

The art of midwifery improv'd. Fully and plainly laying down whatever instructions are requisite to make a compleat midwife. And the many errors in all the books hitherto written upon this subject clearly refuted ... : Also a new method, demonstrating, how infants ill situated in the womb ... may, by the hand only ... be turned into their right position, without hazarding the life of either mother or child / written in Latin by Henry à Daventer ; made English ; To which is added, a preface giving some account of this work, by an eminent physician.

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THE
ART
OF
MIDWIFERY
IMPROV'D.

Fully and Plainly laying down
Whatever INSTRUCTIONS are
requisite to make a Compleat MIDWIFE.

AND
The many ERRORS in all the Books hitherto
written upon this SUBJECT clearly refuted.

ILLUSTRATED
With 38 CUTS curiously Engraven on COPPER
PLATES, representing in their due Proportion, the
several Positions of a *Fœtus*.

ALSO
A New Method, Demonstrating, *How Infants ill situated in the
Womb, whether obliquely, or in a strait Posture, may, by the
Hand only, without the Use of any Instrument, be turned
into their right Position, without hazarding the Life either
of Mother or Child.*

Written in Latin by HENRY Æ DAVENTER. Made
English. To which is added, A Preface giving some Ac-
count of this Work, by an Eminent Physician.

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Printed for E. Curll, at the Dial and Bible, J. Pemberton, at the
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THE ART OF MIDWIFERY IMPROVED.

Fully and Plainly Laying down
Whatever INSTRUCTIONS are
 requisite to make a Good Midwife.

The many Errors in the Books hitherto
written upon this Subject clearly rectified.

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Plates, representing in their due Proportion, the
several Positions of a Fetus.

ALSO
A New Method, Demonstrating, How Labour is assisted in the
Breech, whether naturally, or in a Fruit Position, may, by the
Hand only, without the Use of any Instrument, be turned
into the right Position, without hazarding the Life either
of Mother or Child.

Written in Latin by HENRY OWEN, M.D.
English, To which is added, A Preface giving some Ac-
count of this Work, by an English Physician.

LONDON:
Printed for E. CURTIS, at the Golden Ball, in Pall-mall; and for
J. HARRISON, at the Ship, in St. Dunstons Church-yard; and for
W. BARNARD, at the Crown, in St. Pauls Church-yard.



Some ACCOUNT of this

WORK,

BY AN

Eminent PHYSICIAN.



HE Frailty of Man, and the short Period of his Life are compleatly redressed, by the Faculty of propagating his Kind, given him when he was Created ; for he as perfectly sets forth the Glory of God, and as effectually *subdues* the *Earth* in the several Successions of Mankind by Generation, as if a Number of Men had at first been Created, who had been to inhabit the Earth during the Ages of its subsisting.

The Means whereby Generation is performed, are, in every respect as Wise, and Wonderful, as the great Design it self, of propagating the World, by successive Generations. This might easily be made appear if it were

Some Account of this WORK,

here seasonable to explain the *Propriety*, *Order*, and apt *Disposition* of the Parts and Instruments serving to this Purpose; and relate the whole process of the Formation of a *Fœtus* from its minute and very small Origin, till it is grown up to maturity in the Womb, and is brought forth into the World. Such Considerations of the Greatness of this Work made the truly great Physician, *Galen*, break forth in the due Praises on the Wisdom of the Creator. * *Are we not there-*

* Lib. xv. de
Part Ufu §. I.

fore chiefly to admire the Wisdom and Providence of the Worker? For though it be far more easie to set forth, in Words, the Beginning of Things, than to form the Work; yet our Expressions and Words fall so much short of the Wisdom of him that made Us, that we are not able to explain, what gave him so little trouble to make.

But when this Subject was the Contemplation of a Royal Prophet, the Expressions were more Sublime, as his Imaginations were better enlightned. † *My Reins are thine, thou hast ordered me in my Mother's Womb. I will give*

† Ps. 139. v.
12, 13. 14,
18, 16.

thanks unto thee, for I am fearfully, and wonderfully made, Marvellous are thy Works, and that my Soul knoweth right well. My Bones are not hid from thee; though I be made secretly, and fashioned beneath in the Earth. Thine Eyes did see my Substance, yet being unperfect; and in thy Book were all my Members written;

written; which day by day were fashioned, when as yet there were none of them.

Thus we are made with great Skill and Providence, but not without a possibility of decaying, and of our Fabrick falling to utter Ruin. Our Mortality convinces us of this Truth, for this Decay only happens through the Miscarriage of some principal Machine, and that without any Imperfection in the Work, or of the Worker; as would appear by examining into any of the various Machines and Wheels of Life.

The *Blood* is the chief of them all, and by the Creator is declared to comprehend Life itself, yet its Decay puts us under the Necessity of daily Bread, and the Discharges from it are so necessary, that we could not subsist a Day without them, tho' they occasion our Life to be daily recruited, or to be under the Necessity of coming to an End if these necessary Recruits were withdrawn.

We are perfectly made to answer the Ends of the Creator. His great Providence is to contrive the most necessary Machines, the least liable to Accidents and Errour, but not to be eternal. As this is manifest in all the Machines of Life in any Person, so is it in those of Generation. Hence it is that the Rearing a Child in the Womb, and its passage into the World, are the best secured against, and are the least liable to Chances of miscarrying in their Work.

Some Account of this WORK,

This Particular, of a Child's passage into the World, is the proper Business of a *Midwife*, and the real Boundary of her *Knowledge* and *Practice*; for tho' Almighty God has ordered this Passage the most Safe, where the Race of Mankind is engaged in its weakest State and most helpless Condition, and is evident in the Successions of Men in the most barbarous Ages of the World, yet sometimes the preter-natural *Bulk*, or *Shape* of a *Child*; the wrong *Posture* of the *Womb*, or of the Child in it; and an ill Make of the *Os Sacrum*, or some other of these Bones, prove a great Obstacle to its being brought with Ease or Safety into the World. Otherwise, Matters are so wisely ordered, that there is seldom any Difficulty, and the Mother might do that Office to her Daughter, or any Woman who had once brought a Child her self, might be useful to another.

I do not say this to Undervalue the Profession of Midwifery: On the contrary, Midwifery is an useful and necessary Practice; and Midwives have the best Opportunity to show their Compassion and Tenderness to Mankind, in this Infant and helpless State. Besides, a Woman cannot be supposed to be qualify'd for the most difficult Part of her Employment, that is not well vers'd, and has not got a habit of Laying Women in the most easy Times.

Midwifery is a Work of the Hands, and requires a repeated Practice to make a Midwife
ready

ready in that Business. They are indeed great Enemies to Midwives, and to Mankind, who deprive the Women of this necessary habit ; as it seems, by our worthy Author's Complaint, some Men do, with an ungenerous and low Design of making themselves necessary to some foolish Mothers : for, he says, that when the repeated *Shrieks* inform these Men of the Child's approach, they then thrust themselves in to *reproach* the Midwife, *impose* upon silly Women, to *catch* at a *Reputation* to themselves, when the Work of Nature had been kindly done without them.

Midwifery has, in all Ages, been the Study of the most learned Physicians, tho' the Practice of it has best succeeded, in this last Age, among the *French* : for, their Ladies, laying aside all unreasonable Modesty, have provided for their own and Children's Safety by admitting of Assistance from both Sexes ; and the Men, being more Skilful in Anatomy, and better disposed to find out new Help in unforeseen Cases, have brought it to greater Perfection, than it could possibly attain to by other Means in other Countries.

Nor have the *French* Authors been backward in communicating their Methods, and the Ways they have taken to prevent and remedy the many difficult Cases which occur to them. *Viardel*, *Mauriceau*, and *Portal* are famous Instances of this beneficence to Mankind, tho'

Some Account of this WORK,

Mr. *Mauriceau* has merited Mr. *Portal's* Praises for his excellent Performances, and his Book of Midwifery has deservedly been read in most European Languages; nor is he less to be commended for the great Store of Observations, which might make a lasting Building in the hands of a Skilful Workman: for as Mr. *Mauriceau* has built many Things wisely upon *Hippocrates*, so he himself has brought many Materials for an excellent Fabrick.

But as *Daventer* has succeeded Mr. *Mauriceau*, so we must own that his Rules for the Practice of Midwifery are more perfect, more easy, better founded, and extend to
* Chap. 8, 9. more Cases. It is certain, that * our Author has made the most proper Use of Anatomy, and has excellently well laid open to our view those Difficulties that occur either from particular ill Conformations of the Parts, the Child is to pass, or from the various ill Postures the Womb it self does take, while a Child is contained in it; which last Consideration had never yet been mentioned by any Author or Practiser in Midwifery; though it often happens, and is as often an unavoidable Occasion of the Death of many Mothers, and of their tender Infants.

His Rules are not only better built on Anatomy, and extend to more Cases, but they are more *particular*, more *plain*, and are consequently more *easily* apprehended, and put in practice.

practice. Indeed every Page of this excellent Book is filled with those Circumstances and Particulars, and Midwives are led through every Step of a Labour with that Clearness, as apprizes them of every Thing that is fit or possible to be done for the Security, or Relief, of an Infant, or of its Parent. His Directions about *Touching* Women before they Labour, or bring forth, are equally New and Useful, he making this a Guide to Midwives, whereby they may foresee all Difficulties as they happen, and prevent them early from becoming greater by an otherwise unavoidable Surprise.

In Consequence of all this extraordinary Skill and Knowledge it is, that he gives Glory to God, and does Honour to his Profession; * for what is more inconsistent with God's Providence, than a frequent Use of cruel Instruments, so much recommended by all other Authors? what more unfit for the Tender Sex, than Men armed against them, and their tenderer Infants? He has shewn that the Work is naturally easy, that the most difficult Occurrences are best remedy'd by Skill, and a right Understanding of what they are about; and that no Instrument is to be used against Infants, except they are Monsters, or are surely Dead, and useless Members of human Kind.

* Pag. 14. 248,
249.

Some Account of this WORK.

|| *Pag. II.* Of
a Treatise of
the *Gonorrhæa.*

|| An Author has lately, on a passing View of some Parts of Generation, shewn the Danger and Usefulness of dilating Instruments, on this Occasion, and that Men either deceive themselves, or would impose upon the World, who pretend to Practice with them : But Dr. *Deventer*, as if he had not been satisfy'd with condemning those Instruments of Death, thro' the Course of his Practice

† *Pag. 273.* concludes, † “ That if the Labour of Women with Child may be happily compleated by the Method and Rules of this Book, to what purpose are so many Instruments recommended by most Authors, whose Figures they are at the Trouble to give Us ? To which he adds, That I think former Practitioners have killed many more Infants than ever they Saved by any of their *Openers* of the *Matrix*, their *Hooks*, or any of their Instruments, &c. Every Person may be convinced by what is said, that these Instruments are seldom, nay never useful, but when Infants have been sloathfully neglected, or for drawing out of Monsters ; So that hereafter the Midwife's Art will not be esteemed *Horrid, Inhuman, or Cruel*”. And therefore this Book is not only of the greatest Use to Midwives, but is an excellent Vindication of Divine Providence, and of the Humanity wherewith Midwifery ought to be practised.





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Of the Birth of Monsters, and such sort of Infants,



THE



ART OF Midwifery Improv'd.

C H A P. I.

*Of the Qualifications which are requir'd, to
make a Woman fit for the Practicē of Midwifery.*

It is both necessary and reasonable for any Master or Artist, who would inform his Scholar, or young Beginner, in any Art or Science, to consider and thoroughly enquire into the Qualifications which those Persons ought to be furnished with, who are to practise any Art, or to be instructed in any Science; or he must at last complain both with loss of Time and Shame, that all the Pains he hath taken was to no purpose. Therefore before we proceed to inform those who are

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in-

inclin'd to the Practice of Midwifery, it will not be foreign to consider, how such ought to be qualified, whether in Natural or acquired Accomplishments, to render them more Successful in the Practice of that Art in process of Time.

In process of time, I say, because no Body can think that this Work can presently be done, and at one heat as we say; it is requisite to employ a considerable time to acquire the first general Knowledge of Things; nor are we presently expert in the exact Performance of all those Things which we have acquired a Knowledge of: There is a great deal of difference betwixt *Theory* and *Practice*, and especially in the Practice of this Art, and much more than any one would believe, who never apply'd themselves to this Business, which will readily be acknowledged and confessed by any one who hath apply'd themselves to it.

The Qualifications therefore requisite for a Midwife, are, a Body fit for this Business, both in respect of the Whole, and of each Part; perfectly formed, without such Impediments which might obstruct a Midwife in her Office; and therefore we judge such as come under the following Exceptions, unfit for this Work.

I.

All Women who are very much in Years; but I will not say that one who is something old cannot be a successful Midwife; I am far from that, for old Women who are improved by Use and Practice, often are the best, except such as inconsiderately set out about their Work, and as inconsiderately proceed, which some old doating Women sometimes do. But since we speak of Women applying themselves henceforward to learn the Office of a Midwife, and it requires a great deal of Time with daily Practice, before it can be perfected, we say, that old Women

men have slipped by the seasonable time to obtain it; besides that their Understanding, Memory and Judgment are deficient, they want both Strength and Sense, which are highly requisite to perform this Part

II.

We exclude also, as unfit for this Business young Women, such as Virgins and new married Women, unless we consider them as tender Branches, which are gradually to be instructed in the first Principles of the Knowledge of this Art; that in process of Time according to the Conditions, the Age and Habits, increasing in Knowledge and Judgment, they may the better proceed to practise. And I could wish that many, having laid the firm Foundations of Knowledge, were gradually prepared; especially Midwives Daughters and the Daughters of Surgeons, who practise Midwifery, might in this respect, be serviceable to themselves, and by that means in process of Time make Mankind the better for their Pains and Studies; and because most commonly some imprudent and poor People, or Widows, urged by Necessity, for a very small Reward take upon them this Office, to the Destruction of a great many Women in Labour, as well as of the Infants, it grows so cheap, that few Husbands are willing their Wives or Daughters should be informed in it.

But I am verily perswaded, however Men may undervalue this Office, nothing can be more Useful to Mankind, or more Necessary, which a skilful Woman can apply her Mind to; I doubt not if Women with Child and their Husbands knew what difference there is betwixt a Prudent and Imprudent, a Skilful and Unskilful Midwife (and how one by her Assistance may contribute to the Health as well as saving of the Life both of the Mother and Infant, and how the other may be prejudicial

through neglect, nay by occasioning the Death of both) but they would be more cautious, and not so easily put their Confidence in such. But this Matter is ill managed, and those are most esteem'd that work the cheapest, and in the mean while they live in hopes, whilst they run the Hazard of loosing that which is dearer than all the Treasure in the World.

A prudent Midwife, who understands her Business, and presently knows what to do in the beginning of a difficult Birth, and performs her Work faithfully, as her Duty requires, and her Love to her Neighbour commands, cannot be too well rewarded for her Pains, to whom the greatest Thanks are due, though imprudent People think otherwise.

Considering the whole, I may say, that it is a wonder, that Magistrates are not more solicitous to erect fit Schools for the Instruction of young Midwives in every City, that Men fitly qualified might not only instruct them in the true Notions of Anatomy, but also inform them clearly in the fundamental Knowledge of all those Arts, which they understand as skilful and experienced Surgeons; so that by this means, in several Countries and Cities, a great number of Women, as well as Infants, might be saved, who are lost for want of seasonable Help. Some Midwives to excuse themselves will say, they have taken all the Pains they could, and done all that lay in their Power, but to no purpose; since to do that is not sufficient, as long as they were not able to do what they ought, or what was necessary.

Is not this enough to convince any Impartial Person, and the Midwives themselves, that they do not understand their Business; when you shall find them with a Woman in Labour the space of one, two, three or four Days, all their Endeavours being to no purpose, the Infant being in an inconvenient

venient posture for Birth; whereas on the contrary an understanding Midwife, or a Surgeon who is accustomed to the Practice of Midwifery, being sent for, will deliver the Woman and bring away the After-birth very often in less than an Hours time, and what is more, very frequently without the Person in Labour feeling much Pain. Is not this enough to open the Eyes, both of Midwives, and those who are Concerned for the Welfare of their Country; that they might prevent such Inconveniences, which proceed only from the Ignorance of Midwives, which is to be seen to our Sorrow in most Cities, but especially in the Country.

I have often, by God's Assistance, (being sent for to Women in Labour, who lay in great Misery, and were for some Days spent with their continual Pains through the neglect of the Midwives) lay'd them and freed them of the Infant, though it were dead, and the Mothers who were alive, were only to be saved by a speedy Delivery of the Infant, and the After-birth. I can truly witness (what I say without Vanity) that I never acted the Part of a Midwife, with God's Assistance, without a successful Birth, except one whom I could not deliver, being unacquainted with her Language, so that whatever she acted was contrary to my Endeavours, and not giving Ear to what I said, she being a Midwife her self, she obstinately acted according to her own Judgment. But though all are not now alive, since some of them were long since half dead, yet a great many, nay abundance, (by the blessing of God) are preserved by my Assistance, who would otherwise have certainly been dead, had they not been preserved by this Means.

We are by no means to think, that a prudent Surgeon, who practises Midwifery, or a Midwife delivers a Woman by Chance or Fortune, or by boldly running a Hazard, as some that are ignorant

think ; by no means ; this Art depends on as firm a Foundation, as a great many others, which nevertheless are subject to Accidents ; which will appear from what follows, when we have demonstrated the Causes of a difficult Birth, and how a prudent Midwife or a Surgeon who practises that Art may prevent, correct or remove them.

I have willingly in this Place made a Digression, that I might make it evident to those who are beginning to take Midwifery upon them, of what great Concern that Matter was ; not that I would discourage them, but rather admonish them, how difficult the Matter is, which they undertake. The Life of the Mother, as well as the Infant, is concerned ; which may be saved by the Help of a prudent Midwife, or lost by the neglect of one that is imprudent ; for it is not Wood, Stone or Mortar that they handle, but Men formed after the Image of God, whose Life is more precious than all the Treasures of the World.

III.

In the next Place we except as unfit for this Work, infirm, diseased, and consumptive Persons, who though they have a sound Judgment, and are furnished with all other necessary Qualities, by reason of their Weakness are unfit for this Business. For besides that, Midwives are often obliged to watch Day and Night with Women in Labour, (which such weak Persons are not capable of) so much Strength is sometimes required to turn Infants in an ill posture, or to draw them out, that a weak Person is not able to do it, and a very strong Man is obliged to use all his Strength to attain his End, which a great many Surgeons who practise Midwifery can testify as well as me. I can truly affirm, that in the coldest Time of Winter, when I have been thinly cloathed, and at a distance from a Fire, my Hair has been wet
and

and all my Body in a Sweat by hard Labour, and my Loins have ached for some Days after ; so that when Life is so much at stake, the extreamest Means are to be made use of. But these Things are to be understood in Relation to such Women as have continued in hard Labour without help, and when the Waters have already flow'd down ; nay sometimes I have been so perplexed, and so closely compressed, that I thought my Hand and Arm deprived both of Sense and Strength. Could weak and tender Bodies have done any thing in such Cases ? But this does not always happen, otherwise this Work would be altogether fitter for Men than Women ; it is seldom we take so much Pains as to sweat, yet though such great Violence is not always requisite, we are forced to make use of more Strength, than is commonly thought.

IV.

Women that are too fat and gross are not fit for this Business ; for besides that they cannot long sit incommodiously, there being often occasion to ease and move the Women in Labour, their Hands and Arms are quite unfit to be made use of, being too thick and fleshy to be put up into their Bodies which are too tender and straight, without occasioning great Pain, which is extreme enough when their Hands are never so small ; nevertheless the strongest Hands are sometimes convenient, nor do they obstruct the Business, but thick Arms, which can scarce be put up into the Body, maybe serviceable.

V

We except against those who are maimed, as unfit for this Business ; *viz.* those that have crooked Fingers, and whose Hands and Arms are crooked and stiff ; and on the contrary those whose

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Those who would be fit for the Office of a Midwife, ought to be watchful and cunning, diligent and expert in every thing that may occur. They ought not to be slow or of a wavering Mind, for in the beginning of the Labour an Opportunity may be lost by neglect, in a quarter of an Hour, which may occasion the Mother a great many Pains afterwards, and the death of the Child. Those who think they come soon enough, may come too late; and it is of great Concern to nick the Opportunity.

VIII.

A great deal of Gravity and exercised Agility, both of Sense and Body, becomes Women that would be Midwives; for light, dissolute and daring Persons in such difficult Matters, can do but little good. Sometimes they are negligent, sometimes forgetful, and their Lightness makes them less careful in considering the Weightiness and Necessity of the Matter; and what is worse, they easily pass by what Errors are committed, falsely promising themselves they shall make amends for what is past, and so neglect to seek Help in time, and thus expose the Person in Labour as well as the Infant to the greatest Hazard of their Lives, not taking care to provide what might prevent their Death. On the contrary, a Woman that is grave, considerate, and hath presence of Mind, is not easily surprized with Accidents, nor apt to slight them, but examining all Accidents well, is ready to consult with others, and is apt to take advise, is most fit to be a Midwife. For such Cases commonly happen in Labour, that we ought to employ all our Senses in attending them, and examining what is to be done. And often the Advice of a prudent Physician, or a Surgeon that practises Midwifery is very necessary; and in such Cases they ought to be cautious to ask Advice in time, and give ear to it, lest they should be guilty of incorrigible Faults.

IX.

Women fit for this Employ ought to be inclinable to do good, given to Hospitality and tender Hearted, as ready to help the Poor as the Rich, nor should they ever be wanting to any in the Time of their Labour, for the Consideration only of Gain. God Almighty hath formed the Poor as well as the Rich after his own Image, and therefore the Life of both ought to be equally dear to them; God Almighty rewards according to his bountiful Benevolence, bringing greater Riches than the small Recompence of this or that rich Man, given for the loss of Life, which this or that poor Body suffers, or an Infant who is often suffered to perish, when forsaken after this manner.

Yet I will not say, that Midwives, or those that practise Midwifery, may not lawfully deny the the Care of a Person in Labour, when others require their Assistance, who were first committed to their Care, for both Charity and Justice require that; for Example: A Midwife being sent for by a Person in Labour, when she hath taken her in hand, she thinks all is likely to do well, her Pains being but small; and whilst she attends them, she is sent for to another, where the Infant being in an ill Posture, a difficult Birth threatens danger, she knowing her self better qualify'd than others present, and being certain, that another not equally skilful is to supply her place, and to lay the former, and she is retained to lay the latter, and to relieve her Pain, she is not to neglect the same, if she will act like a Christian, though the first was rich, and the latter poor, for God respects not Persons, and he who knows how to do good, sins if he omits it.

But if by chance, one that is rich and poor are in equal Danger, and wants Help, without respect to their Wealth or Poverty, she ought to assist that first,

first, which Divine Providence had first engaged her with; but if there be a contrary Consideration, (as I suppose the Cases of Women in Labour may be different) I believe Respect is to be had to some other Motive than that of Gain, for the Life of Mankind is to be preferr'd before Gain.

X.

