am persuaded, had not this Patient been bled to an extraordinary Quantity, the extreme Violence of the Convulsions, together with their long Duration, must have so far destroyed the Functions of the *Encephalon*, as to have inevitably killed her. A

A Gentlewoman being taken in Labour of her first Child, continued lingering for about 48 Hours, when a Messenger was dispatched for me: When I came, I found the Water gone off, the Pains slow and weak, the *Os Tincæ* low down, but no broader than a Shilling, and the Head presenting right. As she had got little or no Rest the two preceding Nights, I gave her an Opiate, hoping, after she had recruited her Spirits by Sleep, the Pains would become stronger. However, she slept but little, and the Pains still continued weak, till about Four o'Clock in the Afternoon of the succeeding Day, when they became more frequent and strong, so as to give me Hopes of a pretty speedy Delivery. The Husband, who is a Surgeon, being very uneasy at her continuing so long in Labour, I acquainted him with the Causes of it, adding, that I apprehended no Danger, for if the Pains would not do, I was sure I could deliver with the Forceps, but that unluckily I had left them at home. He would have sent for them immediately, but I was still in Hopes of delivering with my Hands only. The Pains now grew stronger, and the Head advanced so far, that the swelled Integuments of the *Occiput* almost appeared between the *Labia*; at which Place it remained for the Space of half an Hour, notwithstanding the Continuance of the most violent Pains, that ever I knew any Woman to have in my Life. I had not sent for my Forceps be-

fore, because I still hoped to do without them, and thought, if the Head did stick, I could but send for them at last, when, just as I was thinking to send for them, my Patient became delirious, and soon fell into Convulsions. I was 12 Miles from Home, the Patient in a Disorder that required speedy, or rather immediate Delivery, my Hands already sufficiently cramped, and no Forceps could be procured for some Hours ; I however continued my Endeavours with my Hands for near half an Hour, when I got up, whilst she lay quiet, and desired to speak with her Husband. I ordered the Midwife to sit down, and going just without the Door, desired him to send for the Forceps of a neighbouring Surgeon. I was under the greatest Perturbation at this unlucky Accident of Convulsions, which came so unforeseen, and was the only probable one that could have happened in this Case, to require the Use of the Forceps sooner than I could get them from Home ; for she was very strong and hearty. Walking to and fro in the Room, vexed at myself for my Forgetfulness when I came from Home, and meditating whether or no, if the Convulsions continued, and she grew very weak, before the Messenger returned with the Forceps, to open the Head, she was taken in another violent Convulsion, I ran up to the Bed, and the Strength of this Fit delivered the Child. During my extracting the *Placenta*, which adhered very strongly to the

Fundus

Fundus Uteri, she lay altogether stupid and senseless : And, indeed, notwithstanding the Convulsions did not continue more than half an Hour, she did not recover her Senses in less than five or six Hours after. There was one Misfortune which had like to have befallen us in this Case, which I can't forbear mentioning, as it may be Means of Caution to others ; and that is, the Patient complaining of Sickness, just as she was out of Breath at the going off of a Pain, a Woman held a Bottle of volatile Drops to her Nose, and accidentally let them run into that and her Mouth, so that I declare I never expected she would have recovered her Breath again : However trifling this Observation may seem, yet I can assure the Reader, a certain drunken Man-Midwife in this Country had the Misfortune to pour Drops in this Manner down the Nostrils and Mouth of a Patient, and she expired in the utmost Agony, rubbing and tearing her Mouth and Nostrils, but never being able to breathe any more. Now, if we consider the supine Posture of Women in Labour, we may be sufficiently apprised, how easily such an Accident of the Drops, when applied to their Nostrils, running into them, may happen : For this Reason, ever since the above Accident, I have taken Care to let no volatile Drops, but Salts only, be applied to the Nose in Cases of Midwifery.

CHAP. VI.

On violent Floodings.

THIS is a Disorder that occurs as well, and is sometimes equally as violent, in single, as in married Women, in such as never have had Children, as those that have, or are pregnant, or have newly miscarried. But as the Management in all these Cases, when the Flux becomes so violent as to endanger the Life of the Patient, is nearly alike, with this Difference, that in Cases of Pregnancy, the Woman is, if possible, to be immediately delivered, since in whatever State of Pregnancy she happens to be, it rarely can be stopped, till this be effected, I shall confine myself chiefly to that Kind, which occurs in the unimpregnated State.

The Uterine Discharge is very seldom too great (unless, perhaps, about the Time of its total Cessation) in strong robust Women: 'Tis in the thin and weakly, and such as are remarkably subject to nervous and hysterick Complaints, that, generally speaking, we meet with it in too great Abundance.