And that gives me occasion to assert, That a Midwife ought to consult her Conscience, and fear God; for Matters of Concern are committed to her Charge, and if she will not be good, clandestine dealing may be very prejudicial both to the Mother and Infant; can any Body say she acts contrary to her Duty, her Work being done in the dark, and escaping the Sight of Men? Her rashness slothfulness, tenderness and carelessness may lead her into a great many Errors of ill Consequence, both to the Mother and Infant, if the fear of God does not engage her to act Conscientiously and to discharge her Duty Faithfully. But being fore-armed with the Fear of the Lord, not confiding altogether in her own Knowledge, and knowing that she stands in need of Divine Assistance, being earnest in Prayer, she acts circumspectly, always relying upon God, who graciously supplies with Wisdom those that want it, and call upon him.

XI.

Nor should a Midwife be less kind, mild and meek, for Women are the weaker Vessels, and those in Labour, are full of Pain and peevish, and often faint-hearted, whom a Midwife ought to encourage and support with Hopes as far as the Condition of the Mother and Infant will permit. There is no need to tell them of any ill Accidents as long as there is Hopes of removing and correcting them.

A Midwife ought to be patient, and if the Woman in Labour says or does amiss, she ought to instruct her gently, especially in the first Labour, which they are unacquainted with and not used to.

But notwithstanding this, in Matters of great Concern, where there is great necessity, and the Women in Labour does not give ear to Advice, the Midwife is to put her in mind of her Duty severely, and had need of Sagacity, to discern the different Tempers of Women, for a great many, like Children, are to be treated with Gentleness, Humanity, and Goodness, and sometimes with Severity are to be school'd to do what they ought. Some are so tender, and yet so sparing to themselves, that they had rather the Infant should perish in the middle of the Birth, than fatigue themselves with using their utmost Endeavours to promote it; nay, if some were suffered to indulge themselves in their Ease, they would not only loose the Infant, but themselves rather than suffer the necessary Pains, when the Infant is in an ill posture and ready for Birth, to turn it and draw it out. In this Case a Midwife or Surgeon, that practises Midwifery ought to admonish the Persons severely of what they ought to do, and encourage them with the Hopes of a happy and quick Birth.

XII.

Farther it is by no means convenient for a Midwife to be of an wilful Disposition, or obstinate; she ought rather to submit her Thoughts to the Judgment of a prudent Physician, or a Surgeon that practises Midwifery, who excels in Learning and Skill. But those who through Pride refuse to submit or resign their Prerogative to the Will of those that are prudenter than themselves, are apt to venture at every thing, and to sacrifice the Life of the Mother and Infant to their Pride, exposing them to the greatest Danger.

XIII.

XIII.

Nor is it convenient for Women with Child to undertake this Office, it is certainly very dangerous because many Things may happen, which may affright and terrify them; and strange Impressions, receiv'd either by Touch or Sight, may by chance be hurtful to the Embryo; besides it is certain, that Women with Child in strong Labours, may easily fail of their Strength, wherefore those that for the sake of Pride or Gain, refuse to commit the Work to others, may easily be wanting in performing their Office.

Women who undertake Midwifery, ought to be temperate and sober; for with their dainty Meat, being occasionally invited, they grow drunk and foolish, especially with Wine and Beer, after plentifully eating. But chiefly they ought to avoid drinking intoxicating Liquors, lest they render themselves useless. They ought also to be faithful and silent, that they may be able to conceal those Things which ought not to be spoken of; nor should they be Vagabonds or Tatlers, that they may be ready when call'd for.

But there are a great many more Virtues and Qualifications both of Body and Mind, fit and convenient for those that practise Midwifery, which since they are not absolutely requisite we shall omit them.

But before we put an End to this Chapter, it will not be inconvenient, to add something concerning Surgeons who practise Midwifery, who doubtless ought not to want the above-mention'd Qualifications, but rather should be adorned with the following Vertues, *viz.* Chastity, Bashfulness and Modesty, nor should they be rash Swearers, Drinkers, or Company-keepers; likewise Christian and Natural Honesty perswades the Female Sex to cover the Secrets of Nature, before one another, and much more before Men. If

If therefore a Woman in Labour is obliged to call to her Assistance a skilful Man, Reason, Christian Bashfulness and Modesty require, that a Surgeon should behave himself so, both in Words and Actions, that he may neither give occasion of Shame or Concern to the Woman in Labour, or the By-standers. The Woman in Labour will be ashamed, if she is laid more naked than Honesty and Necessity requires; besides if he handles the Patient cruelly and roughly; if he cuts the Infant to pieces; if he wounds the Mother; lastly, if for the sake of Wicked Delight he should dare to ask the miserable Woman Questions whilst the Body or Head of the Infant is in the Neck of the Womb, the greatest of Wickedness! Would the happy Mother be willing to hear it or not? How could he otherwise but afflict the Woman in Labour, as well as the Standers by, when they saw a Man in Liquor, almost void of the use of his Senses, both void of Pity and Compassion, furnished with a Knife, a Hook, an Iron Forceps, and other Instruments horrible to sight, to come to the Assistance of one in Agony, who commonly first begins, with rash Oaths to hurt the Mother, then kill the living Infant; then with a great deal of Pain to draw it out in Pieces, and at last to think no Reward satisfactory for such an extraordinary piece of Work.

I could wish such Surgeons would change their Office with a Slaughterer of Oxen and Sheep; it would be much better, than to handle a Man formed after the Image of God after such a manner, and by this means expose the Art of Midwifery to the Hatred of all Persons. For I doubt not but the Work of a practical Surgeon in Midwifery would be much more grateful to the common People, if a Woman in Labour was used gently and modestly as she ought to be.

And here I cannot but take notice of that great Fault, which a Surgeon may labour under, *viz.* an unfa-

unsatisfy'd Covetousness, thirsting after Gain for the Health of his Neighbour. And this slender Fault a Surgeon is catch'd in, if when he is sent for into the Country, or any City, he refuses to take in hand the Person he was sent for to, unless a certain Sum of Money is first laid down, though the Money is borrowed, or collected amongst the Neighbours for God's Sake. I can easily guess, that such will offer it as an Excuse for what they do, that unless they get their Money before-hand, whilst Necessity obliges them to it, most Men, especially poor People, would be so ungrateful, as neither to give them a Reward for their Pains, and others would be backward in giving them a Recompense.

Truly I doubt not, but that a great many ignorant Men would not sufficiently value the Work of a Man Midwife, not knowing, that as a Workman is worthy of his Reward, so all Sorts of Work are Workman to be paid according to their Merit; I may say, according to the Dignity of the Work, not according to the length of Time they have been about it; for who can think the Work of a Surgeon, who faithfully in an Hour, or half an Hour cuts for the Stone, should be paid according to the Time he was about it, as if you was paying a Labourer his Wages whom you had hired? No Body, I think would spend their Time upon that Work. Would an Occulist, who by Couching a Cataract, restores the Blind to their Sight in half an Hours time, be paid as a hired Labourer? No Surgeon who practises Midwifery, would take Pains upon the like Terms; for as it is in his Power, to save the Life of the Mother, or the Infant, or both, certainly he deserves an Extraordinary Reward, and some measure worthy so great a Benefit.

But upon this Estimate, a Price ought not to be demanded, nor ought to exceed the Ability of those who are to be relieved; nor therefore are those to be

be left destitute of Help, who cannot supply us with Money ; nor are they to be expos'd to certain Danger ; for where otherwise is Charity, Pity, and Christian Help, which certainly can no where take Place, if not in such Cases. Therefore every one ought to reward such kind of Work according to their Ability. But let none who practise Midwifery be wanting, as freely to assist those who have no Money, as those that are Rich. Such a charitable Person will most certainly secure God Almighty's Blessing upon all his Endeavours.

C H A P. II.

Of the Theory necessary for Midwives.

THeory ought to go before Practice, as the Body before the Shadow. He that knows not what is to be done, knows not how to produce the Effect ; much less does he know the Method of doing well. Those who only think it sufficient to grow wise by Practice, without the previous Knowledge of Things, are often deceived, and by the Experience of all it is certain, that those who know what is to be done, must needs, nevertheless, be exercised in doing, before they know how to do what they thought they knew very well, nay, what they truly well understood ; for our Members are not so ready in acting, as our Minds are in perceiving ; and the Cause is, that often the Effects very little answer the Conceptions of the most discerning Wits.

Since therefore the Work of Midwifery, most commonly is performed by the Understanding and the Sense, it is altogether necessary, That those who design to undertake Midwifery should be well inform'd of those Things which are to be known to
the

that End, which for Orders sake, we shall lay down in these Propositions.

1. A general Knowledge is required of the Parts of Women, which serve to Generation; as what they are, where, and in what Place they are placed or situated. I say, a general Knowledge, because they have no Occasion for all that subtile Contemplation, and exact Observation which Curious Anatomists have laid down upon that Subject. It is enough, for Example, If they have a Superficial, yet distinct Knowledge of the *Womb*, its *Neck*, its External Parts, of the Urinary Bladder, and the *Intestenum Rectum*, The *Pelvis* and Bones in it, and their *Form* or *Figure*, in which (*Pelvis*) the Bladder, the Womb and the *Intestinum Rectum* are placed, and the After-Birth and the Humours in which the Infant swims and is inclosed.
2. A general, nay, a special Knowledge, how the Woman with Child ought to be touched or handled, what that Touch is, why necessary, and to what End it serves.
3. How the After-birth is to be brought forth.
4. How all ill situated Infants are to be turned, or may be drawn out by the Feet.
5. What things are to be ready at hand, that the Midwife may perform her Office well.
6. How she ought to behave her self after the Birth, towards the Mother and the Infant.

C H A P. III.

Of the Pelvis and its Bones, in which the Womb is placed, and through which the Infants pass in their Birth.

PERhaps it may seem strange to most, to instruct Midwives in the Knowledge of the *Pelvis* and its Bones, and of its various Form and Figure ; but it is my Opinion that they are mistaken, who think the Knowledge of the *Pelvis* useless, or not necessary ; I am so far from being of their Opinion, that I assert the Contrary ; that it is not only useful to Midwives, but highly necessary, so that without a clear Knowledge of that Matter, they proceed uncertainly, and, make use of their Hands, like those that are blind, if they are sent for to assist a Woman in Labour, when the Infant is in an ill or unnatural Posture, so that they must be guilty of a great many Mistakes.

As for the Necessity of the Knowledge of these Bones, and their Form and Figure, I should take no Notice of them, had I a mind to follow the Method of other Writers ; or I should but slightly touch upon them, so that Midwives would reap little Advantage by it ; but thinking the Knowledge of these Bones to be highly necessary to Midwives, I thought it necessary also to represent their Figures, as clearly as they could be represented by an expert Painter, accurately to the Life.

But here I would advertise the Reader, that it is very difficult to represent all the Bones which constitute the *Pelvis* in their natural Position or Constitution at once, because the one Part being in view, easily obstructs the Sight of the other ; wherefore it was necessary to represent the whole *Pelvis* in two Positions, by the two following Figures ; the first
of

of which represents the whole *Pelvis*, as we view it from the Fore-part, where all its Bones may be seen clearly and distinctly, as also the upper-opening of the Hollow of the *Pelvis*, together with its Form and Hollowness according to the Proportion of the Bones.

But because in this Figure, looking into the Cavity of the *Pelvis*, the *Os Sacrum* appears directly opposite, and for that Reason, it's bending and crookedness could not be represented, therefore to make it more evident, I took care in the next Figure to represent the *Pelvis*, Side-ways.

And that the bending of the *Os Sacrum* might better and more clearly be seen, for that End the Bones of the Left-side are omitted, as appears in the following Explanation of the Figures.

But those that cannot form a true Conception of the *Pelvis* by these Figures, besides these Figures may look upon a Skeleton, especially of a Woman, and I doubt not, but every thing will be evident to them; besides, they will see that these Bones could not be represented more evidently. But to distinguish Male and Female Skeletons, I shall add this, which may serve to our Purpose, viz. that the lower Parts of the Seat-Bones, for the most part are more distant in a Female Skeleton, nor are they so much bent inwards down towards the Point of the *Os Coccygis* as in a Male Skeleton; which the most wise and kind Creator ordered so, to avoid a great many difficult Births, which notwithstanding happen too often.

The Explanation of the Figure I.

aa The upper part of the *Os Sacrum*, the *Vertebræ* of the Loins being taken away.

b b b b The Wings of the *Pelvis*, by some called *Ossa Ilia*, because the Guts called *Ilia* lie upon them; these properly do not make the Cavity or Depth of the *Pelvis*, but are as it were the Bounds or

Borders of the *Pelvis*, according to some Barber-Surgeons; nor do they encompass the *Pelvis* on every Side by their Extension, nor on the Fore-part, neither Behind, but are only annexed to it on each Side, yet they are chiefly extended towards the Back-part, more than the Fore-part; but near the Letters *c c c c* which represent the Borders of the *Pelvis*, they serve to form the Cavity of it, and near the Letter *f* (where another of the Internal Lateral Bones is represented, which is nothing else but the Lateral Point descending to the *Os Ilium*) form the inward Part of the *Pelvis*.
c c c c The hinder and upper part of the Margin of the *Pelvis*, next the *Os Sacrum*.

d d d d The Bones called *Ossa Pubis*, whose Upper-part forms the Borders of the Cavity of the *Pelvis* on the Fore-side.

e e e The bending of *Os Sacrum* hanging forwards, forming the Hinder-part of the Margin or Borders of the Cavity of the *Pelvis*.

f The descending Point, or inward Side of the descending Portion of the Left *Os Ilium*, as above-mention'd.

g g The Cavities or *Acetabula* of the Hip-Bones, in which the Heads of the Thigh Bones are moved.

a a e e e h h h The *Vertebrae* of the *Os Sacrum* appearing as such commonly making one Bone, with their Holes and their Connections.

h h h The Point of the *Os Sacrum*, called *Os Coccygis* consisting of three of the least of the *Vertebrae*, fastened together by Ligaments, as the *Vertebrae* of the Loins.

i i Two descending Portions of the *Ossa Ilii*.

k 1. The descending Part of the *Os Pubis*.

k 2. The descending Part of the Seat of the Hip-Bone.

k 3. The Place where the *Os Pubis* and the Seat or Hip-Bone grow together. *N.B.* The Points of the

the *Os Pubis*, I call *Ossa Sedentaria* or Seat Bones, because we sit upon them.

ll The Holes of the *Ossa Pubis* or Seat-Bones. For on both Sides, the Seat or Hip-Bone, and the *Os Pubis* joined together, form these Holes.

mm The Cavity of the *Pelvis*.

A further Explanation of these Bones.

All the Bones of the *Pelvis* being named and described, it is further to be observed.

1. That these Bones are not exactly of the same Form in all Men, nor in all Women, but differ both in Form and Size, according to the different Habits of the Body.

Nor do we always find the largest *Pelvis* in Women of the largest Size, but sometimes the contrary. In some the *Pelvis* is deeper, in some broader, in some larger, in some flatter, in some rounder, in some it is more oval, for which no Reason can be given; yet from thence we take an Occasion of proposing the following different Observations absolutely necessary and useful for the Information of Midwives.

2. These Bones are not of the same Substance in all Men; for in some you will find a great many Nervous and Cartilaginous Ligaments, which penetrate into the solid Substance of the Bones, in which the Ligaments are so fast bound together, that it is hard to distinguish, whether they are always one or more Bones; whence hereafter it will appear, that for this Reason one Woman is more easily delivered than another, for the Bones in one are firm and immoveable, and resist Relaxation altogether, in another they give way and yield to the Force of the Infant as it passes.

3. These Bones are fitted and grow together with one another, being tied fast with Ligaments, and thus whilst they are not yet hardened into Bones,

they may be extended and relaxed by force, and disjoined from one another ; wherefore their Opinion is not to be rejected, who testify, that they have seen the *Offa Pubis* a great way distant from one another, after frequent Labours ; though I think that seldom happens, nor is there any Occasion for such a Separation, since it would be of little Service nor would it afford any Advantage.

The greatest Opening and Enlargement of the *Pelvis*, to make Way for the *Fœtus* is not to be expected from the Separation of the *Offa Pubis*, but from the yielding or giving Way of the *Os Sacrum*, either Total, or towards the Point, or the *Os Coccygis*. The straightness of the Upper-part of the *Pelvis*, does not so much occasion a difficult Birth, as the small Space betwixt the Seat Bones and the *Os Coccygis* ; nay neither of these can be a great hindrance to the Passage of the *Fœtus*, but most commonly the ill Position of the *Fœtus* or the Womb, or both hinder the Birth ; therefore it matters not much, whether the *Offa Pubis* are separated or not.

All the Bones which are tied together with Ligaments, may be disjoined and moved out of their natural Place, and in some Cases, I have very much relaxed them. I have seen Boys, whose Thigh-Bones were inserted into their Hip-Bones ; yet in walking, one Bone would be thrust forwards two Fingers breadth, so that they would be as lame on the other Side, as if the Thigh was out of Joint, yet nothing but the Ligaments of the Hip-Bone, called *Os Ilium* was relaxed, by which means every Step the Foot was thrust up and down, yet it could not be moved up and down by one Hand only without the Motion of the Body.

And I have found in a Boy, the Thigh Bone united with the Hip-Bone by a *Collus*, so that it grew firm and immoveable in the *Acetabulum* or Socket of the Hip-Bone ; but by a great deal of Agitation, the Ligaments of the Hip-Bone, by which

which it adhered to the *Os Sacrum* and *Os Pubis*, were loosened, so that he could bend himself so far as to sit upon a Stool, and touch his Feet with his Hands; for the Hip-Bone was moved almost after the same manner as the Shoulder Blade, which grew together with the Shoulder-Bone by a *Callous*, by which means such Arms have a manifold variety of Motion, because the *Scapula* always moves with the Arm, which I have observed, by very good Attention; but such Motions are not so ready and commodious as others.

I have had some Patients, whose *Vertebra* of the Back were so placed one upon another, that they were lame of all their lower Limbs, their Feet wanting their voluntary Motion, yet they were gradually restored to the Motion again: As for the *Vertebrae* I restored them into their proper Places, so that they could stand and walk again, yet not with the same Strength as before, because the Articulations of the *Vertebrae* were never altogether so recovered, but that they were in some measure disabled.

A great many walk lame on one Side or other, or both, their Loins being bent, and their Knees turned inwards, their Feet turned on one side, and their Toes contracted inwards; the Cause of this ill Constitution is the Contraction of the Nerves, drawing the Upper-part of the Hip-Bone towards the Fore-part; whence the Hip-Bone and Thigh-Bone receive one another, not in a straight but an oblique Posture; they commonly, though by Mistake, say those Men were hurt by bending their Bodies backwards suddenly and violently; others think their Hips are out of Joint, understanding the Conjunction of the Hip and Thigh-Bones; but it is a Mistake, proceeding from too slight and careless an Observation, there being no other Cause, but the above-mentioned for it.

By which Examples it most plainly appears, that the Ligaments may be stretched, and the Bones consequently, more or less disjoined from one another: As for the Ligaments they are soft, and a great deal of Force lies against them; but whether the like happens in Child-bearing, we shall not here dispute, because it will be proper when we speak of the Causes of difficult Births.

The Explanation of the Figure II.

a a a a a Are five *Vertebrae* of the Loins, composing Part of the Back-Bone.

b b b b b b *Vertebrae* appearing as such, making the *Os Sacrum*.

c c c The *Os Coccygis* consisting of three Bones, which grow together by Ligaments, which makes this Bone capable of being bent.

d The Right *Os Ilium*.

e The Right *Os Pubis*.

f The Side of the same *Os Pubis* cut off, which by the help of a Ligament passing betwixt was joined with the Left, in which Place being cut off, the Ditch like Cavities and Perforations appear in which Bones the Ligament was fastened.

g The Seat-Bone.

h The *Os Coxendicis*, or Hip-Bone, or the descending Point of the Hip-Bone, which below the Letter *g*, helps to make the Seat-Bone, so that *f g h* together, compose the Seat-Bone; that above the Letter *f* is called the descending Part of the *Os Pubis*, and the Letter *h* Hip-Bone, which in Infants is three distinct Bones; for the *Os Pubis* is extended from the Letters *f e* to *n*, where in Infants it is separated from the *Os Ilium* and the *Os Coxendicis* or Hip-Bone, and from the Letter *f* goes downwards towards the Letter *g* where it is fastened by a Cartilaginous Ligament to the Hip-Bone, which Cartilaginous Ligament at the last terminates

nates in a Bone and grows hard ; in the same manner a Cartilaginous Ligament adhering to the Hip-Bone at the Letter *n* in process of Time grows hard, and turns into a Bone along with the Hip-Bone ; and these three Bones, *viz.* The *Os Pubis*, *Os Coxendicis*, and *Os Ilium* (the Letter *m* in Infants being singly different, and growing together by Ligaments) joined together, form that Cavity or *Acetabulum* in which the Head of the Thigh-Bone is turned, which is observed and marked in the first Figure, Letter *g*.

i i i i The Line denoting the Belly.

k The Place representing the Navel.

l The Part of the *Os Sacrum* which over-hangs crooked.

m The Space betwixt the *Os Pubis* and the Point of the *Os Sacrum* called *Os Coccygis*.

n The Place, where in Infants, those three Bones, *viz.* the *Ilium*, *Pubis* and *Coxendicis*, or Hip-Bone are distinguished, and grow to one another by Ligaments.

A further Explanation of these Bones.

For a twofold Reason, we thought fit to represent these Bones to the view of Midwives, Side-ways. First, That by this means the bending of the *Os Sacrum* might be exactly shewn, for it was impossible to shew, that bending in the first Figure, in which the Cavity of the *Pelvis*, and its outward Parts are plainly seen, so in this the inward Parts, and chiefly the bending of the *Os Sacrum*, are more conveniently represented. For the *Os Sacrum*, and the Back-Bone are not carried down in a direct Line, but the Back-Bone first is bent a little towards the Fore-part in the Lower, and the first *Vertebrae* of the *Os Sacrum*, and then it is suddenly bent backwards, so that in some Bodies it almost forms an Angle ; and this most commonly happens, if at any time two or three of the upper *Vertebrae* have both a short and crooked bending, which often

ten happens. But as the *Os Sacrum* in the upper Part, is bent backwards, or outwards, so on the contrary the lower Part from the Letter *l* to *m*, is bent forward or inwards, the Point of it being extended towards the lower Part of the *Os Pubis*, where with the Bones of the Hip, and the Seat-Bones, it forms a straight Passage, in whose Interval, the Womb, the Neck of the Womb, the Gut called *Rectum*, and the Neck of the Bladder are placed.

Another Reason of proposing this Figure was, that in the beginning I might free Midwives from an Erroneous Opinion which they are commonly lead in, because they do not accurately understand the Situation of these Bones; for they commonly perswade themselves, that the Womb and its Neck are sealed according to the length of the Body, and therefore when they handle a Woman, they pass their Fingers straight according to the Length of a Woman, and by this means hurt the bending of the *Os Sacrum*, viz. that Part which is bent backwards with the Gut called *Rectum*, therefore their Fingers not finding Passage, and the Mouth of the Womb not being found, they are surprized; but that Erroneous Opinion will soon vanish, as soon as instead of that, we form a true Conception of the Cavity of the *Pelvis*, and understand the true Position of the Womb.

The Cavity of the *Pelvis* does not tend in its Length according to the Length of the Back-Bone, but rising from the Bottom obliquely, it ascends forwards, and so proceeds, as if through it you would touch the Navel, wherefore those that seek the Mouth of the Womb must not thrust their Fingers strait towards the bending of the *Os Sacrum*, but moving them upwards from the Bottom, as if through the Private Parts they would touch the Navel with their Hands. And that this may more evidently appear, place this second Figure before
your

your Eyes, looking at it Side-ways, and you will see the *Os Pubis* from the Fore-part ; and on the contrary, the Cavity of the *Os Sacrum* ; then pass your Fingers through the *Ossa Pubis* (the Place of the Private Parts) according to the Length of the Body, and you will see, that your Fingers will pass against the bending of the *Os Sacrum*, but when your Hand is turned inward, your Fingers tending towards the Navel, you will soon meet with the Orifice of the Womb at the first, which evidently lies in the Way.

Perhaps some Practitioners may slight this Observation, thinking it of little Use to Midwives ; but knowing how much Confusion I was in, in the beginning of my Practise, for want of so necessary an Observation, I was willing to remove such an Error, or at least to give a Caution, that others might avoid it ; for from what follows in this Book it will appear, if we speak of Women in Labour, how beneficial this Observation will be.

If it be asked, how large the *Pelvis* of Women are ? I answer, that those vary, as the *Fœtus* which pass through them vary in Bulk, and exactly answers the Bigness of the Heads of the Infants, which sometimes will not pass through without Violence.

C H A P. IV.

Of the Womb.

THE Theory of the *Pelvis* and its Bones being already laid down as far as is necessary for Midwives, we shall next treat of the Womb, that is, the Genital Parts proper to Women, in which the *Semen* is received and kept, till the *Embryo* is formed and ripened. A Woman without a Womb

Womb cannot breed Children though some have erroneously thought so, thinking that after the Womb was cut off, that some have had Issue ; but those who took the Neck for the Womb made the Mistake, for from several Examples it appears, that when the Neck of the Womb hangs very much down, and hath contracted Corruption, it ought to be cut off, yet notwithstanding those Women, when the Cure hath been perform'd, have bore Children ; but never any Woman who had lost the *Uterus* ever bore Children.

But that we may propose the Matter more distinct and clearly, we will consider the Womb, either by it self or jointly with the Neck of it, before or after Impregnation. Before Impregnation in Women that are not with Child, and Virgins, the Womb is of a thick and solid Substance, composed of an innumerable Multitude of Fibrous Vessels, *viz.* Veins, Arteries, Nerves and Lymphatick Vessels, musculous Parts being interposed, which all being skilfully interwove, mixed and formed together, make that wonderful Body. It is not undeservedly I call it a wonderful Body, for in all times both Wise and Learned Men, contemplating the Wonders of Nature, looked upon this as a wonderful Miracle.

The Womb considered by it self is not unlike some kind of Pares in Shape, but below and above the Bladder, and the Gut called *Rectum* pressed flatter together, where it is smooth and even, but on both Sides less even, as the following Figure sheweth.

The Explanation of the Figure III.

- a* The Bottom of the Womb.
 - b* The Mouth of the Womb.
 - c c* The Neck of the Womb laid open, that the Orifice of the Womb and its Inequalities may appear.
- d d d d*

d d d d The Ligaments of the Womb, with some part of the Membranes.

e e The Tubes of the Womb, or the Horns with their Membranes behind which the Testicles lie hid.

I have taken care to represent this Figure to the Life, about the Natural Bigness, that I might furnish Midwives with a lively Conception of the Matter, that they might better Understand, what is hereafter said of it, and that the difference may appear of a Womb impregnated, and one that is not ; for in the following Fourth Figure we shall propose the *Uterus* of one impregnated. But I think it convenient to add here in this Place, that the Internal Cavity of the Womb is very little, nay so small, so that if you dissect the Womb before any distension hath been made, the Cavity appears no bigger than a Chink, the upper Part being placed upon the Lower without an Interval, so that it can scarce be apprehended, how the Seed can penetrate it, unless it can be enlarged in the time of Coition, with Passion and Delight, which they are then most sensible of, which perhaps may promote Conception, as afterwards Pains promote the Birth.

It is not my Intent in this Place, to discourse of Conception, and the manner of it, whence, and how the Beginning and Increase of a *Fœtus* is produced, how it is nourished, and of a great many other Things which are not necessary for a Midwife to know.

Wherefore in this Place I shall not discourse of the Tubes of the Womb, nor of the Women's Testicles, &c. But shall only say a Word or two of the Ligaments, the chief Use of which is, 1. To hold the Womb when it is not impregnated strait, and sometimes also in the time of Impregnation. 2. After Birth with the Assistance of Contraction to restore it into its former Place, and its Natural Posture ; for the Extension and Relaxation of the
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Ligaments and Membranes, by which the Womb is fastened, may occasion its falling down, and its oblique Position, of which more largely hereafter.

The Body of the Womb is not placed so loose, and at Liberty in the Body, as it is here represented, but is fixed in the upper Part to the Bladder, and below to the *Intestinum Rectum* or the Gut called *Rectum*; on each Side it is fixed to Membranes and Ligaments, placed not near the Bottom, but near its Orifice, which Orifice is on every Side fixed to the Neck, as this third Figure shews.

CHAP. V.

Of the Neck of the Womb.

THE Womb being formed after such a manner, and in such a Place, as it pleased the most wise Creator, it was also necessary to prepare a Passage for the Man's Genital Parts to it. And in like manner, when the Womb was impregnated and the *Fœtus* perfected, a Passage was requisite through which it might pass into the World. This Passage from the External private Parts to the Womb and back again, is commonly called the Neck of the Womb or *Vagina Uteri*. But tho' it matters not what Names are given to Things, if we can but understand what they signify, yet those are chiefly to be chosen, which are most agreeable with the Thing, and least confound our Conceptions and the Sense we have of Things, when we express them. And although the Name *Vagina*, does not seem sufficiently clear to me, to denote that Passage or Way from the Womb to the outward private Parts, or backwards, and I use no other, only to avoid Novelty, yet I prefer the Name *Vagina* to the other calling it the Neck, because Authors often using it,

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can scarce distinguish the *Vagina* or Sheath of the Womb from the Womb it self, and therefore it is requisite to distinguish the Orifice of both by the Name of Internal and External Orifice, understanding by the Internal Orifice of the Womb, the Orifice of the Womb it self, but by the External, the private External Parts or the entrance of the *Vagina* or Sheath of the Womb, which often confounds the Reader, which Confusion that we may avoid, we would here have it to be noted ; that whereas the Womb it self hath but one Orifice, Entrance, or Opening, so we never mean any other Orifice, as often as we speak of the Orifice of the Womb, nor do we ever consider the Womb otherwise, unless (as it really is) a Body by it self, though it be joined to other Parts. But if we discourse of the *Vagina* or Sheath of the Womb, we never comprehend the Womb along with it, and by this Method, I believe we shall be subject to no Confusion.

This *Vagina* or Sheath of the Womb is full of Wrinkles, and thick set with many Folds, as appears by the Third Figure. It is easily extended length or breadth Ways, which was very requisite, that in the Time of Birth it might give way to the Infant ; but afterwards it can contract it self again ; and it was requisite it should be capable of extending it self in Length, that when a Woman is with Child, it might become longer ; for the Womb often at that time ascending higher into the Belly, the *Vagina* must needs be extended in Length.

Also the *Vagina* of the Womb is smooth and slippery, and commonly moistened with a tough glutinous Matter, that it may more readily give Way to the Passage of the *Fœtus*. And as the softness of the *Vagina*, and its extensive Power is an Advantage to Women with Child, so on the Contrary, it makes them subject to some Diseases which seize them in Child-Bed; as the falling down of the *Vagina*, or of the Womb it self, which happens to a great many Women

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The Womb and the *Vagina* beneath, adhere to the Gut, called the *Rectum*; above, to the Bladder or the Neck of it. The *Vagina* of the Womb at its Entrance (to wit the outward Privy-Parts) quite up to the Womb all the Length of it, and quite round on the Lower Side adheres to the *Gut Rectum*, and above to the Neck of the Bladder; but the Womb it self, only on the lower Part, that is, towards the Entrance or Orifice, and a little above, is tied to the *Gut Rectum*, and the Bladder; nor can it be separated without force.

Therefore because the Womb is only tied in the lower Part to the *Gut Rectum*, and the Bladder, its Extension and Dilation are not hindred, but it may be enlarged as there is Occasion. And since the Bladder and the *Gut Rectum* are both soft and loose Parts, the Womb is freer to ascend and descend as there is occasion.

The Womb is seated in the upper Part of the Cavity of the *Pelvis*, not without the wise Direction of the Omnipotent God, who hath built all his Works wisely, according to certain Dimensions; that Situation makes it requisite, (the force which casts it out, being first excited in the *Vagina* of the Womb) that the Man's Seed should be cast even into the Bottom of the Womb; which could not easily be done, if the Womb had been seated in the fore-part, except it had been formed otherwise.

That Situation also affords the Womb liberty of Extension, that as the *Fœtus* gradually grows, it might every Day, as Necessity requires, be dilated; which could not be done so commodiously, if the Womb had been seated in the lower-part of the *Pelvis*, for most commonly the Cavity of the *Pelvis* is less, than would be sufficient to contain the *Fœtus* at its utmost growth.

But if the Womb had been placed in the upper-part of the Body, Barrenness must have followed,

because at such a distance, the Man's Seed could not have been thrown into the bottom of the Womb. And though Women might have Conceived, yet from a Place so far placed at a distance, a great many more hard Labours would have ensued, than according to the present Method; nay, it would be impossible for many Women to bring a Child into the World, nor could they have any Help; but the adored Wisdom of God hath found a Remedy for this Inconveniency, by situating the Womb in the most convenient place.

C H A P. VII.

Of the Womb of those that are with Child.

THE Womb of Women with Child, differs much from the Womb of those that are not with Child; for, as much as the *Fœtus* with the After-Birth, and the Humours in which it swims, grows and increases, so much the Womb must needs be extended in Proportion; and since the Womb is very much tied to the lower Parts, there it can be less extended and dilated; therefore that Distension and Dilatation is made most in the upper Part, which is thickest, most free and aptest to be extended as Necessity requires.

The Womb is most extended in the upper Part of it, *viz.* the Bottom, as it is usually called, whence it must needs follow, that the same, now and then, ascends higher, and is placed in the Cavity of the Belly, but that does not always happen, nor in all Women after the same manner.

But before we shew the place of the Womb in Women with Child, there is one Difficulty to be removed, in respect of the different Opinions of some Authors concerning the thickness of the Womb in a Woman

Woman with Child; for some think, that as the Womb grows larger, so it grows thicker; others on the contrary think, that as it is more extended, so it grows the thinner; since then this is a considerable difference, it is requisite we should make an Enquiry about it, and discover the Truth, that Midwives may be admonished of the Error; and this Matter, in my Opinion, requires a peculiar Chapter; but first we shall take a view of the Form of the Womb of one with Child, and when it is extended, though not to the greatest Degree.

An Explanation of the Figure IV.

- a a* The Body of the Womb.
b The Orifice or Entrance of the Womb.
c c The Tubes of the Womb.
d d The Ligaments of the Womb.
e e The *Vagina* or Sheath of the Womb cut short.

C H A P. VIII.

Of the thickness of the Womb in Women with Child.

AS Divine Wisdom eminently shines in the Formation of Man, so it hath pleased him, that Women, above a great many other Creatures, should be furnished with such a Womb, which as Occasion requires, might be dilated and extended, yet retains the same thickness it usually had, whilst the Infant is small and helpless, and that, notwithstanding its bigness and thickness, which it hath in the time of Birth, it might, in a few Days or Hours, contract it self into its former size and firmness.

Concerning this Matter, Mr. *Mauriceau*, in his Book concerning the Diseases of Women with Child,
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says, Page 13. We have informed almost all the famous Anatomists, and a great many other Authors, that the Womb (a Miracle in Nature to be admired before all others) increases in thickness, as much as it is dilated from the first Conception even to the Birth. But he thinking otherwise, further adds, that he wonder'd, *Deulaureus*, *Riolanus*, and *Bartholinus*, excellent Anatomists, should know no better than to receive such an Error.

He having altogether rejected the Opinion of the Antients, thinking to assert the contrary, runs so much into the other Extreme, that he thinks, that the Womb after Conception, the more it is extended, the thinner it grows like the Bladder, which if empty, is thick enough, but the more it is extended with Urine, the thinner it grows, and that in like manner, the Womb grows as thin in the last Months before the Birth, as the Bladder does when full and extended, and is only a little thicker in the bottom, where the After-Birth adheres.

To favour this Opinion by the Authority of some Physicians, he subjoins the Opinion of *Galen* and others, which lest they should not be sufficient against so many Witnesses of the contrary Opinion, he makes rational Demonstration his Refuge, supposing a Globe of Wax like the Womb, without a *Fœtus*, should be extended to the Size or Bigness of the Womb of a Woman with Child ready for Birth, whence according to his Opinion, he would make it evident, how thin the Womb of a Woman ready for Birth should be.

But he endeavours to confirm his Opinion by the distinct Sense of Women with Child, by which they perceive the *Fœtus*, so that they can almost distinguish what Parts they move or stir.

Lastly, wanting Experience which may be depended upon, having looked into the Wombs of Creatures which are big with Young, he mentions the Wombs of Animal Creatures, for Example, of Sheep, saying,

saying, Their Wombs are very thin when they bring forth their Young ; and so he thinks he hath plainly demonstrated, that his Conjecture is not without Foundation.

Though I take not much Delight in Controversy, yet briefly viewing this Author's Reasons, I shall deliver my Opinion of this Matter, as far as it may seem necessary, to find out and defend the Truth ; and I am the more obliged to do it, because the Consideration of this Matter is not meerly speculative and unuseful, but rather necessary Knowledge nearly concerned in the Office of a Midwife, if at any time the Infant offering it self in a wrong Posture, is artificially to be turned in the Womb, or extracted, or the After-Birth adhering to the Womb is to be taken away, or if any other difficult Case happens.

In the first Place, as altogether inconvenient, we reject the Comparifon of the Womb of other Creatures with that of Women, which by a certain Privilege above all other Creatures, are formed after the Image of God, and furnished with a Womb very much different. Therefore if the Truth is to be found out, it must be done by looking into the Womb of a Woman just before, or presently after Birth ; but since the Author wants that Opportunity, his Argument is of no Force.

Nor is the Authority of *Galen*, or some of his Followers (in my Opinion) sufficient to overthrow the Opinions of so many excellent Anatomists and other Authors, or to prove the contrary, which this Author weakly offers. For where we appeal to Authority, the greatest Number will be of the contrary Opinion, which being granted, Mr. *Mauriceau* is against himself, having confessed, that the Number of those who assert the thickness of the Womb are innumerable, when on the contrary, but a few besides him will be of the contrary Opinion. Who knows not that the most Votes carries it, till

Reason and Experience demonstrate the Matter, that the fewest are most agreeable to Truth? When Opinions are diametrically opposite, Reason and Experience are to be consulted, but it is scarce credible, that Mr. *Mauriceau* was experienced in this matter; for he would have produced Examples, or would have produced his own Experience, to confirm what he had thought. But omitting this, he flies to the Wombs of Sheep, drawing Conclusions from thence with respect to the Wombs of Women, contrary to all Reason, which we think not requisite to mention in this Place. But if he had looked into the Womb of a Cow, he would have found it very different from that of a Sheep, if it be true, which I have lately been told, by one who said he was confirmed in it by certain and strict Observation, That the thickness of those Wombs are little different, whether large or small. And first, by observing the the Womb of a Woman as accurately as that of a Sheep, the Author might have convinced himself of his Mistake, and not have accused so many excellent Anatomists of an Error in their Opinion, upon no better Foundation than his own Conjecture, as he confesses.

Mr. *Mauriceau* cannot deny, that a great many Authors must have spoke the Truth, when they witness, that they have observed the Womb of the same thickness in Women with Child just before, or presently after the Birth; this truly he allows might happen in some, but he will not allow a general Argument to be drawn from these Particulars, because, says he, in the Words of *Aristotle*, that which is natural, oftenest happens. This therefore is his Opinion of it, that in some Cases it may happen, that the Wombs of Women with Child, may be found of the usual thickness, but that is neither natural nor common: But upon what Foundation he builds this Opinion, I do not understand, since it depends not upon his own Experience; for if he had

had that, he would have published it, and not have made his Refuge to the Wombs of Sheep; and what is worthy Observation is, that the Author was along while in that Opinion, though the wanted evident Demonstration, as well as he Opportunity of discovering such a Womb, as he imagined in his Fancy. Who then is to be credited? Whether are we to believe, a vast number of famous Anatomists, and other Authors of the same Opinion, who have seen with their Eyes, and felt with their Hands, or are we to give Credit to Mr. *Mauriceau's* Conjectures? It seems more Reasonable to me, to assent to a Multitude, since Experience is on their Side, and the Womb is so formed, as so many have found it, and that so much the more since Mr. *Mauriceau* hath no Experience to the contrary.

But Mr. *Mauriceau* endeavours to confirm his Opinion, by the distinct Sense of Women with Child, by which they almost perceive, what Parts are moved and extended, which he thinks impossible, if the Womb was as thick as is commonly thought. But I take this particular Sense of the Wombs of Women with Child, to be without Foundation, though the Author calls it distinct; for it is well known, that it is only supposed, since neither those with Child, nor others can distinctly tell, that this or that part of the Body is moved by the Infant, which they might almost know, I own, but this does not contradict the thickness of the whole Womb, especially if the Womb were seated immediately next the Belly, without the Intervention of the Intestines, for though the Womb was altogether thick, yet it hath not so much Solidity, as when little, therefore its spongy thickness, and smooth softness, may admit of such a confused and conjectural Sense, but from thence we cannot deduce an Argument for the thinness of the Womb, such as this Author conceives.

Lastly, Our Author wanting evident and sensible Arguments, thinks to demonstrate the Matter by Reason, extending a Mass of Wax of the bigness of the Womb of one not with Child, to the bigness of one that is, whence you may easily guess, of what thickness it might then be. To which I answer, that I grant, that the Womb would be very thin, and thinner than the Bladder extended with Urine, if it was not rendered thin after a different manner from a Mass of Wax; but first we are to consider, whether Reason and Experience evince and prove, whether the natural and gradual Extension of the Womb, be made after the same manner with a Ball of Wax.

Reason teaches us, that there is a great deal of difference betwixt an Animal and Inanimal Body, the first increasing or decreasing with abundance, or the want of good Nourishment, or the extraordinary afflux of Humours; but the latter always remain, the same; therefore there is not the same Parity of Reason in both.

Since therefore Reason and Experience teach us, that living Members are extended and grow larger by degrees, and naturally, and not by force, and that by a repeated Addition of Nourishment, and a more plentiful afflux of Humours, they grow heavier and increase without a diminution of thickness (which happens not in Things that are dead and inanimate) there is no similitude in the Things mentioned, and the Authors Argument is destroyed.

For we see, that all the fleshy and membranous Parts of a Body, by Obstructions, or a Stagnation of the Humours, may grow larger and be very much extended, especially if we consider those Parts with respect to the whole; but especially when they were thinner, and more solid before, such Accidents renders them more spongy and soft, except the Obstruction be too great, which is presently followed by Putrefaction. Since then this happens in all the softer Parts
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of the Body, why should we deny it to happen in the Womb? It being proper and natural for that Part, to grow gradually larger, and to be extended by an additional Increase.

I have cut off several large fleshy Ruptures, some of which were larger than the Head of an Infant, yet the *Scrotum* which was about them, was of the same thickness of that in a Man in Health, which is ten times less. After the Operation it grew less, for some Days, at first, it grew thicker, and afterwards grew thinner again, but in four or five Weeks time when the Patient was well, it recovered its natural Bigness and Thickness, Mr. *Mauriceau*, or his Followers may try this, and then take a Globe of Wax, and there will appear a vast difference betwixt the extension or diminution of this Animal Body, and the latter Inanimate Body.

Sometimes I have seen an Intestinal Rupture of a large Size, all the Intestines falling out of the Belly into the *Scrotum*, which was as big as the whole Belly. This Man could let all his Intestines fall down out of his Belly, and reduce them again lying down on his Back, but when he stood up or walked, they hung down betwixt his Legs, and which is to our Purpose, his *Scrotum*, notwithstanding it was so large, retained very near its natural thickness, to Sense and Feeling appearing whole and sound; which since it happens so in this Case, there is the same Reason why it may be so in the Womb. If it were necessary, I could produce a great many of the like Observations.

But why should I spend Time in proving the Possibility of such an Extension, which I have found in other Parts, both sound and unsound, since evident and palpable Proofs are not wanting of the Womb it self? Behold then my own Experience, which is agreeable to a great many, though contrary to Mr. *Mauriceau's* Conjecture. I have often seen, when I have been at the Dissection of the
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dead Body of a pregnant Woman, the Womb altogether thick, notwithstanding its bigness, and this I have always observed, and never otherwise; so that let the Womb be never so big or little, it was always found of the same thickness, tho' sometimes more, and sometimes less, according to the difference of the Accidents. What then shall I say, thus taught by Experience? Shall I think that my Eyes or my Hands deceived me? Shall I not trust more to my Senses, than to the Conjecture of this Author?

But some perhaps, with him, may say, it is not to be denied, but that it is possible, yet is extraordinary and not natural; because that commonly happens most, which is natural, according to *Aristotle*. If therefore Truth may be measured by *Aristotle's* Rule, I should argue after this manner; whatever commonly, or for the most part happens, that is natural; but I never found the Womb so thin, as Mr. *Mauriceau* conceives it to be, but on the contrary always thick, and have perceived it very thick both with my Hands and Eyes; therefore what I have for the most part and always found so, I conclude to be natural, and think ought to be esteemed as natural, till I shall be convinced of the contrary by Experience.

Since this is true, as will appear more plainly from the following Chapter, and which I could prove if there was occasion, by more Arguments, certainly we owe Divine Goodness the greatest Thanks, that he hath had so much regard to this Part, that a double Advantage should happen to us thence. First, that the Womb by this thickness in the time of being with Child should become stronger, than if it should encrease in thinness, accordingly as it is extended; for the *Fœtus* would easily break its Prison too soon, and perforate the Womb with its Hand or Foot, which would be mortal to both

both the Mother and *Fætus*; Examples of which Kind sometimes happen.

Secondly, If the Womb was really of that thinness, as the Author conceits, the Hands of Midwives would be subject to more Difficulties and Dangers; for who could so freely turn the *Fætus* in the Womb, as is usual, close shut up, and closely compressed in those thin Membranes, with exquisite Pain, two or three Days after the efflux of the Waters, if so thin as Mr. *Mauriceau* conceives it to be? Would any Body that was not stupid offer to pull away and separate the After-birth from the Womb without a great deal of Horror? Or what Woman without the greatest danger could bear it? Therefore it is of great moment for the Person in Labour, as well as the Midwife, to know the Thickness and Strength of the Womb, lest their Hearts should easily fail them.