There is, in my humble Opinion, one general Error, however strongly the Practice may be indicated by the Supposition of an universal Laxity of the Solids, or of the vascular System of the *Uterus*, that we are all of us apt to run into, in the Cure of this Disorder, and that is the
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too frequent Use of the stronger Kinds of Astringents. When a Patient becomes low and faint with the Loss of Blood, the Stomach is apt to grow extreamly weak, and consequently unable to bear much Medicine of any Kind: Hence it is, that in such Cases the stronger Kinds of Astringents frequently prove emetick, and by straining the Patient, greatly ^a increase the Flux: Nay, I have seen some Cases, in which these Medicines, such as Sacch. Saturni, Sal Martis, Terr. Jap. &c. have actually induced such Reachings to vomit, as have been with great Difficulty restrained timely enough to save the Patient. Far be it from me to desire to explode the Use of this Class of Medicines altogether in the Cure of this Disorder; though I must confess, I am really afraid of the stronger Kinds, for the Reason above assigned: Nor indeed can I imagine what great Effects can reasonably be expected from the astringent Quality of any internal Medicine at a Time, when the whole Mass of Blood is, as it were, running off, having seen the most celebrated Stypticks, such as Pulv. Helveti. &c. frequently fail, and being firmly of the Opinion, that, was the *Ars Medendi* possessed of no more efficacious Remedies in this Disorder, the Patient would inevitably die, at least notwithstanding any Assistance she should receive

^a Quin vidi sæpius ab adstringentibus fluxum (scil. sanguinis ex Utero) exacerbatum fuisse. HOFFMAN. de Uteri Hæmorrh. Immoderatâ.

receive from this Art. 'Tis true, there are some Kinds of them that are at least safe, and many, perhaps, be of some Service, by their cooling attemperating Quality, such as the Tinctura Rosarum of the new Dispensatory in particular, the Tincture of Bark, with Spirit of Vitriol, made as in QUINCY'S Dispensatory, &c. These are Medicines, that, generally speaking, sit pretty well on the Stomach. However, we ought to continue the Use, neither of these, nor indeed of any others, any longer than while they pass off the Stomach easy, without exciting Reachings ; for there is not a single Disorder incident to Mankind, in which it is so indispensably necessary to avoid offending this Viscus, as in this. As to the ordinary Drink in these Cases, nothing, I believe, is better than Lemonade, with a small Proportion of Claret, if the Weather be cold, or the Patient very weak ; but if she be tolerably strong, or the Weather be hot, 'twill be better to omit the Wine : If indeed she grows faint, be the Weather as it will, she must be supported with now and then a large Spoonful of some generous Cordial, otherwise she will be apt to sink under the Loss of Blood, especially as many Times the Stomach in these Cases will bear nothing solid. In the Beginning indeed of the Disorder we are to do our utmost to restrain the Flux, and save the Strength of the Patient, but when Things come to Extremity, and she is likely to die of mere Inanition ; we must

must at all Events support her with Cardiacs. At first, while there is a tolerable Degree of Strength, her Drink ought to be only lukewarm, egelid, but when she becomes weaker, it must be made warmer ; for nothing offends a weak Stomach so much as cold : And I am pretty sure, I have seen troublesome Vomitings induced by continuing to give the Drink in this Case actually cold.

There is not a more terrifying and dangerous Symptom, than a continual Vomiting supervening on this Disorder, not only as it immediately increases the Flux, and deprives the Body at a Time, when it is remarkably in need of Support, of its necessary Supply of Nourishment, but also as it frightens, and depresses the Spirits of the Patient. I have seen some Cases, in which this Symptom has been so very obstinate, as to withstand almost every thing that could be done. In these Cases, I generally order even the Medicines to be warmed ; apply Confectio Cardiaca, by way of Plaister to the Stomach, together with Flannels wrung warm out of a strong Decoction of Mint to the *Abdomen* : and exhibit internally the Haust. Contra Vomitum Fulleri, by which means I generally get the better of it : Once indeed, I met with a Case of this Sort, in which the Vomiting continued, notwithstanding all that I could do, and the Patient was reduced seemingly to the last Extremity : On being asked, whether she could think of any thing to take, she answered, she could

could eat a mouthfull of Bread soaked in a little Juice Cyder : as I looked on it to be a lost Case, I freely consented ; she eat the Bread and drank about 4 Oz. of the Cyder warmed after it, and from that time began to recover. I mention this Case in order to shew the Necessity we lie under, in some Cases, of attending to, and indulging the extravagant Cravings of our Patients, however contrary the Practice may appear to general Rules of Art.

There is not, perhaps, any one Complaint, in which the Spirits are so extremely apt to be hurried, and the Circulation disordered, as in this we are now speaking of : and this Perturbation frequently arises to such an height, as to excite the most urgent Symptoms (as violent Reachings, Hysterick Colicks, Globus Hystericus, &c.) of the Hysterick Tribe : Circumstances, that seldom fail immediately to aggravate the original Disorder : And indeed 'tis for this Reason, that Opiates are so remarkably beneficial in this Complaint ; when a Patient has lain for several Weeks labouring under this Disorder, during which time it has perhaps gone off, and recurred again more than once, the least Appearance of a fresh Flux in such Case, frequently throws her into the utmost Anxiety, Restlessness and Despair ; the only Remedy for which, is the timely Administration of Opiates. Nor are these Medicines beneficial in such Cases, in respect only of their quieting the Spirits, and calming the Circulation, but likewise of their
Cardiac