Before I leave this Subject, that all Doubt may be removed, we must yet add, that I was not content, to search the Truth of this in dead Bodies with Child. But that I might with accurate Attention enquire into it in living Bodies, one Hand being passed into the Womb to pull out the After-birth, and the other being put upon the Belly, that I might the better distinguish the Truth by Sense it self, I can truly say, that I always perceived the whole thickness of the Womb, nay I have sometimes perceived so much thickness and rigidity, that I could scarce believe, but that some Mischief had happened to the Person, when at the same time they were in the same Health as usual, and I only remember the Womb thin in one Body.

From all which I firmly conclude, that the Womb, tho' of a different bigness, from the first Conception to the time of Birth, was always of the same thickness, and that I think to be natural, till further Experience shall invite me to embrace the contrary Opinion.

C H A P. IX.

Of a Womb Impregnated, both a little before, and presently after Birth, and the manner of Extension as well as Contraction, where these two Fundamental Propositions are prov'd, viz. 1. The Faculty of Extension without Extenuation or growing thinner. 2. The Faculty of the Womb's changing its place variously.

BEcause in the Beginning I referred the Reader of Midwifery to this Chapter, in which I plainly demonstrate the various Local Motions of the Womb Impregnated, according to my Ability I will perform my Promise, discoursing in this Place, of the Womb of Women with Child before and after Birth; and also of the manner, as well of the Extension as of the Contraction afterwards.

But since no Body denies the Womb's Faculty of Extension, even to its greatest bigness, nor its Contraction to its former size and smallness, there is no occasion to prove them; it is rather our Design, to consider the manner of that Extension and Contraction.

Though in the former Chapter I have argued against the Opinion of Mr. *Mauriceau* concerning the thickness of the Womb, *viz.* That it most commonly continues to be the same, let the Womb be never so much extended; yet in this place it seems not unuseful, to add a certain Argument, which alone is sufficient to remove all Doubt, which will appear, if we accurately consider the manner of the Extension or Dilation of the Womb, and of the Contraction or Diminution of the same. To which End there is no need scrupulously to enquire, how and in what Place the Male and Female Seed are join-

joined together, how the *Fœtus* is thence formed, or by the Mediation of the After-birth, it is nourished and daily encreases; whether that is performed by this or that Humour, by these or those Vessels, what are the different Opinions of this Matter; these Things are not our design to treat of, which are rather confounded than illustrated. We, as far as we can, laying aside all Controversies, and following closely the Truth, shall thence deduce the necessary Consequences of those Positions, *viz.* That the Womb may be extended, without being extenuated, and then that the Womb may alter its Place variously.

We suppose then, as is most known, That the *Fœtus* conceived in the Womb, and joined to the bottom of it by the After-birth, is daily encreased by its Nourishment, when the *Fœtus* daily begins to separate Humours or Waters in the After-birth, and to encrease along with the *Fœtus*, whence it necessary follows as a Truth allowed.

First, That the Womb must needs be extended, made larger, and dilated by the increase of the Secundines, the Humours and the *Fœtus*; and because the Increase of the Humours in the Secundines or After-birth fill up all the empty Space, which the Body of the *Embryo* cannot possess; as not altogether round or oval, thence it follows. Secondly, That the Womb extends it self round or oval, unless other Parts about it hinder it, as we commonly see it oval, or of the form of a Pear, being a little plainer at both Ends; but because the Secundines only adhere to the bottom of the Womb by its thicker part, or the *Placenta*, and increases there more than any where else, thence it follows. Thirdly, That the Womb increases more in its bottom, than any other part beneath.

That the Secundine, with the *Placenta*, adheres to the bottom of the Womb, I suppose no Body will deny; but perhaps some may ask, why I reject

ject the Experience of some Midwives, who witness, that they have found the Secundines sometimes fast to the Side of the Womb not far from the Orifice, and have extracted it from thence. To which I answer, that I approve not of those Midwives Testimony, because those Men, not observing that the Womb may sometimes be in an oblique Posture, likewise have not observed, whether the bottom of the Womb inclines towards the fore-part or the back-part of the Body, and therefore could not well tell, in what place or manner the Secundines adheres to it.

Nor is it seldom that I find the Secundines sometimes in the hinder-part near the Loins, sometimes near the *Diaphragma* or Midriff, now in the fore-part of the Belly hanging forwards, sometimes on the Right, sometimes on the Left Side; but I would by no means from thence conclude, that the Secundines adhere to the Side of the Womb, or near its Orifice, this belongs to those sort of Men, which like blind Mill-horses always goe in the same Path, ignorant in what Place they turn. I remember some Years ago, whilst I lived at *Wicuwerth* in *Frisia*, I was with a Woman in Labour of her first Child, who continued for above four Days; the Infants Arm being taken off up to the Shouldier, having afterwards turned the Child, I drew it out, and presently after, according to my Custom, putting up my Hand, I felt for the After-birth, which I found on the Right Side a little upwards, so that I could not separate it without a great deal of Trouble, not that it grew so fast, but my Arm being so much bent towards the Side, it was very hard to do any thing; for when I tried to put my Arm under the Secundines, it was so closely pressed towards the internal Edge of the *Os Ilium*, that I could scarce do any thing for Pain, but at last I perform'd my Work, the Secundines being drawn out whole and with-

without Damage. Now to ease my self of the Pain, and so difficult a Work, it was requisite for me to enquire into the Cause, that I might be certain, whether the After-birth grew to the Side of the Womb or not, and since at that time, I was not certain of the various local Motion of the Womb, I thought it requisite to satisfy my self in this Matter having so good an Opportunity.

Wherefore having drawn out the After-birth, and passed my Hand again into the Womb, upon Enquiry, I found the Situation of the Womb a little more accurately by Sense, putting my Hand sometime downwards, towards the Right Side, there being no room for it on the Left or upwards, but proceeding where there was room, and where I passed it before, *viz.* into the bottom of the Womb, in the same Place, from whence the Secundines were separated, having turned my Hand every way, I distinctly perceived, that the bottom of the Womb was moved further towards the Right Side, but its Orifice was turned towards the Inward and Left Part of the Cavity of the *Pelvis*, by which the oblique Situation of the Womb was so far confirmed to me, that I could not doubt of it any longer, especially since to confirm me in my Opinion, I have neglected no Opportunity.

From these and a great many more Examples, I conclude, some Midwives have thought that the Secundines or After-birth was sometimes fixed to this, and sometime to that Side of the Womb, and have been often mistaken for want of accurate Observation. But without making any longer delay, we will examine, whether Experience confirms our Hypothesis, or whether any thing may be found fit to strengthen it in the Womb when extended, to which End we shall more exactly consider the Fourth Figure.

It was our first Assertion, that the Womb might be extended and grow larger without growing much thinner, or that its thickness was sometimes encreased, and sometimes remained the same; which is proved by the Fourth Figure compared with the Third, both being represented to the Life. From the Third it appears, that the Ligaments in an Impregnated Womb, are fastened to it under the Tubes near the bottom, by which the Womb having a Ligament on each Side, being held in the middle, is hindered from falling on each Side. If therefore the Womb was equally extended on every Side, it would follow, that its Ligaments in the Fourth Figure are proportionably as near to the bottom as in the Third; on the contrary it appears, that the Ligaments in the extended Womb are much lower; from whence we conclude, that the Womb is more extended in the bottom than in other Parts. Except I am mistaken in Calculation, I dare assert, that a Womb of a common size just before the Birth, is extended a sixth or eighth, nay, a sixteenth or twentieth Part more than the rest of the Substance of it.

Here it is to be noted, that this Fourth Figure, according to the Proportion of Extension it is represented in, represents about a third Part of the bigness of an ordinary Womb just before the Birth. Besides, it is to be noted, that the more the Womb is extended, so much more the bottom is distant from the Ligaments in Length and Bigness.

If therefore the bottom of the Womb, as the Figure expresses, be twice as long above the Ligaments, as below the Ligaments, down to the *Vagina*; and on the contrary, if the Womb before Impregnation, is twice as large below the Ligament, as above, it follows, that the Womb, is four times as much extended in the bottom as below the Ligaments. If therefore the whole Womb in proportion to its Extension, becomes twice or
three

three times as big, it follows, that the bottom being proportionably enlarged, is eight or ten times as much extended above the Ligaments, as it is below.

Supposing then, that the Womb before Impregnation, is only a little thicker in the bottom than in any other Part, as it is always found; supposing then also, the bottom of the Womb ten times as much extended as in any other Part, it would follow, upon Mr. *Mauriceau's* Calculation, that the bottom must be twelve times thinner than the lower Part: For he thinks, that there is a Parity of Reason in the Womb and a Ball of Wax, which the more it is extended, grows the thinner.

Now consult all experienced Anatomists, and ask Mr. *Mauriceau*, whether the Womb be thicker in the bottom or in any other Part, and they will all affirm, that it is always thickest in the bottom, which the Part it self witnesses in a natural Womb a little before, and soon after the Birth.

Since therefore it is true, and without Dispute, that the bottom of the Womb is at least, twelve times as much extended as any other Part; yet notwithstanding, it is always as thick, is it not without Controversy, that the bottom of the Womb, when extended, is little or not at all the thinner, nor so much extenuated as it is extended? And therefore Mr. *Mauriceau's* Conjecture of the thinness of the Womb is without Foundation, and contrary to approved Experience.

The Reason, why the Womb is so much more extended in the bottom, than in the lower Part, as I have before said, is for the adherence of the After-birth; for the bottom of the Womb is so framed, that the *Placenta* might be commodiously united with the bottom, and might be extended and enlarged along with it.

But that I may leave the Reader without all Doubt, and remove an Objection that may arise,
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I shall further add, that though the Womb, when extended, hath the same thickness, yet it is not equally solid; for the Vessels of which the Womb is composed, are so subtile, and closely interwoven together, that it can scarce be comprehended, how such a small and solid Body can be extended to so great a bigness, as it is in Women with Child.

Those fine Vessels, which seem to be only minute Fibres, whose Cavities and the Humours are too small to be seen with the Eyes; when a Woman is with Child, being gradually enlarged, are both extended and nourished, and are so filled and dilated with the Humour they contain, that the thickness is little or not at all diminished; but because that Humour, is neither Flesh nor a Membrane, therefore the Womb thus extended, is not so solid and hard, as a Womb before Impregnation; and this is all the Difference which can be observed.

But some perhaps may doubt, whether it be true, that the Womb is so extended, as the Fourth Figure represents; perhaps after the Example of a great many Authors, they think I impose the Imaginations of my own Brain for Truth; and may ask, how it may be known, that the Womb is so formed? To this, I answer the Candid Reader, that I hate to write more than I know, and can demonstrate; therefore this Fourth Figure, is neither an Invention of my Brain, nor received from others, but graven to the Life, by my Order, neither adding or diminishing any thing; but the Graver hath freely imitated the natural Proportion of the Womb, expressed in the Fourth Figure; but as for the Third Figure, if it be compared with the most exact Draught of other Anatomists, it will appear, that this of mine, as to the Substance, is not at all different.

By this Method, I think, it is sufficiently demonstrated, that the Womb may be extended without being made thinner, and that that extensive Power chiefly resides in the bottom; I shall therefore pass
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on to the Second Thesis, or Proposition, *viz.* That the Womb may be differently moved out of its Place; which Assertion, I doubt not, may be proved by as good Arguments, by the proposed Fourth Figure.

It appears from the Third Figure, that the Ligaments in a Womb not impregnated, are fixed to it above, near the bottom; whence one would easily conclude, that such a Body, adhering below, near its Orifice, to the Neck of the Bladder, and the Gut *Rectum*, and fixed above, near its Bottom with Ligaments, its Bottom could scarce be moved, or slide one way or the other; but notwithstanding this, it is to be noted, that though it be so ordered, yet the Womb impregnated, in the Fourth Figure, is differently proposed from the Third; where it is plain, that both Ligaments, which in the Third Figure, being fixed near the bottom, might hold the Womb in its due *Æquilibrium*, the third Part of the Time of going with Child, being past, are not fixed to the bottom, but a great deal below; nay, that the Womb above the Ligaments, is two or three times bigger and heavier: Upon which we may assert, that the whole Womb being two or three times more extended and dilated, becomes eight or twelve times bigger and heavier above the Ligaments than below; as we have before shewn; for the Extension and Dilation of the Womb is infinitely greater in the bottom than any other Part.

But it is to be noted, that as the Womb grows bigger, it most commonly rises higher, and by reason of the greatness of its Body, extended on every Side, can be no longer contained in the narrow Compass of the *Pelvis*.

Next we are to observe, That the Womb being commonly of the Form of a Pear or Oval, is larger, and much bigger above, than below the Ligaments.

Further it is to be noted, That that Bulk only sustained at the lower-part, and only tied on both Sides with subtile Ligaments, apt to extend, it may easily be inclined and moved, this or that way by its own Weight.

To this we may add, That the Bladder, and the Gut *Rectum*, to which the Womb is tied in the lower Side near its Orifice, being loose, soft and extensive Parts, cannot hinder a large Womb from inclining or leaning aside, especially containing a *Fetus* fit for Birth.

Lastly, it is to be noted, That Women with Child move their Bodies variously, and bend themselves every way, accustomed or forced with Pain, to hold their Bodies in this or that Posture, as also to lie sometimes in one, and sometimes in another Posture, which may easily give the Womb a Tendency this or that way, sliding forwards or backwards, to the Right, or towards the Left.

These Things being laid down, let us see, whether it would be difficult to conceive, how the Wombs of Women with Child may be moved different Ways? Truly it seems to me, upon these Considerations, that there is so little ground of doubting of it, that I should rather think it ought to be affirmed, that allowing the Womb of one Woman with Child to be born right above the *Pelvis*, ten may be found otherwise, whose Wombs are more or less obliquely situated this or that way; this Calculation being made, they surely can scarce mistake, what the Midwife upon Occasion will learn by Experience.

But before we leave this Subject, we are to advertise, that if any one (who doubts whether the Womb be variously moveable) should think, that the Womb is held in a strait Posture by these two Ligaments, believing they cannot be relaxed, he may consider, that when the Womb rises higher into the *Pelvis*, those Ligaments must needs be relaxed, and moreover be so extended, as that the Womb may
fall

fall down out of the Body, which sometimes happens. But supposing those Ligaments to be not at all, or but a little relaxed, who could comprehend, how the same, being only fixed on each Side, should hinder it from sliding back or forwards? no Body, I think, would believe that, or perswade any Body else so; but this Truth being asserted, which plainly appears to any one who hath a true Notion of the Situation of an impregnated Womb, what we assert is also so far proved.

It being proved, that the Womb may slide backwards or forwards, who can deny, but that one of the Ligaments being relaxed in some Measure, it may be so far extended, that the Womb sliding forwards, may incline a little towards the Right or Left? He that allows it may be done towards the Right, cannot deny but that it may likewise, towards the Left, and thus will easily agree with us; for though, in my Judgment, the Ligaments cannot hinder the falling of the Womb towards either Side; yet influenced by other Reasons, I can scarce be perswaded, that the Womb can fall altogether, and directly to one Side or the other. I never having found it so, but always inclining a little upwards or downwards.

Thus I think I have so plainly and clearly explain'd the Disposition of the Womb, to be moved many ways out of its Place, that the Candid Reader, may be satisfied of the Truth of it. We shall add something in the next place of the Contraction of the Womb after Birth.

The Womb is very easily inclined to contract; for as soon as it is a little emptied, it soon contracts and lessens; when the Waters flow out, the Womb decreases, and is so strictly contracted, that it closely compresses the Infant, therefore it is necessary the Infant should be brought forth presently after the Waters flow out, except a difficult Birth is to be expected.

If the After-birth does not presently follow the Birth, but stick to the bottom of the Womb, it is presently contracted, closing up the After-birth in it, and if some clotted Blood remains not behind, in a few Hours it is difficult to open it again to draw out the After-birth.

When the Child is born, and the After-birth parted with, if you hold your Hand a while in the Womb, which I shall hereafter prove to be the Duty of a Midwife, you will find it contracted and closed up about your Hand; whence it appears, that the Womb is apt to contract and grow less, and never remains extended, except some foreign Body hinders its Contraction.

The Manner of its Contraction is the same as of its Extension, only the one is done by Degrees, and the other quickly. Sometimes I have opened a Woman dead in Child-bed, as I remember, the eighth or ninth Day after Delivery and have wondered to find the Womb so little, and near its natural State, as if she had not been newly delivered. But to proceed, let us consider the Womb well or ill placed in Women with Child.

CHAP. X.

Of the Womb's being well placed in Big-belly'd Women, or Women near Child-bearing.

BEfore we speak of the oblique or ill Situation of the Womb, it will be convenient to shew the Position of the Womb well placed in Women with Child, which we have already mentioned in the Third Chapter, after the Second Figure, where we have represented the true Image of the Bones, which form the *Pelvis*, to which we refer the Reader, adding the further Explanation of it in this Place.

Place. Because, the greater the *Fœtus* is, which is carried in the Womb, the higher it rises in the Belly; for since the Cavity of the *Pelvis* is not sufficient to contain a large Womb, being filled with one or more *Fœtus*'s, full grown in every Part, together with the After-birth and Humours; it must needs follow, that it must ascend into the Cavity of the Belly, above the Borders of the *Pelvis*, and then it retains the same Posture, or otherwise, as it did a little before, or after Impregnation; if it retains the former Posture, that I call a right and well situated Womb, and then its pointed Parts tend in a right Line into the *Pelvis*, but its bottom is placed about the Navel; and when its Posture is changed, being inclined a little this way or that, I call an oblique or ill situated Position, of which in the following.

CHAP. XI.

Of the Womb of Women with Child, or in Child-bed obliquely and ill situated.

SINCE the Womb impregnated, as we have shewn in the Fourth Figure, in the greater and heaviest Part of it is free and loose, it may easily slide this way or that, in Women especially, whose *Pelvis* is small; for the Womb cannot rest a long time upon the acuminate or pointed Part, but will incline one way or the other, because the Ligaments being apt to extend, are easily relaxed, whence the oblique Situation of the Womb proceeds.

Also an Exulceration, or a Cicatrix, or a Gland hardened, or an Obstruction of the Vessels in either of the Ligaments, or in the neighbouring Parts, may give an Occasion to the Womb, in the beginning

of its Extension, to incline obliquely, more on one side than the other; besides, there may be a great many other Causes of this Accident.

But lest we should spend too much time in searching into the Causes of this ill Situation, it may be sufficient here to say, that the ill Situations, or Positions of the Womb, may be manifold; to number all which would be too tedious; nevertheless, that we may say what is requisite of them, we will take notice of a four-fold Difference of the Womb's ill Position, under which, the rest may easily be comprehended.

The first ill Position of the Womb is, if the bottom of it is pressed too near the *Diaphragma*, or Midriff, and the Body of it too near the Back-Bone; for by that means, the Orifice of the Womb is forced too near the *Os Pubis* before, being suspended, or hung too high, and the Infants striking their Heads upon the *Ossa Pubis*, easily remain immoveable; or which is worse, they slide with their Head upon those Bones, and are easily turned on one side, or the other, or backwards; so their Arm or Hand passing out of the Body, they lie athwart the Passage, by no means to be forced out without an assisting Hand, which occasions the Death of the Mother, or Infant, or both, unless they are saved by the help of a very skilful Midwife.

The Second ill Position of the Womb, is, If in Women, who have large Bellies, it hangs too much forwards, the Orifice being turned towards the *Os Sacrum*, so that the Infant proceeding to Birth, is carried down with the Head into the Cavity, or crookedness of the *Os Coccygis*, where it often sticks immoveable, as if it were locked, nor is it relieved without a skilful Midwife.

The Third ill Position of the Womb, is, If the bottom of it is seated in the Left Side, a little elevated or depressed, the Orifice being turned towards the Spine of the right *Os Ilium*, or *Os Pubis*,

Pubis, against which the Infants are wont to thrust their Heads, and often stick there too long, the Brain being broken ; or leaping past the said Spine towards the right, they lie athwart the *Pelvis*, from whence they cannot be moved without the Assistance of a skilful Man or Woman.

The Fourth ill Position of the Womb, is, When the bottom of it is seated in the right Side, the Orifice being turned towards the left Part of the *Pelvis*, just opposite to the other Position, from whence the same Inconveniences may happen as in the former.

From this Four-fold ill Situation of the Womb, the rest may easily be gathered, *viz.* If the bottom of the Womb be more or less forwards or backwards, or turn to the Right, or the Left, rendering the Birth thereby more or less difficult, as that ill Posture differs more or less from the natural Position.

I am sufficiently aware, before-hand, that a great many will think this Opinion not worthy to be believed ; and that others will scornfully reject it as false, and new ; but I shall the less fear those, since I certainly know, and openly profess the Truth of it : For as to my own Part, I am equally as certain of the ill Situation of the Womb, as I am certain, that two Units, added to two, make four, or three, added to three, make six. Varied Experience, hath removed all Doubt from me, nor shall I abstain upon this Foundation, to proceed to the Information of those that practise Midwifery, ingenuously acknowledging, that whoever are ignorant of the ill Positions of the Womb, are equally blind in the Art of Midwifery, as he who saw Men walking like Trees. And that will appear from the following Sheets, where we shall see this Truth apparent through the whole, where the Art of Midwifery is to be learnt or put in Practise.

C H A P. XII.

Of the Secundine or After-birth.

HAVING said thus much of the *Pelvis*, and the Womb, and it's various local Motions, it is convenient we should say something of the Secundine, which it is necessary Practitioners in Midwifery should be instructed in. I will not insist on those different Names, derived from its different Uses, which are ascribed to it, both in respect of the Woman with Child, and the Infant, according to the Opinion of different Anatomists: I shall only insist on one Name, given to the Secundine, whose Exclusion or bringing away, most commonly follows the Birth of the Infant; I say, most commonly, for that happens not always; in some bad Cases, the Secundine may be pulled away from the Womb, and its first Cake, or the first *Placenta*, may come forth, or be parted with in the Birth; but this seldom happens, and that commonly then is the Cause of the Death of the Infant, especially, if an expert Midwife, or one skilful in Midwifery, does not bring seasonable Help.

If I took Delight in the bigness of the Book, I should be sufficiently supplied with Matter in this Place, to enlarge it with various Observations of the Secundine, and its Use; more fit for curious Contemplation, than the true Instruction of those that practise Midwifery; I was always averse to be a learned Plagiary, which, alas! is grown so much a Custom, that the Books of most are only Transcriptions, professing without Shame, that a Book is made only by the Change of Words, by which they would signify, that nothing is wanting, but only the change of other Mens Words, to sell them

them for their own, if any one covets to be the Author of a Book. Therefore, only simply proposing what is necessary, I shall chiefly lay down their two-fold Uses, by which the Secundine is serviceable, both to the Mother and Infant, which Use is truly so proper to the Secundine, that it may be perceived even by the Composition of it.

The Secundine therefore, consists of a thick, certain carnous Mass, or the Womb Cake, or *Placenta Uterina*, with a certain thin Membrane annexed, and this Secundine, with its carnous *Placenta* joined with it, adheres to the bottom of the Womb.

And though the thicker Part of the Secundine, is called the fleshy Cake, or *Placenta Uterina*, yet I do not mean, properly, such Flesh, as that of the Muscles, since these are nothing else but the Contexture of Vessels, and Humours; but by that carnous Cake, I would mean something like Flesh, though never so gentle and soft, whose Vessels are very brittle, and apt to pour out the Humours they contain.

This *Placenta Uterina*, or Womb-Cake (is not ill compared with a Cake, because it is not unlike a thick, and round, yet not a very large Cake, fryed in a Pan) most commonly a Finger thick, yet it is thicker in the Middle, than at the Edges, and so fastened to the bottom of the Womb, by its Vessels, that it cannot be pulled away without breaking those Vessels, and the Effusion of the Humours, whence a Flux of Blood always follows the pulling away of the Secundine, partly out of the Secundine, but chiefly out of those that rise out of the *Acetabula* of the Womb, or Glands so called.

This *Placenta* is very rough, and unequal in that Part which grows to the Womb, thick set with Vessels broke asunder, which if you look into, when open, it seems to be composed of Fragments and
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Particles, which are tied together with a great Number of Vessels.

As this *Placenta*, or Cake, is rough and unequal on the outside, so on the contrary, on the inside it is smooth and soft, besides which, a great many Vessels stand out, or make a Protuberance, all which end in the Navel String, or umbilical Vessels, which at one end are inserted almost into the middle of the *Placenta*, and the other end adheres to the Navel of the Infant. This Navel-string, in the time of Impregnation serves to convey the Blood and Nutritious Juices into the *Fætus*, and to return thence, what is superfluous thro' the Secundine into the Womb, and thus contributes to the Nourishment and the Preservation of the Life of the Infant; the Humours in which the Infant swims are encreased along with it, and by this means the Secundines are extended along with the Womb.

That Internal smoothness of the Secundines proceeds from the Membranes, with which the After-birth is inwardly furnished, which are further extended into a round Body, composing a Cavity, much like another Womb, in which, both the Infant, and the Humours are contained.

This Membrane, though very thin, according to the common Opinion, is double, and may be divided into two or (as some would have it) three Membranes, if the Division is accurately made. But because it little concerns the Practisers of Midwifery, whether this Membrane may be divided into two or three, we will omit that, only observing, First, That this Membrane is firm enough to contain the Infant and Humours in the time of Impregnation, though no where else in the Womb, but only fixed to the *Placenta*, it being on every side free and loose.

But though this is asserted, yet I cannot understand, that this Membrane, of it self, being thinner

ner than the Bladder, is firm enough to contain the Infant and Humours, if it was not strengthened by the Womb enclosing it; for though it is on every side free, and no where fixed to the Womb, but by the Mediation of the Secundines, yet it is on every side, so closely joined to the inside of the Womb, that it is as much supported by the Strength of the Womb as by its own; for as a Silk put under a fine Piece of Cloth is strengthened by the Cloth, that it is not easily divided, so that thin Membrane enclosed by the Womb is not easily broke.

Secondly, And as this Membrane ought to have that firmness, to contain the Infant, and Humours, in the time of being with Child, so it is requisite, that it should be thin and apt to break, that in the time of Birth, it may be torn asunder by the impulse occasioned by the Pangs, and give free Passage for the delivery of the Infant, and the discharge of the Humours; therefore we need not wonder at its thinness.

There is most commonly one, sometimes two or three Secundines, if three Infants are contained in the Womb at once; and on the contrary, sometimes two or three Infants are contained in one Secundine to appearance; but if it be more exactly looked into, that which seems one *Placenta*, is composed and made up of two or three; yet every Infant hath its proper Membranes and Navel-string, and so every one hath its distinct *Placenta*, sometimes so distinct, that they may be drawn out separately; and most commonly each hath its proper Humours.

We should now treat of the External secret Parts of a Woman, called the *Pudendum Muliebre*; or Privities, in which the Way is made to the *Vagina* or Sheath of the Womb, but that is sufficiently known to all Women, and sufficient Knowledge of them may elsewhere be learned by those Men who practise Midwifery; therefore there is no need to expose those
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Parts here, whose Figures rather serve to excite impure Thoughts, and give occasion to obscene Discourse, more than necessary Instructions, therefore for Modesty sake we shall pass them by here.

The Explanation of the Figure V.

Figure V. N°. I. Shews a single Secundine, which contains one Infant.

AA a The *Placenta*, or the thick fleshy Part, which adhered to the Womb, covered with its Membranes.

B B B The thin Membranes contracted and doubled, which are placed towards the Orifice of the Womb.

c c c The Navel-string, cut off from the Infant, the other end spreading a great many Branches of Veins and Arteries through the *Placenta*, at the Letter *d*.

N°. II. Shews a double Secundine, which contains Twins.

a a a a The *Placenta*, or thick fleshy Part, which was fastened to the bottom of the Womb, viz. in the lower part which is out of Sight.

b b A small part of the thin Membrane contracted, with the middle Membrane, by which the Secundine was divided, and the Infants separated, that each might swim in its proper Humours.

c c c c The same Membrane, contracted from the Borders or the extreme Parts.

d d d d The Navel-strings cut off, whose Roots were inserted in the *Placenta*.

C H A P. XIII.

*What is the bandling of Women with Child,
and how to be perform'd.*

IT is requisite, that a Woman, that is to take upon her the Practise of Midwifery, should be well instructed in the Knowledge of the handling of Women with Child, or what is called the touching of them; but since to touch or handle, is an improper Word, nor does it clearly explain, what Midwives mean by it, we shall explain what is understood by it.

To handle a Woman with Child, or whom she thinks to be so, is nothing else, than to pass the two Fore-fingers of either Hand through the private Parts, into the *Vagina*, or Sheath of the Womb; being first softened, or anointed with Fat, Butter or Oil, and to touch the *Amphidæus*, or the Mouth, or Entrance of the Womb, to try its Form, handling, or feeling it on each Side, that by this means, they may know, what otherwise cannot certainly be known.

Once again, I admonish the Reader, that I never use (which most Authors are wont to do) the Word, Internal or External Orifice, because I have said, that there is but one Orifice or Entrance of the Womb, which I would have said once for all, to avoid Confusion, whenever I speak of the Womb, and to understand by the same, that Pear-like shaped Body, in which the Seed is received, and the Infant preserved till the Birth, represented in the third Figure, in which the Orifice of the Womb, or its Entrance is signify'd by the Letter *b*; and what other Authors called the outward Orifice of the Womb, understanding by that, the Orifice of
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the *Vagina*, or Sheath of the Womb, that I call the Orifice or Entrance of the *Vagina* or Privities; by which means no Body can be deceived by that double Orifice.

C H A P. XIV.

What is to be known by the Touch, or by handling.

Women are to touched or handled, especially, that the following Things may be certainly known, *viz.* that it may be known,

1. Whether a Woman be really with Child or no.
2. Whether the time of Birth be near, or whether it be long before the time.
3. Whether the Woman with Child be taken with true Child-bed Pains or not.
4. Whether the Woman being seized with the Pains, the Birth will be easy or difficult.
5. Whether the Infants are well seated or not.
6. How the Woman in Labour, or the Infant, are to be helped, and what is to be done to that end.
7. Whether at any extraordinary Time, the Birth of the Woman in Labour is to be promoted.

All these Things cannot truly and certainly be known without the touch; therefore that young Midwives may be better instructed in these Things, we shall consider them separately, in the Seven following Chapters; and by what Reasons those Things may certainly be known by the touch. I would also have the Midwives put in mind in this Place, that the Fundamental Knowledge of the touch or handling, is very necessary, and of great

great Consequence to them. I am certain, that few take notice sufficiently of that Point, and to know the true Use of it, for the safety of Women with Child, and their *Fœtus's*; a great many of which, I know perish upon that account; for when Midwives are ignorant how to try Women with Child well, by the Touch, they do not foresee the mischievous Events; and fall upon Shelves, when they think every thing in safety, and being imprudent, can neither foresee Dangers, nor prevent them; so that being put to their Shifts, they cannot tell how to Help themselves, unless and hey call others to their help, the Life of the Infant, and sometimes of the Mother too is lost. Therefore this Knowledge of touching is necessary for a young Midwife, and the true Use of it; wherefore we shall examine all the fore-mentioned Heads in their Turns.

C H A P. XV.

How it may be known by the Touch, whether a Woman be with Child or not.

IT is most certain, even by Experience, that the Signs of Impregnation are uncertain, and fallible in the first Months, wherefore we shall not give them a Place in this Book. Though the stopping of the Courses, Vomiting, loss of Appetite, a depraved Appetite, the swelling of the Breasts, pain of the Nipples, and at last, the swelling of the Belly are looked upon as the surest and most known Signs, yet very often we find them common with those that are not with Child, and Virgins, as well as Women with Child; besides, in several Women, there is a different Reason for those Things. I knew one, who told me, she never had her Courses before the first Child was conceived, but that af-
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terwards, even to her Delivery, they flowed at regular and set Times ; after she was brought to Bed, they ceased again, till her next Conception, and then they flowed, and left off, as before, till she had bore all her Children ; so that there was no more certain sign of her Conception, than the return of her Courses, and yet she was in perfect Health. Therefore as the stopping of the Courses is an uncertain Sign of Conception, the rest must be as uncertain.

The most certain Signs of Impregnation, especially in the last Months, are to be supplied by the Touch ; therefore a Woman, who is uncertain of her Conception, and is desirous to know whether she hath conceived or not, whether any of the above-mentioned Signs appear or not, (yet some of them will always follow Conception, which joined with other Observations, may serve to make the Judgment more certain) it is to be tried by the Touch, that you may truly know, whether the Matter be so. Some would have it, that for the two first Months after Conception, the Womb is shut close up, so that it becomes more pointed, harder and more solid, yet that is not a scirrous hardness, which may easily be discerned from a natural Hardness or solid Substance ; then you would think the Mouth of the Womb most like the Mouth of a Puppy newly pupp'd, which comparison Mr. *Mauriceau* hath very well made. To discover this Change well, I confess, the most exercised Hand is requisite, which nevertheless I think may be sometimes mistaken.

But after some time, when the Infant is better grown, and the Birth draws near, the Orifice of the Womb now beginning to swell, becomes so much the shorter, smoother and thinner ; and this may easily be known in Women, especially who have often had easie Births ; for by these the Mouth of the Womb is made so smooth, soft and thin, that commonly the sixth or seventh Month after Conception,

on, the Mouth of the Womb begins to open, by which means you may perceive the Infant moving, which is the most certain and infallible Sign of Impregnation.

CHAP. XVI.

How it is to be tried by the Touch, whether the Birth is near or not.

WE speak here of a natural Birth, not of a Miscarriage, which at any time may happen, by one means or another to Women with Child; but if all things proceed in a natural Course, the seasonable time of Birth happens not before the *Fœtus* enjoys its full Growth and Strength, which commonly is in the ninth, and sometimes in the seventh Month, or betwixt those Months, according to the Strength of Nature; though most commonly, those Infants are most healthful, which are brought forth in the ninth Month.

I just now said, that the Infant daily increasing, the Mouth of the Womb, which before was pointed, thick and solid, after two or three Months grows smooth, thin and soft, whence it necessarily follows, that the smoother, thinner and softer that appears to the Touch, the time of Birth is so much the nearer, which in some is so remarkable, that two or three Months before the Birth, the Mouth of the Womb begins to open, and the opening being sensibly enlarged, is as wide as a Shilling or Guinea, or larger; so that the Motion of the Infant may be distinctly perceived; and in some Women the Mouth of the Womb is so enlarged, that to perfect the Birth, there is scarce occasion of the second or third Pain; so that an experienced Midwife in trying Women by the Touch, may easily guess,

whether the time of Birth be near ; and one may exactly tell, how near the time is, yet that accurate Knowledge is not to be acquired without long Experience.

But as all Womens Labour is not so easy, so all are not in the Condition we are speaking of : Wherefore what we have said, must be so understood, as to admit of several Exceptions. All pregnant Women are not so affected ; for the contrary most commonly prevails in those, where the *Fætus* is ill seated even to the last time of the Birth, or the Infant in a little time before is turned into a better Posture ; and that especially happens in strong Bodied Women, and those who are somewhat in Years, of the first Child, the Mouth of whose Wombs being shut up to the last, is not opened without the severest Pains, who we know do not bring forth without the severest Labour and great Throws.

Yet it is certain, that in those that have hard Labour, the Mouth of the Womb which continued so long shut, at the last, is not so sharp and pointed, nor thick, but smother and thinner ; and in some who have easier Births, the Mouth of the Womb appears thick to the Touch ; but that happens by chance, *viz.* when the Humours pass through which make the same softer and more spongy ; which Things are to be well observed by the Midwife, and are easily to be distinguished by an experienced Hand.

All these Things are certain, but not infallible, and vary much, as those that touch, excell in Experience and Judgment ; so that one may easily distinguish, what another cannot so much as guess at : Wherefore what we say, is to be considered with some grains of allowance.

As the Mouth of the Womb differs in Women in Years, one that was never impregnated, those that
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are strong and accustomed to Labour, from that in a tender and young Woman, who was never used to Labour, and softly bred; so the Mouth of the Womb seated obliquely, differs much from the Mouth of the Womb, directly seated, which is to be well observed by the Midwife: The Mouth of the Womb directly seated, hangs lower down into the *Pelvis*, and may easily be touched on every side with the Fingers. On the contrary, the Mouth of the Womb ill seated, is suspended higher; so that sometimes it is so high and oblique, that it can scarce be touched, or not at all; for the Mouth of the Womb being applied to the Margin of the *Pelvis*, by reason of its oblique situation, will not admit of being touched, except about the lower Edges of it, and by no means round the whole; so that neither the Circumference of the Aperture can be exactly felt, nor can any certain Judgment be made of its Qualities; and truly since Matters are so, a very experienced Hand is requisite to discover the true Temper of the Mouth of the Womb; whence it sufficiently appears, that there is no Rule without an Exception, and we are to judge circumspectly of Things that are most certain.

C H A P. XVII.

How it may be known by the Touch, whether a Woman with Child be seized with the genuine and true Labour Pains.

AS genuine Pains are necessary for a Woman in Labour, to bring forth her Young, so the Touch also in the beginning is as necessary for the Midwife to try, whether genuine Pains have seized a Woman ready to bring forth or not, that she may truly know, whether the seasonable time of Birth be at

hand or not. And as it is imprudent to delay the Birth of a Woman, who is taken with the true Pains, lest she should lose both the Pains and the Opportunity of a Delivery, especially if the Womb and the Infant are both well situated ; so to force a Woman to Labour unseasonably, who hath not the true Pains upon her, is as hurtful. But both often happen, and the latter too frequently, especially when the Midwife does not know how to distinguish the Cholick, or other griping of the Guts, or the bastard Pains of Child-bed, from the true and genuine Pains by the Touch, and so forces a Woman unseasonably to bring forth her Infant, making use of means to promote it, and advising her to walk, and other Motions, upon which her anguish begins to come on, and whilst then she endeavours the more to suppress them, her Pains are unseasonably brought on, with the hazard both of the Mothers and Infants Life ; therefore it is of great Advantage to be able to distinguish well the genuine Pains of a Woman in Labour, from those that are false, and from the griping of the Guts. For first it is not easily to be supposed, that a Woman should be seized with true Pains, before the seventh Month of her time, nor are the same to be provoked with Medicines before the ninth Month, lest any Damage should happen to the Mother or Child. Yet if in the seventh Month, or sooner, a seasonable time of Birth should happen, and the Midwife by touching the Mouth of the Womb should know, that the Woman was seized with the true Labour Pains, then Nature is not to be hindred, nor its Course to be stopped, but an assisting Hand is to be given, when the Case requires it.

Young Women, when first with Child, as soon as they perceive any violent tormenting Pains in their Belly or Loins, thinking that they have Labour Pains upon them, send for a Midwife to help them ; asking whether the true Pains of Labour

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were upon them? Who not knowing her Business, perceiving those Pains not unlike the true Pains of Labour, and finding the Mouth of the Womb of the Woman, tried by the Touch, to be a little open and and loose, perswades her that she hath Labour Pains upon her; but finding the Mouth of the Womb not at all enlarged, nor that the Pains are altogether penetrating, she endeavours, as much as she can, to encrease them, either with provoking Medicines, or doing something else and by ordering her Body this Way and that, by which means, the Person with Child, being miserably tormented, is weakned and grows faint, so that often (except God forbids) a Miscarriage ensues, which would not have happened, if the Midwife her self had known how to distinguish the Gripes, or spurious Pains, from those that are genuine.

Sometimes the Wind-Cholick, both in the lower, as well as the upper Part of the Belly, occasions tormenting Pains in a Woman with Child, or the sharpness of the Humours may corrode and gnaw the Guts, so that a looseness may follow with great Pain, which makes her believe she hath Labour-Pains upon her: But those Pains are soon banished and eased with Lavender and Rosemary in a little Milk, or with an Emollient and Carminative Clyster, given by the Advice of a prudent Physician, or a Serpentine Stone heated, or warm Cloths. On the contrary, if she is seized with true Labour Pains, they will not be lessened by such Remedies, but rather promoted; but the Pains which are occasioned by corroding Humours, may be distinguished by a subsequent Looseness, and sometimes are removed, except they are very sharp. Nor yet hath that degree of Pain the Power of depressing sufficiently, like those which are wont to promote Birth, though as they tend downwards, they seem to press upon the Womb and private Parts, and

there to have an Effect upon the pregnant Woman, and therefore they may be esteemed genuine Pains of Labour; yet a discreet Midwife ought not to give her Assent, but rather to enquire into the truth of the Matter, by an accurate Trial of the Touch, being very attentive to every thing.

Most commonly some Days before the Pains come on, the Belly of the Person with Child is a little extenuated, because Infants well situated in a Womb well seated, are slid down into the Cavity of the *Pelvis* in the lower part of it, so that a greater room is left in the upper part of the Belly, which accordingly grows less; a Sign not only of an approaching Labour, but the fore-runner of a happy Birth, which indeed may be thence hoped for, nor is there fear of a bad one; for an Infant ill seated, or a Womb oblique, cannot easily slide down into the Cavity of the *Pelvis*, to leave so much room in the Belly. But that falling down, commonly brings some disadvantage to the Person with Child, either in walking, or making Water, or going to stool, for the Infant being fallen down with its Head into the Cavity of the *Pelvis*, by pressing upon the Bladder, the strait Gut, or both, in some measure hinders the discharge of the Urine or Excrements; nay, if the Infants Head be large, the Parts which lie next, especially the Privities, swell, which inconvenience does not easily disappear till after the Birth.

The Person that is big likewise, is troubled with pains of her Loins, which she was used to before, every Day increasing and pressing down, till at last a glutinous and viscous Humour flows out.

At last, the time of Birth growing near, the Woman with Child is afflicted with great Pains in her Loins, her Groin, and about the Navel, tending with a depressing Force upon the Womb, and the Private Parts; but those Pains are not continual, coming on only by turns. A discreet Midwife

wife will easily distinguish those from false Pains by the Touch, because when those come on, she may perceive the Mouth of the Womb open, or at least gradually opening: Wherefore having delayed the Violence of the Pains, as soon as she perceives those to renew, if she touches accurately, she will feel what they may do, for if they are false pains, the Mouth of the Womb being more closely contracted, will be shut up by their force after they are over; but if they are genuine, the Mouth of the Womb will be more dilated and relaxed, by the vehement depresseure of the Pains, by which they will promote the Exclusion or Birth of the Infant; on the contrary, those that are spurious are every way dispersed, and the Womb, as if it were taking care of it self, is more closely contracted.

By the violent pressure and sharpness of true Pains, the Blood of the Person in Labour is put in Motion, and grows hot, which occasions a quicker Pulse, and a redness in the Face, which is most commonly followed by a Concussion and trembling of the whole Body, especially the Lower Limbs, as if she was taken with a Fever, yet without Cold; others are seized with a vomiting, and others not, but they most commonly discharge a viscid and glutinous Humour, which if it begin to grow red, or be bloody, it is the most certain Sign of Birth approaching.

As a discreet Midwife is not easily perswaded to believe, that a Woman with Child is pressed with true Pains, so also she is not slow to try a Woman with Child with the Touch, if she thinks the Labour Pains are upon her; otherwise she may be taken unprovided; for the Infant, (as it happens in some Women with Child) and the Womb being well situated and fallen down into the Cavity of the *Pelvis*, and the Mouth of the Womb sufficiently opened, thin and soft, the delivery of the *Fœtus* so suddenly follows, that sufficient Time
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is not allowed to get Things ready : Wherefore sometimes the Infant is thrown headlong upon the Ground, or suffers some other Mischief ; and very often the Women in Labour call for a Close-Stool to ease themselves, which is not to be granted to such sort of Women, without a great deal of Danger, lest it happen, that the Infant should be cast out as well as the Excrements, as many Examples witness, which for brevity's sake, we shall wave reciting.

And that a Midwife by Touching, ought not to expect or wait for sharp pressing Pains, I shall prove by adding this Reason, because some Women are delivered almost without any Difficulty. I my self knew two, one of which boasted, that bringing forth a Child was as ready to her, as a Shower of Rain when it falls, and though she wanted nothing, she said, that she would suffer the Pains of Labour for a draught of Beer. The other I used to compare to a good Pye, out of which, if you take off the Top, and turn up the Bottom, the Pieces fall out of their own accord ; and these almost with the same ease, were delivered of their Children. And my own Wife, (having already brought forth some Children, and having assisted a great many in Labour, and hitherto laid a great many more in danger, with good Success, for Charity, and therefore skilful enough in this Work) because she was troubled a little in the Night with the Gripes, which she doubted were the genuine Pains of Labour, about Morning she desired me that I would try her by the Touch ; which as soon as I had done, I said there was Work, except she would spoil the Bed ; upon which my Cloaths being cast about me, I was scarce out of the Chamber, but whilst I was knocking, she called me back to help her in Labour ; and placing herself upon the next Seat that was at hand, pouring as it were a Daughter into my Bosom, she made me a Father, before any Woman could come to her help ;

help ; I, when this little Infant was brought forth, thinking the swelling of the Mothers Belly was not sufficiently fallen, passing my Hand into her Womb, I perceived another just ready to come forth, which made us that were their Parents fall a laughing ; and since the Midwife was just ready, my Wife being committed to her Care, I went to the Fire with my little One, where presently another Woman running to us, stirred up the Fire, and presently she was delivered of another Daughter. From whence it appears, that the Matter may be done too soon, and too slow, which ought to be observed by young Midwives ; and truly it is always convenient, to try a Woman with Child in Time, and thence to judge, whether she is pressed with genuine or false Pains, that we may the better know her Condition.

And before we pass from this Subject, it will not be inconvenient to add, that some Women fall in Labour, genuine and false Pains being mixed, of which those are not unreasonably said by some to be *Proteus* like (or as the Author styles them *Tergiversantes*, turning their Backs, or changing their Appearance) for when the Pains seem to depress and bear down the Birth, and she in Labour endeavours with all her Strength, those presently are turned into contracting Pains, very like Cramps, so that it is impossible to bring forth the Infant. When the Matter is so, it is easily known to the Midwife by the Touch, that genuine and false Pains are mixed ; for she will first find the Pains to open and enlarge the Mouth of the Womb, but if the Person in Labour uses all her Endeavours, every Thing at the last are suddenly put backwards ; nor does the Birth go on prosperously, except those wandering Pains are first laid quiet or taken away ; which may be done with Success, if an Anodine Pill, well prepared, be given to the Woman in Labour ; and if in an Hours time the Pain is not lessened, the Medicine may be repeated

repeated again, and the Pains vanish, and the Person may endeavour with her genuine Pains to promote the Birth, These wandering Pains are so hurtful to the Patient, and intolerable, that the most sharp genuine Pains are not so troublesome as the least of those.