Cardiac Quality. To lay down any unexceptionable Rules with regard to their use, is absolutely impossible, only thus much may be observed with respect to it, that they should be exhibited every Night in a Dose sufficient to compose the Patient, and ought to be repeated, whenever the Patient is under any extraordinary agitation of Spirits, or in violent Pain, till they procure Rest; since they are really, in such Cases, the Sheet-Anchor, without the Assistance of which all other Remedies will be useless. There is, indeed, one Ill-convenience attending the Use of even these Remedies, and that is there being apt to leave the Stomach sick and squeamish, but then this is sufficiently compensated by the extraordinary Relief they afford, in the most threatening Symptoms of the Disorder.

It is certainly of great Consequence, in these Cases, to keep the Belly lax, so as to prevent the Patient's straining in going to Stool; the ordinary Lenitives, whether it be owing to the prostrate Situation of, or the want of Motion in the Patient, seldom answer this Purpose so soon, or effectually, as *Enemas*; besides, that they are apt to disorder the Stomach: Nor did I ever find that *Enemas* are in any wise apt to increase the *Hæmorrhage*. When a Patient has been extremely low, and has almost entirely lost her Appetite, I have frequently ordered a Glyster composed of Chicken Broth, a little Wine and coarse Sugar to be injected daily, which has
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had the good Effect, not only to soften the *Fæces*, and facilitate their Discharge, but likewise to nourish the Patient.

Whenever the Flux becomes so violent, that there is danger of the whole Mass's running off, 'tis evident every Remedy ought to be tried, which carries with it the least Probability of Success: Ligatures should be made on the Extremities, and Cloths wrung out of cold Water, or Oxycrate applied to the Pubes and Loins. This last, indeed, is a Remedy which Women in general are mightily averse to using; a Prejudice that, in all Probability, owes it's Origin to the Accidents, which are so apt to accrue from putting on damp Linnen, during the salutary Flux of the *Catamenia*: But, surely the Case of a Woman Flooding; as it were to death, and that of another under a moderate Discharge of the *Menses*, are widely different: In this the Flux can't be restrained without immediately endangering the Subject, in the other, it must at all Events be stopped. My Method has been to repeat these cold and wet Cloaths as often as they grow warm by the Heat of the Patient's Body, and they generally lessen the Flux, before many are applied. There is likewise another Advantage that frequently attends the Use of this Remedy, and that is, they generally relieve that great Propensity to Fainting, so common to this, as well as all other immoderate Discharges of the vital Fluid; so far are they from exciting the least bad Symptom.

I shall mention but one more Remedy before I finish this Chapter, and this is one that has been recommended as the *Ultimum Auxilium* in the Complaint : I mean the Introduction of Tow or Linnen Rags, made up in form of a Pessary, and soaked in some styptick Liquor, into the *Vagina*. HOFFMAN has related a^a Case, in which he used this Remedy with great Success : And indeed, I cannot say, but I have a very favourable Opinion of it, tho' I have us'd it several times without succeeding to my wish : My Reason for which is not only the bare Authority of some great Men in the Profession, but likewise, that it seems extremely well calculated to answer the Purpose of stopping the *Hæmorrhage*, if judiciously executed : And in this, indeed, consists the main difficulty : If it be made up too small, or be not introduced far enough into the *Vagina*, it will be apt soon to return by the contracting Force of that Canal, and consequently to produce no Effect ; and this indeed has been ever my Misfortune, when I have tried it ; and which has convinced me, that the *Vagina* ought to be distended pretty fully and tightly with the Dossil, if we expect any benefit from its Use.

There is no Disorder more apt to bring the Patient into lingering Illnesses, than excessive Flooding ; and yet there is a certain Time of Life, I mean that just preceding the natural Cessation of the *Menstrua*, in which it is, in the strictest

strictest Sense of the Word, Critical. The Body at this time is extremely apt to contract a *Pletthora*: And Nature seems to make use of this *Pletthora*, as the Cause of the Floodings, and of these, not only as the immediate Occasion of the subsequent Cessation of the Menses, by exhausting the Circulation, and the Uterine Sinusses, and thereby facilitating the Coalition of the Sides of these Canals, but likewise as the safest and most effectual Way of preventing any ill Consequences from such total Cessation. When this salutary Discharge is suppressed suddenly in any other way, we see various Disorders ensue; to obviate which in these Cases, Nature not only takes care to exhaust the Circulation, previously to the total Obstruction, but likewise produces this grand Revolution in so gradual a Manner, as to accustom the Body in a great Measure to the Want of this Discharge, even before it is fully accomplished. And this, surely, ought to convince us, not only of the Necessity we lie under of not interrupting this critical Business of her's, by too officious an Administration of Medicines, unless, when the Discharge is so violent, as immediately to endanger the Life of the Patient, but likewise that we may make a more certain and favourable Prognostick of it's Termination in these, than in younger Subjects.

F I N I