C H A P. XVIII.

For what Reason it is known by the Touch, whether a Woman with Child will have an easie or difficult Labour.

THE Midwife trying a Woman with Child by the Touch, as soon as she is taken with her Pains, when she perceives the lower Part of the Womb, and the Head of the Infant fallen into the *Pelvis*, so that she can easily touch it in the Borders of the *Vagina*, and hath no occasion to pass her Fingers further into her Body, then it shews great hopes of an easie Birth.

Moreover, perceiving the Mouth of the Womb thin, soft and very open, and finding through the opening of the Mouth of the Womb, the Infant with its Head foremost or forward, ready for Birth, neither the Arm, nor the Umbilical Vessels being in the Way, she may certainly promise her self and the Woman an easie delivery.

And (which is occasioned by the Position of the Womb and the Infant) when she perceives the Humours pressed flat, no other than a quick and prosperous Birth is to be expected, for the following Reasons; for if the Infant and the Womb were not well seated in a right Line, according to the obliquely ascending Passage of the Cavity of the *Pelvis*, the Womb and the Infants Head should not fall down so far; the Head having pass'd so far, is
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like a Ship, which being carried through the Danger, steers right into the Port, and since she struck not upon the Shelves, all Danger being past, she rides in safe Harbour : Besides, since the Womb is now open, and the Mouth of it thin, soft, and easily extended, what can hinder the Birth, if the Pains are but vigorous ?

On the contrary, when the Midwife tries a Woman by the Touch, and finds the Mouth of the Womb higher, but a little, or not at all open, sharp, thick and hard, or the Humours pressed up lengthways, then there is occasion for the greatest Caution, because, according to our Opinion, it is likely to succeed but indifferently. Then severe Pains prolong the Labour, and the Midwife, if she understands her Business, must sweat at her Work, nor will the Case admit her to depart from the Person in Labour ; but she ought rather to observe and attend her with a great deal of Diligence, as we shall find in the following Chapter, where it will further appear, what may occasion a difficult Birth, and what may be known of it by the Touch.

C H A P. XIX.

For what Reason it may be known by the Touch, whether an Infant be well or ill situated for Birth.

Midwives reckon a Birth to be twofold, one of which is called natural, and the other unnatural. By a natural Birth they mean that which is carried on only by the force of Nature, without any Art or other Help, or in a Word, the most easy and commodious ; by an unnatural or ill Birth, is understood any Birth that is joined with Difficulty, where the Assistance of a Practitioner in Mid-

Midwifery is wanting, by which those Accidents are removed or corrected which prolong the Birth. And first, a right Position of the Womb and Infant promotes an easy Birth, tending in a right Line, according to the length of the Cavity of the *Pelvis* into the *Vagina* of the Womb towards the Private-parts. But if the Matter be otherwise, then the Birth is ill, and an Artificial Hand is required to bring forth the Infant, as we shall see hereafter, when we treat of a natural and preternatural Birth.

When Matters are in such a Condition, it is the Duty of a prudent and careful Midwife, to examine the Person more carefully by the Touch, to know, whether the Womb and the Infant are directly, or ill situated for Birth; this Trial is made with the two Fore-fingers, well anointed with Butter or Oil. Rich People commonly make use of Oil of White-Lillies, or some other Lenient, or Oil of Roses; but amongst the Vulgar, scarce any thing but common Oil or Butter is made use of; yet every thing that is good, and most precious is best, if they can be got, and People are able to pay for them; but I insist upon nothing, but make use of any thing which Divine Providence affords, when Necessity urges.

The Touch is made with the two Fore-fingers of the Right or Left Hand, as the Posture of the Person, or the Womb will admit, or as it is convenient for the Midwife; so that if the Right Hand is not convenient, the Left is to be made use of; for sometimes the situation of the Womb is such, that it may more conveniently be touched by the Right, and sometimes by the Left Hand, which the Midwife is to make use of as is most commodious.

Two Fingers are applied to the Touch, that every thing may be better distinguished by the the Sense; for with two Fingers we may encompass
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and measure any Thing, which we can scarce do with one, or not at all; for Example, if the Mouth of the Womb be found shut, with two Fingers we may very well try, whether it be sharp or thick, or smooth. If it may be comprehended with the Fingers stretched out, it must be more sharpened; and consequently thicker than if it could not be so grasped, as if you touched a smooth and broad Body, something round. But if the Mouth of the Womb be open, with both Fingers stretched out you will sooner find out the breadth of the Opening, than with one Finger only; also by two Fingers you will sooner measure the roundness of the Head, lying against the Entrance or its Form, than with one, and so of the rest, which offer themselves in the Entrance or Mouth of the Womb.

But that it may appear to young Midwives, how able Midwives behave themselves in touching Women, we shall admonish and inform them in these few Words.

First, A great deal of Caution is to be used, lest the Nails of their Fingers should be too long, cornered, sharp or unequal, but rather smooth and short, lest they should hurt any Parts which they pass through or touch, which may easily be done by those especially, who know not the Passage sufficiently, nor have well practised their Hands.

Secondly, Their Fingers being plentifully and smoothly besmeared, are to be passed through the Lips of the Privities gently separated, into the *Vagina*, taking Care, lest they force their Fingers or Nails against the Sides or other Parts, giving way as much as they can to the Wrinkles, or any other things which lie in the way, following the strait Passage, tending downwards rather than upwards, against the Neck of the Bladder, till the Fingers slipping gently and gradually betwixt the Neck of the

the Bladder and the strait Gut, touch the Mouth or bottom of the Womb which resists them, whose Form they may exactly feel and measure with the ends of their Fingers.

Thirdly, The Knowledge of those Parts may inform them, that the Hand or Fingers must be thrust in, not according to the Length of the Woman, but obliquely upwards, as if from the Privities they would touch the Navel, for the Womb is about that Place; but if you move your Fingers strait, you would hurt the *Vagina*, easily offending the strait Gut in the bending of the *Os Sacrum* with your Nails.

Therefore that the Midwife may be more certain, whether the Infant in a Womb directly situated, be ill or well placed, the following Things are to be observed: The Chin of the Infant well seated, lies forwards to the Breast, and the Neck is placed in the middle of the Orifice of the Womb, or before it, which, that she may distinctly feel, that must needs be open, that one or two at least of the Fingers may be admitted, otherwise she cannot be better satisfy'd of the Part that offers it self; the state of things being now known, let her also take a Caution, lest she should inform others, as most imprudent Midwives usually expose themselves.

Nor can what I have said of passing the Fingers into the Womb, as I think, be done farther; for if the Head is foremost, and the Mouth of the Womb open, the Fingers cannot be passed deeper, than to touch the Head of the Infant within the Borders of the Mouth of the Womb, which often hangs more downwards, if the opening is large enough, than the Borders of the Orifice; for since the Head is Globular, the outward roundness stands out like a Ball, put into a new Ox Bladder when the Neck is cut off, through which narrow Hole, if you offer to force the Ball, till the Hole is made larger, the

the round extremity of the Ball hanging down, is first liable to be touched : And because the Mouth of the Womb is much thicker than a Bladder, whose Neck is cut, its thicker Edges are perceived about the round and hard Head of the Infant ; which the more it is dilated, the thinner and smoother it grows, because that Extension is sudden and violent.

The Buttocks too, or either of them offering themselves in the Orifice, have their roundness, as also the Knee or Elbow, but those Members are easily distinguished from the Head ; for the Globular Part of the Head is not only broader and smoother, than the Knee or Elbow, but harder than the Buttocks ; for a Bone and Flesh are easily distinguished one from another : Besides, the Head is easily known by the Intestine of the Bones, or the soft Membrane betwixt the Bones, and therefore it may be distinctly perceived, whether the Head of the Infant being lowest, is lodged about the Entrance of the Womb or not.

As an understanding Midwife knows how in a great many Women, to distinguish the Head from the Buttocks by the Touch, or from the Knee or Elbow, before the Waters flow out, nay, before they have acquired their true Form ; so also she may easily distinguish the Head from the Hands, Feet, Navel-string or *Placenta*, and which of those Parts offers it self first for Birth ; therefore there is need of the greatest Attention in respect of them : The Hand is easily distinguished by the Fingers, the Foot by the Toes or Heel, and the Navel-string by its roundness, thinness and softness. All these may more easily be known, when the Membrane is broke, and the Water has flown out ; for then the naked Parts hang in the Mouth of the Womb, more easie to be distinguished, than when handled with a Membrane betwixt which holds the Humours ; wherefore few Midwives are very careful

in making an exact Search, what the Situation of the Infant is, or what Parts are over the Entrance of the Womb, deferring the time most commonly till the Waters flow out, thinking that they are then soon enough: But this is a great Error and Neglect, as shall be represented hereafter more at large.

Some Women can easily be tried by the Touch, but others very difficultly; the first commonly are blest with successful Births, because the Infants being placed below in the Cavity of the *Pelvis*, points with its Head almost directly towards the Privities, and perhaps though the Navel-string; or the Hand come forth almost with the Head, yet that may easily be corrected, as will appear from what follows. But those that cannot without Difficulty be tried by the Touch, have commonly difficult Births, the different Reasons of which proceed from the ill Situation of the Womb or the Infant, which is to be observed with the greatest Attention; for though the Position of the Womb be very commodious, if the *Fœtus* turns it self in it into an ill Posture, a difficult Birth must needs follow: And on the contrary, though the Infant is well seated for Birth, yet if the Womb be ill seated, it will occasion a difficult Birth; nay, the greatest Difficulty in Labour arises from this ill Situation of the Womb, especially if it be joined with the ill Situation of the Infant, concerning which Matter, consult the XI. Chapter, in which we have shewn, that a difficult Birth must needs be occasioned by the ill Situation of the Womb, which to avoid Repetition, we shall not here rehearse, but refer the Reader thither.

But that it may be known by the Touch, what the Posture of the Womb is, the following Things are to be noted, *viz.* If the Infant (as it often happens) without Help or Assistance slides with the top of its Head into the Cavity of the *Pelvis*, it is

an Argument that the Womb is well seated, and then the Mouth of the Womb being in the top of the *Vagina*, it may easily be felt; but on the contrary, if the Infant being well seated, the Mouth of the Womb, with the Head of the Infant is inclined backwards and presses upon the *Os Sacrum* or *Vertebrae*, then the Womb, according to its length, is situated forwards, which is frequent in Women who have great Bellies hanging forwards, and by this means the Mouth of the Womb cannot be touched without difficulty, being placed against the *Intestinum Rectum*, or strait Gut, and the *Os Coccygis*, when the Midwife tries to touch it.

But if the contrary happens, so that the Mouth of the Womb is firmly placed against the *Os Pubis* and the Bladder, it being impossible it should slide into the Cavity of the *Pelvis*, it is an Argument, that the Womb is seated according to its Length near the *Vertebrae* of the Loins; then the Midwife, if she would feel the Head of the Infant, ought to pass her Fingers near the *Os Pubis* and the Neck of the Bladder, upwards, and by that means may feel the Mouth of the Womb, and the Head of the Infant: Or if by chance it is placed with its Head towards the left Border of the *Pelvis*, its Head being situated right for Birth, that is, with its Head against the *Os Ilium* or *Pubis*, it is hence to be concluded, that the Bottom of the Womb is towards the Right; but on the contrary, if the Head of the Infant be opposite to the Right *Os Pubis* or *Coccygis*; it is to be concluded, that the Bottom of the Womb is placed in the right Side of the Woman with Child; and for this Reason the Mouth of the Womb can scarce be touched, being suspended too much within the Body; yet it is possible, and highly requisite to assist the Person; for as much as in these four Extremes, both the Mother and Infant must needs perish without the Help of

Man, or the extraordinary Assistance of Divine Providence.

From hence it may appear sufficiently to young Midwives, that touching is of more Concern to Women with Child than most think, and I doubt not, but that a great many Midwives will be convinced when they have read this, that before they did not sufficiently apprehend, that this Touching was of so much Advantage; and yet in what we have said, all the Difficulty is not cleared; for whatever Posture the Womb is in, whether right or oblique, there are a great many other ill Situations of an Infant, to know all which by the Touch, is the Business of a good Midwife, and that before the Waters flows out, unless they flowed before she was sent for; otherwise she is to use her best Endeavours to know all those ill Situations of a *Fœtus* very well by the Touch; and if any one asks, to what Purpose? Or what Advantage is it to the Midwife? Or to the Mother or Infant? I answer, that the greatest Advantage may happen to all of them; for the Midwife being destitute of this Knowledge, cannot perform her Office as she ought, nor use her Endeavours in every respect as she ought, in assisting the Mother or Infant; this will more clearly appear in the following Chapters, in which we treat of the Help which Midwives should and can afford to Persons in Labour; where in respect of every Case we shall put them in mind distinctly, what is to be observed in touching Women in Labour upon any Occasion.

C H A P. XX.

At what time a Woman in Labour may most conveniently be touched, whether before, in the Time, or after her Pains.

WE should now pass to a natural Birth, but it will not be unprofitable, First, briefly to instruct young Midwives that are ignorant, whether it be most convenient to touch a Woman ready for Labour, before the Pains come on, or when they are upon her, or after they are past. To such kind of Midwives, we say, that it is necessary to touch a Woman ready for Labour before the Pains come on; for then the Membrane, in which the Humours are contained, is loose, so that the Infant's Posture may be conveniently observed; but the Hand is not presently to be withdrawn, but the Force of the Pains is to be expected; that you may distinctly perceive, whether the Infant constantly is at the Passage or not; in what Form the Humours are disposed; whether they are contracted Length-ways, or pressed into a flat Form; whether the Pains are violent or gentle, and whatever is the Interest of Midwives to know, or they can learn by the Touch; moreover when the Pains are over, it may be perceived by Sense, whether they have promoted the Birth or not. Whence we conclude, that the Touch is convenient before, in the Time of, and after the Pains are over. But Care is to be taken, lest the Membranes in which the Humours are contained, should be broke by handling them too hard, especially if they are very much distended by the Humours pressed down by the Pains.

C H A P. XXI.

How it may be known by the Touch, what is to be done to help the Woman in Labour, and the Infant.

WHATEVER is the Situation, whether direct or ill ; whether of the Womb or of the Infant, it is known no way better than by the Touch ; so that if a Midwife would assist a Woman in Labour, in any bad Case attending a difficult Birth, it is very necessary, that she should first know it by the Touch, and judge of it warily, either in regard to the Mother or the Infant, whether there may be need of Assistance, or which Way that is to be done ; then their best Endeavours are to be used for the Relief, either of the one or the other. But insipid Midwives who want the Knowledge of the Touch, can only expect all their Help from Nature, and that with the greatest Danger, and by meer chance every Thing proves Advantageous or Disadvantageous, both to the Mother and Infant ; which will appear from what follows, when we speak of a Non-natural Birth, and the manner of turning Infants ; when occasion offering it self, it is made known by the Touch, what is to be done to ease and assist either the Mother or Infant ; which that we may not repeat often, we refer Midwives thither.

C H A P.

C H A P. XXII.

For what Reason it may be known by the Touch, whether the Birth is to be promoted before the usual time or not.

THE usual Time of bringing forth, most commonly happens, when Women having gone with Child till the seventh, or beyond, till the ninth Month, are seized with the genuine Labours of Child-bed, with which they bring forth, whether with the Help of a Midwife or not. But sometimes it happens, that Women bring forth their Young before the Time; or to preserve their Lives, the *Fœtus* is taken from them before their Time, whether this happens by some remarkable foregoing Accident, *viz.* by a Fall, a Blow, a Concussion or Hurt, or by some violent Passion of the Mind, by a Fright, by Fear or great Sorrow, or whether it happens of its own Accord, and without such remarkable Accident. Most commonly large Effusions of Blood go before this Miscarriage, because the Secundine is wholly, or in part torn from the Womb; by which means the *Acetabula*, or the Mouths of the Vessels are open, and cannot be shut, as long as the Womb distended, retains its former Bigness; in this Condition, Medicines have no Effect, and unless the Birth is parted with, both the Woman and the Infant are like to perish; for those Fluxes are very large, nor do they cease, as long as the Blood is in a violent Ferment and Commotion; upon which, Swooning and Convulsions, or Cramps follow, and at last, the Death of the Mother and Infant.

Indeed there is not the same Dangerous Consequence of all Fluxes in Women with Child; for in some, for the first four, five or six Months after Im-

pregnation, the Monthly Discharges are continued, which, except too much, neither hurt the Woman nor the Child; and I knew one, as I mentioned above, who never had her *Menstrua* before she was with Child, but when she was with Child, she had her Monthly Courses at the usual Times, till she was brought to Bed; and after she was delivered, they ceased again till she conceived a second Time, from whence they continued as usual, and so she continued all the Time of her Child-bearing. And it happens to some Women with Child, that they void Blood, by which the Womb is purged of some that was collected together there, which though sometimes it was sudden and plentiful, yet no other worse Accident followed.

The Difference which happens betwixt ordinary Fluxes, which give no occasion to part with a *Fætus*, and those, in which either the *Fætus* must be parted with, or Death follows, consists in this; That the first kind of Flux comes on gently, as an ordinary Evacuation, and not without the usual Pains of the Courses joined with it; also by turns, and not continually flowing, at the last it is stopped. The Reason of extraordinary Fluxes is the same, which being sudden, more plentiful and daily, yet upon the Use of good Medicines, in a few Hours or Days they cease. But those Fluxes which cause Miscarriage or Death; suddenly break forth into great Quantities, and flow without any Intermission, only as there may happen Obstructions of grumous clotted Blood, they seem in some measure to grow less; if you touch the Mouth of the Womb upon this Occasion, you will find it something open; and if the *Secundine* is altogether loose from the Womb, you will sometimes feel it lie against the Mouth of the Womb; which evidently shews, that no delay is to be made, but that the *Fætus* is to be brought away as soon as possible, if you have a mind to save the Life of the Mother, or Infant, or both,

both. And though you do not feel the Secundine by the Touch, yet it may be separated, though not as yet fallen down with the *Placenta* ; wherefore if Medicines are not effectual, and continual Fluxes have occasioned fainting Fits, with Convulsions and Cramps, the Exclusion of the Infant is very necessary, except you will neglect the Woman ; nor is the *Embryo* then to be considered, nor the Number of Months she hath been with Child ; nor are Pains or Labour to be expected, which such Women commonly never suffer, as not being able to bring forth their *Fœtus* without the Help of a Man Midwife, who must draw it out, first thrusting one Finger, then two, and at last all their Fingers into the Womb, the Mouth of it is to be dilated with their Hand, (their Fingers first being stretched out length-ways, and close together, but afterwards they are to be contracted and expanded) then if the Membrane first offers it self, the same is to be broke with their Fingers or Nails, which though cut short, yet they may, when there is Occasion, serve for this purpose ; then avoiding all other Parts, the Feet are first to be looked for, which being drawn out, the *Fœtus* is thus to be brought forth, by which means also the Secundines are readily drawn out. But if when the Womb is opened, the *Placenta* first offers it self, the same is to be perforated or broken, proceeding after the same Manner, drawing out both the *Fœtus* and After-birth ; the Method of doing which will be more fully shewn in the following Sheets, when we speak of the manner of assisting Women in Labour, in all kinds of Difficulties.

C H A P. XXIII.

Of a Natural or most easy Birth.

BY a natural Birth, we mean that which is made without Art or any other Help, and hath no need of any, and such is the most easy, in which the following Things are required.

1. The Woman who is in Labour, must neither be subject to general or particular Infirmities, which may hinder the Birth.
2. The Womb is to be well placed.
3. The Womb is to be altogether sound, and well disposed to force the Birth forth.
4. The Infant is not to be stopped in the Passage, by any ill Disposition of the *Pelvis*, or of the *Vagina*, or the Bladder, or the strait Gut, or of the Privities.
5. The Infants, whether one or more, are to be alive.
6. The Infant is not to be born before its time.
7. Nor is it to be Monstrous, nor subject to any Accident, which may delay the Birth.
8. The entire Proportion of the Infants ought not to be too great in respect of the Canal or Passage.
9. The Infants are to come forth rightly and well seated.
10. The Birth is to proceed from Pains which come of their own Accord, and not any other Help.
11. The same is to proceed from genuine, and not from wandering Pains.
12. The Birth is to go till its full Time, without any remarkable Symptoms.
13. If more than one come at a time, all are to be brought forth after the above-mentioned Manner, otherwise one is naturally, and the other preternaturally born.
14. The

14. The After-birth is presently to follow the Infant, without any remarkable Hindrance.

These Requisites of a natural Birth, we shall not further explain in this Place ; they shall be shewn hereafter in proper Chapters. If one or more of those be wanting, it is a difficult Birth, whereof the Reader may find the further Explanation elsewhere.

I confine a Natural Birth here to stricter Limits, than other Authors do, because for that Reason it is the easier for me to describe a preter-natural or difficult Birth. And as others have freely taken the Liberty to explain their Meaning in their own Method, so I am as free to use my own Method : Which is the best, I leave the modest and prudent Reader to judge ; I am truly perswaded my self, that those Limits are very useful to give young Midwives a distincter Knowledge both of a natural and preter-natural, or an unnatural Birth, than they can learn out of any other Author.

Therefore by a natural Birth (as we just now said) we understand such a one, as is only performed by the Force of Nature, without Art or other Help, nor which hath occasion for the Assistance of those that practise Midwifery to bring forth the Infant ; on the Contrary, all those Births, which any ways stand in need of Midwifery, we call preter-natural, and artificial, or difficult, and therefore there is no need to inform young Midwives, what is to be done in such a natural Birth, as what the contrary state of Matter only requires : In a natural Birth a Midwife performs her Duty, if she receives the Infant, cuts off the Navel-string, takes care of the Infant by washing and nourishing it, or recommends that to be done by any of the Gossips.

But before we finish this Chapter, and come to treat of unnatural, or rather difficult Births, it will
not

not be amiss to shew young Midwives, what posture Infants are in, when well turned in a Womb, conveniently placed, before, and in the natural Birth, that thence we may better know and distinguish the ill Positions of the Womb and Infants, for which end we may look into the sixth, seventh, eighth, and ninth Figures, which that they may be better understood by young Midwives, we shall explain after the following manner.

The sixth Figure shews the Womb well seated, and the *Fætus* in it, in the Posture which is most convenient, before it is turned, *viz.* with the Back opposite to the *Vertebræ* of the Loins, the Knees bent, and the Hands placed upon the Knees, the Nose placed betwixt both Fists. In this posture Infants commonly sit, till they begin to be turned, and then commonly moving, they fall down Head-long, with their Head foremost, towards the Entrance or Mouth of the Womb; on the Contrary, some Infants turn their Face and Belly towards the Mothers Back-Bone, which Posture is represented in the seventh Figure. But here it is to be noted, that this pre-posterous Position is followed by as pre-posterous a Turning against the Birth, unless the Infants Face is also inverted as it falls down; for if the Infant does not turn its Face, whilst it slides downwards or upwards, its Head is carried downwards to the Mouth of the Womb, and the Face, which otherwise is downwards, will now be upwards, which often makes the Birth more difficult, than if the Situation was very good. Sometimes the Infants are not turned at all, but after the same manner as they sit, they offer their Feet downwards, which are first carried into the Mouth of the Womb; of which in their Place,

An Explanation of the Figure VI.

- a a* The two *Vertebræ*.
- b b* The Circle, representing the place of the Belly.
- c c* The Womb well placed, in which the Infant sits well seated, before it falls with its Head downwards.
- d d* The Hip-Bones, or the Bones called *Ilium*.
- e e* The Bones called *Ossa Pubis*.
- f f* The *Acetabula* or Cavities, in which the Heads of the Thigh-Bone are turned.
- g g* The Seat-Bones.
- h* The Infant sitting in the Womb, before it falls with its Head downwards.

An Explanation of the Figure VII.

- a a* The *Vertebræ* of the Back.
- b b* A Circle representing the place of the Belly.
- c c* The Womb in which the Infant sits pre-posterously.
- d d* The Hip-Bones, or those called *Ossa Ilium*.
- e e* The *Ossa Pubis*.
- f f* The Cavities of the Hip-Bone.
- g g* The Seat-Bones.
- h* The Infant in the Womb.
- i* The Umbilical Vein.
- k* The Secundine or *Placenta* of the Womb, called the After-birth.

The Explanation of the Figure VIII.

- a a* Two *Vertebræ* of the Loins or Back.
- b b* The Circle representing the Belly.
- c c* The Circumference of the Womb, in which the Infant may be seen.
- d d* The Bones of the *Ilium*, or Hip-Bone.
- e e* The *Ossa Pubis*.
- f f* The

- ff* The Cavities or *Acetabula*, in which the heads of the Thigh-Bones are turned,
gg The *Sedentaria* or Seat-Bones.
h An Infant well turned in the Womb, with its Back forwards, its Head downwards in the *Pelvis*, and its Fists upwards.
i The Head of the Infant in the Passage.
k The Navel-string.
l The *Placenta*, in the Bottom of the Womb.

An Explanation of the Figure IX.

- a a a a a a* Six *Vertebrae* of the Back or Loins.
b b The Circle representing the Belly.
c The Place of the Navel.
d d The Womb well placed, in which the Infant is seen from one Side.
e One of the Bones of the *Os Ilium*, or *Coxendicis*, called the Hip-Bone.
f The Cavity or *Acetabulum* in which the head of the Thigh-Bone is turned.
g One of the Bones of the *Ossa Pubis*.
h h The Seat-Bones.
i The hindmost bending of the *Os Sacrum*, hanging out a little.
k The Infant well turned in the Womb.
l The Navel-string.
m The Head of the Infant more clearly represented in the Mouth of the Womb, which the Structure of the Bones admits, that it may be the better seen; otherwise the Head of the *Os Coxendicis* or Hip-Bone, would for the most part cover the Head of the Infant.
n The *Placenta* or the *Secundines*.

A further Explanation of the VIII. and IX. Figures.

The eighth and ninth Figures shew two Infants well turned in Wombs well placed, only with this Difference,

Difference, that the eighth Figure shews the Womb reversed with the Infant with its Back towards us ; and the same Figure represents the Infant with its Head fallen down into the *Pelvis* ; but by that we cannot see how much the bottom of the Womb is distant from the *Vertebrae* of the Loins, for from this Figure only, one that judges will easily think, that the bottom of the Womb is placed close to the Loins or Back of the Woman, though the Thing is not so ; but on the contrary, the Bottom of it, at the upper Part, is further distant from the *Vertebrae* of the Loins, and is rather placed about the Navel ; which that it may appear more plainly to the Reader , we have drawn the same Figure Side-ways, as appears in the ninth Figure in which the Bottom of the Womb is seen about the Navel.

Here it is to be noted, that each of these Figures represents the most convenient Posture of the Womb and Infant, and their best Turning, so that they may be brought forth in a pure natural Birth ; for the Matters being ordered, as these Figures shew, the Infants are carried into the Cavity of the *Pelvis* by their own Weight, and press the Mouth of the Womb with their Weight, forcing their Passage, that upon the Force of the least Pains, they may be brought forwards and quite thrust out ; because none of the Bones are a hindrance to that Position of the Womb and Infant, to delay the Birth of it. What Wonder is it then, that an easy Birth should ensue such a convenient Posture of the Womb and Infant ? Nor is there any need to attribute any thing to the occult Wisdom of Nature, or the Endeavours of the Infant ; by which the one should seek its Passage out, or the other assist it, as it was formerly said. These Things follow of Necessity, as much as that two Units added to two, make four, or as a strait Body put into a strait Tube length-ways, tends downward by its own Weight, or forced by the
least

least Depression easily penetrates ; so such Infants by their own Gravity pass betwixt the Bones into the Neck of the Womb, which is easily dilated by the Force of pressing Pains ; and though sometimes the *Osc Coccygis* may in some measure resist, yet that Difficulty is commonly removed by the Head of the Infant, so that by that means it is easily brought forth.

Some perhaps may ask, whether, when the Womb and Infant are well placed and turned, a difficult Birth may never succeed ? Or whether some other Causes may not render the Birth difficult ? To which we answer, That a convenient Posture of the Womb and Infant alone, cannot produce a natural Birth, but all the rest, which we have proposed in this XXIII. Chapter are requisite likewise ; yet it is certain, that when there is this convenient Position of the Womb and Infant, most commonly there is an easy Birth.

Moreover here it is to be noted, that when there is this convenient Position of the Womb and Infant, such as the eighth and ninth Figures represent, If the Pains of the Muscles of the *Thorax* and *Abdomen* contracted on every Side, straighten and compress the Womb, then the Humours in which the *Fœtus* swims, must needs make a great pressure upon the Mouth of the Womb, and flow out through the same. It is further to be noted, if the Mouth of the Womb be thin and soft, and the Borders of the *Pelvis* narrower, then the Mouth of the Womb is enlarged by the Waters, so that the greatest part of the Infants Head is naked, before it is quite fallen down to the Mouth of the Womb ; but if the upper part of the *Pelvis* is larger, and the Mouth of the Womb stiffer and harder, the Infant will slide down with its Head into the *Pelvis*, yet the Mouth of the Womb will be but a little open ; for when the *Thorax* and *Abdomen* are contracted, the Pains only compress the Womb in every

every Side with a general Depressure, excepting only its acuminated Part, which now begins in some measure to penetrate into the *Pelvis*, and therefore it is not outwardly press'd open; but the Humours contained in the Womb, or rather in the Membranes of the Secundine make an Impression inwardly on the Mouth of the Womb, and since nothing resists below, it must needs be opened by that pressure, whilst in the mean while, the Neck of the Womb is held together by the narrowness of the *Pelvis*; but the Womb being neither hindered nor stopped by the narrower Borders of the *Pelvis*, is presently pressed down by the sharp Pains, till it is stopped by the Edge of the *Os Sacrum*, and the narrowness of the Privities; in which Place at the last the Humours press the Mouth of the Womb with their whole Force, so that it is opened, and daily more dilated, till at last, even the Membrane is broke, and the Humours flow out, and the *Fœtus* in a little time after is thrust out without much Pain. And it is further to be noted by the by, which elsewhere we shall more largely explain, that allowing this right Position of the Womb and Infant, it may easily happen without any great Endeavours betwixt the Pains, that the Woman in Labour may have a falling down of the Womb and its *Vagina* or Neck, viz. If the *Pelvis* be too large in Proportion to the Womb, and what is contained in it; moreover if the Mouth of the Womb be thick and hard, and the Privities being loose, are easily dilated. The Pains promiscuously press down every Thing; the *Pelvis*, by reason of its Greatness does not keep the Womb up; nothing stops it, besides the *Os Coccygis*, and the narrowness of the Privities, which except they stopp'd it, it would break out of the Body with a sudden Force; since then the *Os Coccygis* easily gives way, and the Privities may be dilated, the Womb with the Head of the Infant falls out of the Body so far, that the

Ligaments, and the Neck of the Womb are very much extended and enlarged, and after the Birth can scarce be restored to their Places, or remain there, being always apt to fall down again by their own Weight. But what is to be done by the Midwife to prevent this Mischief, or to remove it, we shall shew in its proper Place; it is sufficient in this Place, only to take Notice of it.

But those that think the Womb, in the Time of Birth, to be as thin as a distended Bladder, I would ask in this Place, If Women suddenly, and without violent handling bring forth the *Fœtus* and Secundine, why then does not the Bottom of the Womb fall down, invert or slip out along with the *Fœtus*? For at that Time there is room enough, and it would certainly be so, if it was not thicker than a distended Bladder. Perhaps they will answer, that by reason of the sudden Contraction, it cannot fall down or be inverted, and because it is compressed again laterally according to the Length; but I answer, that the suddenness of the Birth does not admit the Womb, by its sudden Contraction, to resist the Compressure of the Guts, forcing it to fall and slide down, and that the Impression does not press so much on the Sides as from above, on the Bottom of the Womb; therefore unless the Thickness would hinder, it must suddenly fall down and be inverted, which truly happens, if by drawing the Navel-string unwarily below, and likewise pressing down the Intestines above, it is forced to fall down, so that it is perceived in the Entrance like a Head, because then the Intestines fall down upon the Womb and fill it; upon which intolerable Pains and sudden Death ensues, unless it be presently restored by a skilful Hand to its proper Place. Therefore young Midwives may observe by this Case, of how much use the thickness of the Womb is, especially in its Bottom; and though the Bottom being thin, like a distended Bladder, would
not

not fall nor be inverted, yet it must needs after such a sudden Birth; and being so foulded together, it would quite fall into the Cavity of the *Pelvis*, which sometimes, though seldom happens, *viz.* If it be very thin, for then it may be folded about ones Hand like a Neckcloth, neither is its Contraction so sudden and easie, which is not satisfactory to me; for I had rather suppose, that it kept its usual Form, and be truly contracted presently after Birth, and not be shut up contracted about the Hand, because then a great many fewer Symptoms might be feared.

C H A P. XXIV.

Of a preternatural or difficult Birth in general.

IN the foregoing Chapter we spoke of a natural or the most easie Birth, where there is little Business for a Midwife, for Nature herself perfectly performing her own Work, there is less Occasion for Art or external Means. We shall now say something of that Birth, which requires Art and Assistance, where young Midwives are to be informed, in what Way Art assists Nature, or wholly does the Work, which Nature does not regard, hindered with various Obstacles. And since those Hindrances offer themselves several Ways, and it is necessary for young Midwives to know how they may behave themselves upon any Occasion, that they may assist the Woman in Labour and the Infant; we, as much as lies in our Power, shall propose all Cases in their proper Order, every where distinctly shewing, how a Midwife may be better informed of the State of Things, and be able to perform every Thing required of her.

And first, I would have the young Midwives admonished once and again, that I suppose, that they know well enough, whatever is to be done, whether by the Touch, or any other Method, by which they may endeavour to bring forth an Infant; that in the first Place their Nails are to be clipped short, even and smooth, and the Fingers of their Hands as oft as they use them, always besmeer'd with Oil, Fat or Butter, that what is to be done, may be done more commodiously and with less Danger, which I shall not always repeat upon every Occasion. I would have them admonished likewise, that in my Opinion whatever Difficulties in Labour Midwives may be called to, it is not lawful for them to take off the Member of a Child, without, nor with Instruments, nor to extract it with Hooks or other Instruments; for the various oblique Situation, either of the Womb or *Fætus*, never requires it: Therefore such Practises are not only to be rejected by Midwives, but even by Surgeons that practise Midwifery, whose Work it ought to be, and not Midwives, if Necessity required it. Towards the End of this Book I shall mention the Use of Instruments, which is very seldom or never to be brought into Practice.

C H A P. XXV.

Of a Difficult Birth proceeding from general or particular Distempers.

A Difficult Birth owes its Original, either to the Mother, or the Infant, or the Midwife. It is occasioned by the Mother, if she is troubled with general or particular Distempers, or an ill structure of Body, or some singular Fault of the Genital Parts; a Woman by a long Fever, an Epilepsy, a Dropsy, an Intemperies of her Stomach,

or

or some other Disease, may so far loose her Strength, that so little of it is left when she is ready to bring forth her Infant, that she is not able to bear, and endeavour with her Pains to bring forth her Child; which may make the Birth slow, and delay it, and the Midwife is obliged to take more Pains in helping her than others who have Strength of Nature to strive with their Pains to ease and promote the Birth. In some Women the Birth may be hindered by a sudden particular Distemper, as the Cholick, Pain in the Loins, the Stone, Vomiting, Convulsions, immoderate Fluxes, a Diarrhæa or other particular Accidents, all which, more or less hinder the Labour, according to the Violence or Declination of a Distemper.

Therefore, how those general Infirmities or Diseases, and their Seeds may be taken away, is the Concern of the Woman with Child, as much as lies in her Power, that by the Use of Medicines she may recover her Health; but that is the Business of a prudent Physician, and not of a Midwife, whom it does not become to undertake that Work. We say the same of Distempers, with which Women with Child are seized before or about the Time of Birth, where a Midwife is to apply her self to a prudent Physician, by whose Advice the Woman is to be handled; so that in this Place, Matters being in such a State, there is no Occasion for my Direction. Only this I could wish, that the Midwife would assist such Women gently and faithfully, and handle them kindly and cautiously, and use all Diligence to make the Infants Passage loose and slippery, and if there is Occasion, to retain and restrain the Mouth of the Womb, and to comfort the Woman with kind Words, and encourage her. The Women that stand by, ought to take a great deal of Care, that the Cold may not offend her, and to recruit her with strengthening Meats, and such Medicines as the Physician prescribes.

And if Midwives assist Women subject to the Cramp, Convulsions, Epilepsies, immoderate Fluxes, or fainting Fits, whose Infants offer themselves ill turned, let them not then delay their Time in directing the Head of the Infant into the Mouth of the Womb; but on the Contrary, the Mouth of the Womb being already in some measure open, if a long and difficult Labour is expected, by any Means let them try to break the Membranes, (if they are not already broke) and draw out the *Fætus* by the Feet; the manner of which we shall hereafter deliver.

I should also think it adviseable, where Physicians are at hand, that Midwives should never administer a Medicine to a Woman in Labour, without the Knowledge and Approbation of a Physician, nor does it ever become them to do otherwise, if they have a regard to their Conscience; but in the Country, where it cannot be otherwise, a Midwife is obliged, as much as she can, to use her best Endeavours to assist them, yet her Hand will afford a great deal of Assistance.

Those that are ill shaped, as round Shouldered, Crooked, and for that, or other Reasons Asthmatick, are not to be soon placed on the Seat, but till they are a little better, let them walk or stand, being held up by some Body, till the Infant is brought forward for Birth, and ready to be brought forth; but Care is to be taken, lest it fall on the Ground. When they are to be placed upon the Chair, the upper Part of their Body is to be kept up the higher, that they may rather sit than lye, that they may breath the easier, except the Situation of the Womb or Infant require something else.

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many Years, being often with them in extreme Danger and by the Assistance of God have been instrumental in preserving the Life (when there seemed to be little Hopes of it) of themselves or their Infants, and sometimes of both, being moved to it through Pity or Love ; I shall therefore, as exactly as I can, inform ignorant Country Midwives, or other Young ones, how a Clyster is to be prepared, boiled, and how it is to be given to those that are ill.

What a Clyster is.

A Clyster is a Decoction or Compound Liquor, fit to be injected into the strait Gut of a Woman, whether it is done by a Bladder fixed to a Pipe, or by a Siphon, composed of any convenient Matter : In Cities most commonly Tin Siphons are made use of, but I think Bladders more convenient for several Reasons ; but every one may use their Pleasure.

An Explanation of the Figure X.

Fig. 10. Shews the Form of a Boxen Clyster-Pipe, in its perfect bigness, thickness and length, such as is made use of to a full grown Person. This Pipe from one end to the other is hollow.

- a* Is properly the round Pipe above the Letter *b*, perforated in the Side with a great many Holes ; that when the foremost Hole is stopped with Excrements, the Liquor may flow out, through the other Holes. This Pipe is commonly thrust into the Body from the Top *b*, even to the Letter *a*, or higher if the Excrements admit.
- b* The perforated End of the Pipe.
- c* The hindmost Part, to which the Bladder is tied, and that the Bladder may be fixed the faster to it, it is turned with small Nicks, that the Thread, with

with which the Bladder is tied, may stick the faster.

- d* The Place where most Pipes being divided, consist of two Parts; then in the lower part *c* the less Pipe is placed, which is fixed into a Pipe *a*, the Use of this is, if the Pipe *a* be obstructed in the Fore-part, at the Letter *b*, then the Pipe *a* may be drawn out and cleaned, so that there is no occasion to loose the Bladder. But this Conveniency is joined with an Inconveniency: For these Pipes being fixed into one another, may easily be loose and give way. I have used both Sorts, but prefer those that are entire, and every one may chuse, as they have a Mind.

Figure XI.

- a b c d* The same Boxen-Pipe as before, but of a less Size, for want of Room: To this Pipe a Bladder is fixed; the less Bullocks Bladders are most commodious and firm.
- e* The Bladder of the Letter *e*, tied to a Pipe with a small String, which is done thus; the Neck of the Bladder being a little wet, cut it off so far, that you may easily put your Hand into it; then the bottom of the Bladder being inwardly applyed to the lower end of the Pipe, invert it, that is, turn the inside outwards, holding the Pipe in the mean time fast in the same Place, then tie the Bladder fast, and the String being five or six times turned round, tie it fast, or it will easily be loosened; the Bottom of the Bladder being tied close to the Pipe, perforate it three or four Times, that the Liquor may flow through those Holes into the Pipe; and then turn the Bladder again, which being fast to the Pipe, hangs down, as this XIth Figure shews.

f Is the lowest Part of the Bladder cut through, in which it appears, where the Liquor of the Clyster is poured in.

Figure XII.

a b c d Is the same Pipe described in a less Form.

e f Are the two Heads of the Ligature, which tie the Bladder, lest the Liquor poured into it should flow out.

g The Body of the Bladder full of Liquor, and tied together below with the Ligature *h*.

i The lowest Part of the Bladder hanging down under the Ligature.

But a Clyster is to be given to a Woman in Labour only for this Purpose, that she may go to Stool, and empty the Guts of the thicker Excrements, that the Passage may be free, and the Accidents prevented, which proceed from the Costiveness of the Belly; or else to this Purpose, to excite dull Pains. A Woman ready for Labour, if she hath not gone to Stool for a Day or two, or three, and it be perceived by the Touch, there is no Reason to the Contrary, but it is very necessary to give her a Clyster as soon as possible, that she may go to Stool; and that without any great Trouble or Charge, may be thus done.

Take of Wheat-Bran one Handfull, boil it alone, or with Flowers of Camomel, one Handful in a Pint and a half of Rain-Water, to one Pint of Water, strain them through a Linnen-Cloth, or Sive; add two Spoonsful of Sugar, Honey or Black Syrup, which is next at Hand, and a Pinch of Salt. If this does not purge, again strain the Ingredients once more, and thus a Clyster may be made fit for Injection.

Or

Or take about a Pint of new Milk, let it just boil, then taking it from the Fire, add two Spoonsful of coarse Sugar, Syrup or Honey, and a Pinch of common Salt, mix it well, and strain it, and it will be fit for use: Add, if you will, some Spoonsful of Oil of Turneps or Olives.

But if the Woman is troubled with Wind, and you have a Mind to make the Clyster Carminative, boil along with Milk, Anniseeds, or sweet Fennel, or *Levisticum*, which the Midwife is always to carry about her; or a Clyster may be prepared, as we said, with Sugar and Salt.

But if there be occasion for a Clyster not only to purge the Belly, but also to excite Pains, it may be prepared thus. Take of the Tops of Wormwood, the smallest Leaves of Savin, cut small; Flowers of Motherwort and Camomil, of each one Handful; Seeds of *Levisticum*, Fennel, and Anniseeds each half a Spoonful; boil all in a Pint and half of Rain-Water, till a third Part be wasted, and strain it, add one or two Spoonsful of Honey or Sugar with a little Salt; dissolve them all together, and if the Sugar is not sufficiently purged, strain it once again, and a Clyster will be ready.

But that you may know, how the Matter is to be managed, take the Bladder fixed to the Pipe, and tie the same near the Pipe, close with one of the Strings or Ligatures (as you may see Figure XII, Letters *e f*) yet with that Caution, that you do not turn the String or Ligature twice, but only once round the Bladder, nor tie it of a firm Knot, but only a loose one, so that by drawing one end of the Ligature, the Knot may be loose, and the Liquor may flow or be squeezed out, for nothing but that Knot ought to stop the Liquor from flowing out when it is poured in, or the Pipe is thrust into the strait Gut. When the Clyster is poured in, the Bladder is to be tied below with another String or Ligature twice or thrice turned about, making every Turn a Knot

Knot tied fast, and at last double, to make it firmer. The Bladder being thus filled with the Clyster, and tied with a Ligature above and below, the Pipe is to be besmeared with Butter or Oil, and thrust cautiously into the strait Gut; I say cautiously, for not only the Hands but the Eyes are to be made use of, so that the Buttocks being separated with the Fingers of one Hand, distending the *Anus*, the Pipe is gently to be put in with the other, about a Fingers Length, if the Excrements retained, or what otherwise might hinder, will admit.

But I would admonish young Midwives, that they would be very cautious before they give a Clyster, that it be not too hot or too cold; for if by too much Heat it should burn, it would be the Death of the Woman, as Examples testify; and too much Cold would not only frustrate the wished for Effect, but would occasion a great deal of Mischief; but there is less Danger in being too cold than too hot; therefore hold the Bladder betwixt the Balls of both Hands, and when it is full, press it gently with both Hands, and hold it till you have counted about Fifty, and if it is not troublesome to hold it thus betwixt your Hands, nor the Heat is too violent and troublesome, there will be no danger of Burning; or when the Bladder is filled with a Clyster, hold it to your Cheek, and one of your Eyes when shut, and if the Heat be rather pleasant than troublesome, you may trust it, and safely inject the Clyster; the Heat will be right, if it be a little more than warm, and just hot, like Milk or warm Broth, which may be drunk conveniently without blowing or Burning.

When the Midwife hath put the Pipe into the *Anus* or strait Gut, let her loose the Knot near the Pipe, by drawing the Head of it, but warily without shaking or moving it much, which would make it painful; when the Knot is untied, take the Bladder be-
twixt

twixt both Hands, and by gently pressing of it, let it discharge; I say gently, and not too fast, that the Liquor may have time to disperse itself in the Body, without afflicting the Person with a sudden Heat, of which she would complain, if too great. Nor ought a Midwife to be ignorant, that one can bear Heat better than another, therefore the Sense of the Person not well, is to be regarded; but the Bladder is not to be quite emptied by pressing it together, lest the Air that is in it should be squeezed into the Body likewise; nor let her think, that she is obliged to press all the Liquor in; for some People have a very tender Sense, so that they cannot receive it all, but are apt to force it back again; therefore every Thing is to be done with Judgment and Discretion. When the Liquor is pressed in, draw out the Pipe gently, applying a warm Cloth, through which you may first draw and then wipe the Pipe, taking hold of by the other Hand, applying also the Cloth to the Breech, large enough to lay under the Person, when she lies down four or eight-fold, till she is forced to go to Stool, lest in the mean Time she should foul the Bed; but let one End of the Cloth hang out of the Bed, that after the Clyster is given, the Pipe may be wiped clean; a dirty Sheet or Table-Cloth may serve for this Purpose, or any thing else that is next at hand, if the good Wife is scarce of Linnen.

When the Clyster is to be given, let the Woman, as may be most convenient, lie on either Side with her Body a little raised; not sitting too far into the Bed, that the Pipe may be more conveniently put into the *Anus*: Some Women put it into the *Anus* with their own Hand, with less Pain than another can do it; and if they can, let them do it; but if they cannot, it is the Midwives Duty.

When this is done, a Cloose-stool, or a Bason, or a common Chair is to be in readiness, for the Woman to sit on, and the Midwife is to be near,

to assist and enquire how Things go, lest the Child should be cast forth, together with the Excrements ; and for this Reason, lest this Accident should happen, a Woman ready to fall in Labour, should never have the Liberty to go to a Vault.

The Bladder being untied and washed, is to be stretched out, and the Pipe being hanged by the Ligature, is to be dried ; which afterwards, if you have occasion to use it, must be moistened a little, that it may be soft and pliable. The lesser Bullocks Bladders, or if you cannot get them, a Swines Bladder not too much blown with Wind, are most fit for this Purpose.

Further, the Midwife is to be furnished with a sharp Pair of Scizars, to cut off the Navel-string when the Child is brought forth ; also she must have a soft Thread four double, to tie the Umbilical Vein ; as also some Onions, if by chance the Infant happens to faint after Birth, which being bruised are to be held to the Nostrils ; or a little Wine, if any be at hand, is to be put into the Nostrils, Eyes or Ears, to rouse up Life, if there be any in it. It will be convenient also to have a hard Hair Brush, with which she may rub the Soles of the Infant's Feet when it faints, to try if it be alive or dead. She ought also to have along with her, strong white Rowlers or Linnen swathing Bands, two or three Fingers breadth, and about half, or a Yard long, which, if there be occasion, they may use in drawing out the *Fœtus*. Some Surgeons who practise Midwifery, very much commend a Syphon or Pipe, with which in time of Labour they inject Oil every way into the Internal Parts of the Body, which those that please may use ; but I think not those so necessary, nor do I use them ; and notwithstanding I have performed my Duty even in the most difficult Birth ; if the Hand is well oiled, it will oil the Passage sufficiently on every Side, where it touches ; a Midwife may over
and

and above use a Cloth or Sponge, with which she may anoint every Part as far as she can reach; and those who have a Mind to make use of a Syphon, I shall not contradict them.

An Explanation of the Chair, perforated for the Use of Woman in Labour.

a The upper Part of the Back in the Chair, upon which the Woman in Labour lies with her Back or Loins, or resteth herself by leaning on it, which therefore properly is called the Support or Prop.

This Prop or Support, is fixed firmly behind with two Hinges, one Hing being near the Seat at the Letter *b*, but the other lies hid behind the right Door; by the Help of these Hinges, the Prop may be let down upon a Level, to sustain and hold up which, I have furnished this Chair with back Parts perforated, through which Perforations I pass an Iron Rod going through both the Back Parts, on which the Prop leans higher or lower, as the Woman in Labour wants to sit or lie down.

b The lower Part of the Back of the Chair, which always remains immoveable, to which the upper Part *a*, and the Side Doors *e e* are fastned by Hinges, so that the Doors may shut, and close upon one another, to which Purpose the Hinges must be carefully fitted. *N. B.* To the same Chair belong two Back Posts, which are not seen here, and can be placed upon one another after the same manner as those before; these two Posts I have not represented, to avoid Confusion; the foremost are altogether equal, but a little lighter; and not only by means of the Holes, and Iron Rods which pass through them, serve to support the Prop, but also make the Foundation of the Chair firm, that it cannot stagger or fall backwards, besides they serve instead of Bed-staves, when the Prop is laid down,
and

and the upper Part of the Woman's Body is let down lower than the Inferiour Part; then they prop the Pillows, that the Woman may lie down betwixt them, all one as in a Couch or Pallate Bed.

c One of the Hinges, which is lower, near the Ground; but the other belonging to this Door (for each hath two) lies hid under the Seat.

The Prop is a Foot and a half broad, and two Foot long, the lower Part of the Back of the Chair is of the Breadth and Heighth, that is on every Side a Foot and a half Square.

dd The perforated Seat on which the Woman sits, before from one broader Extreme than the other, is two Foot broad, and behind near the Prop, where it is narrower, it is a Foot and a half broad: This perforated Seat made of a strong Oaken Board, is covered on the upper Side with Cloth stuffed with Horse-hair, that it might be full and soft; below it is made firm with strong Iron Plates two Fingers broad, hammered out and fitted to the Wood, and fastened with rivetted Nails; to this Iron two strong Hinges are fastened, that it may move, and be lifted up before, and let down, near the Letters *dd*, and so when the Prop is lowered, the Seat is lifted up, that the Woman may rest her whole Body; in the Fore-part to each end is fixed an Iron, with a crooked and obtuse Point like a Hook, which slides upon the Iron *i*, fixed fast to the Side Door *c*, by which the Seat is fixed to the Door, and likewise the Door to the Seat; after the same manner the other End of the Seat is fastened to the other Side Door, so that both, by the Mediation or Help of this Seat, stand upon a firm Bottom. This Seat being made like a pair of Spectacles, I very seldom use, because I thought it too narrow in the Fore-part; nor does it admit, as it ought, sufficient Room for a Woman who is troubled with a Difficult Labour, and therefore I chiefly

chiefly use the other Figure XIV. which is broader in the Fore-part, but narrower behind.

ee The two foremost Sides, a Foot and a half high, and a Foot and four Inches broad. To these foremost Sides above the Letters *ff* an Iron Tube or Pipe is fixed, in which a smooth and square Piece of Iron moves, perforated below with a great many Holes, receiving a small Pin, which rises out of the Iron which goes betwixt, thrusting the Pin into one of the Holes, out of this Iron which turns back or results out of the Iron in the Middle, an Iron Knob starts out marked Letter *k*; which when it is pressed down, the Iron which turns back with the Pin also is depressed, and then the perforated Iron is moved forward or backwards, as there is Occasion. The Intent of this Motion, is, that by this Means the Arms *g g*, fixed to that perforated Iron, may be removed further, or placed nearer, as the Womans Arms are longer or shorter: As soon as you loose the little Knob *k*, the Pin is received in one of the Holes, and the Iron as well as the Arm is made fast, so that it cannot be moved one Way or the other.

g g Two Arms, which the Woman in Labour holds in her Hand, and may lean upon them with all her Strength.

h The Place where the Seat is fastened to the Prop, by a Hinge; the Hinges which fasten the Seat to it, being before towards the Seat, but those which fasten the Seat together, are placed behind. The foremost Hinges of the Seat are fastened together with longer Iron-Pins, which by two little Chains are fastened to the Posts, lest they should be lost; but the Pins of the Prop remain fixed in the Hinges, since there seldom is Occasion to draw them out.

1. The Iron fixed to the other Door, behind which the End of the Seat or its Hook, is moved up and down; to this Iron a Pin is fixed through

the

the Holes bored in this Iron, and an Iron Pin is fixed in the Holes, which stand out before the Iron, to fix the Seat higher or lower as there is occasion.

k The Knob or Button to the Iron, which recoils or bends backwards; by which that with its Pin is depressed, if the Arms or Elbows are to be thrust forwards or backwards.

Figure XIV. N. 1.

Another Seat likewise fitted to the Chair, altogether of the same Bigness with the other, which is seen in the Chair, only otherwise formed in cutting it out; this is most commodious for a difficult Birth, where there is most Occasion for a Midwife's Work, in which, by this means there is more Liberty to come to the Woman, and the Motion of the Hands is less hindered.

N. 2. A Stove deeper than the common one, (of this Kind two should be in readiness) hollowed above, without Holes, of an oval Form in Length, that Bags filled with heated Sand may be laid upon it, and the Feet cherished, to avoid the Smell in the Chamber occasioned by Coals and Stoves; but if any one had rather have Fire, it may be put into a Close-stool on which they sit, for within it is like others, but ought to be something higher, because it is convenient for Women in Labour sitting on a Chair to have their Knees higher.

A further Explanation of the Chair, perforated for Women in Labour.

All the Parts of this Chair being illustrated, it is not amiss to observe, what Difference there is betwixt this and other Chairs for that Purpose, which at the first Sight, seem to differ very little, therefore their Difference is to be explained a little more

more diligently, that it may be the better known. Young Midwives therefore, and those that practise Midwifery, are to Note, that as to the Woman's Part who is in Labour, all the Strength in Bearing, so as to promote the Birth of the Infant, is chiefly placed in this, that whilst the Pains are upon her, there is a great Pressure on the Womb, violently urging and pressing down all the Intestines, which that it may be done as it ought, (let every Woman think this said to her self) when she feels the Pains coming on, she ought first to draw her Breath, and her Breast being now full of Breath, and containing the same, she is then to contract the Muscles of her Belly with all her Power, that the Impression may be upon the Womb on every Side, which Force, if the Woman in Labour makes Trial of, with all her Power, she will perceive, that she is forced to bend her Body a little forwards, and consequently to bend her Back and Loins, which occasions a great Pain of the Loins, by which the Birth is much intercepted, unless her Loins are first supported behind, leaning against something that firmly bears against them; but if the Person in Labour can endeavour with her Loins thus firmly supported, and sets her Back against so good a Stay, which cannot give Way; though she presses and contracts her Belly with all her Force; then she will do more with one Pain, than otherwise with a great many, which is a great Advantage, where the Infant cannot be brought forth without a great deal of Pain. Whilst the Force is downwards upon the Womb, it is very necessary, that the Person in Labour should not hinder the Birth below, by sitting in an ill Posture, unless she will render her Labour fruitless; and the Passage of the Infant is stopped, if the *Os Coccygis* of the Person sitting, leans upon the Seat; for pressing downwards from above, and putting a Stop below, she will suffer Pains to no purpose.

This double Advantage, essentially necessary to ease the Birth, would consequently be obtained by the Help of a Chair, made fit for bearing Children; but that I may speak the Truth, I never saw a Chair besides this, so serviceable to Women in Labour; because none of those hath its due Proportion; which Proportion if it be in such manner Commodious for a Woman in Labour, it is for these Reasons. First, That she that sits in the Chair, the Seat being kept from the *Os Coccygis*, may have such a Prop against her Loins, which cannot be removed, let her lean upon it with never so much Strength. Secondly, That by the Help of this Chair she can firmly support her Loins with a Prop, that so her Belly and Bowels being the more retracted, she may make an Impression upon the Womb more vigorously.

That Proportion is not kept, if the Prop of the Chair at the Back is immoveable; so that it can neither be brought nearer, nor removed further, for the Loins of one Woman, are more bent than of another; what therefore is convenient for one, may be inconvenient for another; but if the Prop may be raised and let down, then it will be accommodated to the Make of the Loins. Secondly, The Woman in Labour cannot fix her Loins firmly to the Prop, or hold them when they are fixed, unless the Chair hath two Arms, which by strongly thrusting from her, she can neither break nor remove, nor is there only Occasion for such Arms, but also that they should not be too far distant from the Body, nor be too near; for a Woman in Labour holding the Arms of the Chair fast, and thrusting as if it were her Loins from her, she must needs press hard against the Prop of the Chair, which she cannot do if the Arms are too far distant, for then she cannot follow them; and if they are too near, then the Arms must be too much bent, that her Arms may be shorter, and so her greatest Strength is broken;
since

since then one Womans Arms are shorter than anothers, it must needs follow, that moveable Arms are necessary, which you may put forwards or backwards, otherwise they will not be serviceable. That therefore the Woman in Labour may sit fast with her Back to a Prop, yet so, that at the same Time the *Os Coccygis* may be free from the Seat, it is very necessary, that the Seat marked *d d*, contiguous to the Prop behind, should not be above two Inches broad, by which it is hinted, that in the middle, where the Place of the *Os Coccygis* is, no Space at all is required for the Woman to sit upon. But if any one should say, that two Inches breadth is allowed here, I answer, that no Woman ever placed her bare Loins against the Prop, but that a Pillow was put betwixt her and the Seat, nay often two, and accommodated for that purpose, by which that Space of two Inches is easily filled up, and so nothing remains for the *Os Coccygis* to lean upon, or to resist; and it is scarce credible, how much Advantage such a Seat well fitted may afford a Woman in Labour, who her self is to bring forth the *Fœtus* by the Violence of her Pains.

Now Midwives, and those who make use of Chairs for Women in Labour, may compare their Chairs with this, and enquire, whether they can find the same Advantages in theirs; let them look upon their immoveable Props or Backs, and their Seats sometimes a Span broad behind; and let them consider how the *Os Coccygis* can give Way, whilst the Woman in Labour sits upon the Seat; but if she moves from the Seat, let them see with what they will fill and make firm the hollowness behind the Loins; they will say with Pillows, as most endeavour to do; but such a filling up will afford but little Support, but occasion a great deal of Pain: Those in Labour that sit upon such a

Seat feel more than enough, though commonly the Cause of their Pain is unknown to them.

But these are not the only Requisites in which the Perfection of a commodious Chair consists ; the Pains of the Woman in Labour are not always sufficient to produce a Birth ; it is sometimes rather convenient for them to suffer than act, especially if the Position of the Womb be ill, or if the Infants offer themselves ill turned, then it is the Midwives Business to labour more than the Woman with Child ; then the Knowledge of the ill Situation of the Womb or Infant by the Touch, is to be thoroughly weighed and considered ; what kind of sitting or lying is most convenient, in which the Midwife can perform her Duty as she ought ; sometimes the Case requires the Woman should lie wholly upon her Back, sometimes it is requisite that her Head and Shoulders should be lifted up higher than the lower Parts ; what is then needful to be done, if either the Seat, or the Back, or both be immoveable ? For what then is a perforated Chair useful ? The greatest Labour is now, and the Use of a Chair most commodious is now required ; but if the Back can only be laid down, whilst the Seat is immoveable, both the Womans lying, and the Midwives Pains will be with the greatest Disadvantage, and it would be better to make use of a Bed or a Couch, than such a Seat ; therefore we have invented both the Motion of the Back, and of the Seat, by which the Chair may be accommodated to such lying or sitting for the Woman in Labour, as either the oblique Situation of the Womb, or the ill Situation of the *Fætus* requires.

We have allowed this Chair of ours the Space of two Foot before, but behind only a Foot and a half. First, Because the two Foot Space is enough for the Midwife to do those Things that belong to her Office. Secondly, That the Woman
in

in Labour having no more Room than she hath occasion for, she hath not the Power (as some have) of moving her Body from one Side to the other, which is a great hindrance to the Midwife. Besides, I have ordered the Side-doors to be made only a Foot and four Inches wide, because otherwise, if they had been wider, the Fore-part of the Chair would also have required a greater Breadth, or the Woman could not have spread her Feet sufficiently, which also would have been a great hindrance.

From all that hath been said, it is easie to judge, how useful a Chair well fitted is for Child-bearing; but on the Contrary, if ill contrived, only a troublesome Lumber, scarce fit for any other use than to burn. This whole Chair, with the four Doors, and another Seat put into a Sack, may easily be carried by any Man, and therefore by no means too heavy for the Use of Cities and Towns; and it is a Thing to be wished for, that every Midwife were furnished with such a Chair; and whoever cannot take the exact Proportion from the Figure, they may come to my House, and see my Chair; if a Workman can make them one by mine.

Since Physicians or Apothecaries seldome live in the Country, nor can soon be sent for, a Country Midwife always ought to be furnished with some very good Anodine Medicine, which may relieve some ill sort of Pains which attend Women in Labour. Truly a Woman can hardly bring forth her Young without Pain, nor will any Body endeavour to remove genuine and true Pains, but Women in Child-bed often suffer a great many Pains to no purpose, which by some Anodine Medicine may either be removed, or at least eased.

C H A P. XXVII.

For what Reason the ill Form of the Pelvis may hinder the Birth.

AMongst these Hindrances, by which the Pains are encreased, and the Birth hindered, we may reckon the ill Forms of the *Pelvis*, whether it be too big or too little, or lastly too smooth; from whence a great many Inconveniencies may happen, necessary for a Midwife to know, upon which Occasion, that she may be accommodated in this Matter, and be able to do her Duty, we shall explain every ill Form by it self.

And First, If it be too narrow, without doubt it will occasion a great deal of Inconveniency. And that I call a narrow *Pelvis*, which considering the Proportion of the whole Body, is too small. Indeed the least Women have not always the least *Pelvis*, it happens sometimes, that a little Woman hath a greater *Pelvis* than a great one; whence it may be said, that one Woman hath too big a one, and another too little a one; for although we may see little Women bring forth big Children; and on the Contrary, great Women little Children, yet most commonly it is otherwise, and it is more generally received, that every Woman brings forth a Child proportionable to the Bigness of her Body; whence it necessarily follows, if a big Woman having a small *Pelvis* must bring forth a big Child, it cannot be done without a difficult Labour, because so great a Head and Body cannot be forced through so narrow a *Pelvis* without a longer Time, and a great many Pains; nay it may happen, that the *Fœtus* of such a Woman, which she carries in her Womb, by reason of its Bigness or thickness, cannot pass through the *Pelvis*; and though it seldom

dom happens, yet I know that some Women have very hard Labours, occasioned by the *Pelvis*, though the Womb and the Infant are very well turned and placed; and that this is true, is proved hence; because those Women, though they seem well disposed from the beginning of their Labour till the Birth, yet they bring forth with Difficulty, and because the Heads of the Infants when born, are of such an oblong Figure, that it is requisite to handle and press them, yet very warily, every Day to reduce them to a handsome Shape: Besides, those Infants are very often very pale and livid in the Face, because they continue pressed in that narrow Passage too long; for which Reason some are brought forth dead, others very weak and almost dead, so that it is some Days before that livid Paleness is gone; in this Case a discreet Midwife, or whoever takes Care of it, must perform her Duty to the Infant very well, to form the Head conveniently.

I shall note here by the by, that the Heads of Infants are not open without Cause; that is, that the Skulls are not made of one continued Bone, nor equally hard in every Part, but only Membranes as yet about the Sutures; and especially the Top of the Head is more soft and Membranous, that upon such Occasions, the Bones of the Head which form the Skull, might grow closer, and might be thrust one upon another, and the Head made oblong; which could not have been, if the Bones of the Skull had been more compact and knit closer together, as it happens afterwards, if the Infants grow up; whence we conclude, that when the *Pelvis* is too little and narrow, it not only occasions a difficult Birth, but the Death of the Mother and Infant, except the Infant is delivered by an Artificial Hand; and as by reason of the smallness of the *Pelvis*, the Infant's Head cannot pass through it without a great deal of Force, in a Womb well placed

placed, so by Reason of the smallness of the *Pelvis* the Womb may easily be turned, and put into an oblique Figure any Way, which often occasions a difficult Birth; of which more at large elsewhere.

And as the *Pelvis*, as we have said, may be inconvenient by Reason of its Smallness; that is, if it be too narrow in respect of its Roundness; though it be large enough in its Cavity, yet its Passage downwards may be difficult, viz. if it be too smooth; for though both the Hip-Bones, or the *Ossa Coxendicis* marked in the first Figure *b b*, are far enough distant from one another, yet the Distance betwixt the *Ossa Pubis d d*, and the Prominent Part of the *Os Sacrum a e* in the first Figure may be too narrow; but if it be more intelligible in the second Figure, there I understand the Distance betwixt *f* the *Os Pubis*, and the Part of the *Os Sacrum* which sticks out forwards *a b*, and when a *Pelvis* is so formed, I call it a smooth *Pelvis*; and this, if the Infants Head is large, does not only admit it with Difficulty, though the Womb is well placed, but also is the Cause of the Wombs being turned obliquely forward or backward, or more easily to the Left or Right, which must needs occasion a difficult Birth.

And if too small and smooth a *Pelvis* occasions a difficult Birth, too large or great a *Pelvis* hath not less Inconveniency, but occasions as great a Mischief: By too great a *Pelvis*, I mean, such as is compared with an Infant or Womb of such a Size; as when the Head of the Infant, whilst the Womb is yet shut, easily slides down to the Orifice without Labour: The Womb by reason of that large Space or Compass being not sufficiently closed or held together, so that neither the Head of the Infant, nor the Humours can be forced sufficiently upon the Mouth of the Womb, by the Impression of Pains, so as to open it, so that the Entrance or the Privities

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not to speak of the Inconveniences and Difficulties of Husbands, which they are to bear with in such Wives; for this is the Effect of a *Pelvis* that is too large, whose narrowness on the Contrary, serves to keep the Womb up, till the Pains depress it, by which the Humours and the Infants Head are able to dilate its Orifice by their Impression; but if it is so large that it cannot sustain the Womb, it is the Midwifes Business to do that with her Hands below; which being neglected, the fore-mentioned Inconveniences follow.

From what hath been said just now of the Form and Bigness of the *Pelvis*, it easily appears to any one, how necessary it is, that a Midwife should consider the Form, Largeness, or Littleness of the *Pelvis*, and to consider the Reason of them even in the Beginning; as soon as she comes to a Woman in Labour, in the beginning, I say, her Duty will be, first, to try the Woman by the Touch, by which means she may presently judge accurately of the Situation of the Womb and Infant, viz. whether one is well turned, and the other well placed; and to find out by Sense, whether the *Pelvis* be large or small, round or plain, and how the Womb is placed, and the Infant turned upon it, or in it; in which Cases they are to do all they can, that without delay, if occasion requires it, the Infant may be drawn out Artificially by Hand; or the Exclusion is to be waited for by the Pains alone, or Nature is to be assisted; Art supplying what she is wanting in.

Therefore the first Thing the Midwife is to do, is to try the Women by the Touch, before the Womb and the Infant are fallen down into the *Pelvis*; that she may diligently enquire, how the Entrance of the *Pelvis* is formed, whether round, or smooth, or large, or narrow, and as it is formed, she is to contrive her Work; for if the *Pelvis* is smooth, and the *Vertebra* of the *Os Sacrum* and the

Os Pubis are but a little distant, so that the Head of the Infant should be stopped, the Midwife ought to take a great deal of Care, that she does not urge the Woman to Labour with all her Power, and violently endeavour to hasten the Birth; for if she tries to press down the Head with a sudden and violent Force, there may be Danger, that the Brain should be broke, or the Head should be hurt, by pressing it too hard upon the Bones; by which means the Infant may loose its Life; or it may be so closely squeezed together, that they may take Pains to bring it forth to no Purpose, so that the Mother and Infant may die without a Birth; but if the Woman strives with gentle Pains, or suffering violent Pains gently works with them, the Midwife at the same time directing its Head into a larger Space, with a safe Hand, then at the last it may pass through that narrow Space without Danger of Life; and when the Head hath passed, the rest of the Body will easily follow, except it be Monstruous. Midwives are altogether mistaken, who often urge violent depressions, and advise the Woman to strong Labour, and strive to encrease the Pains, by the Use of Medicines, without distinctly knowing the Form of the *Pelvis*; or the Situation of the Womb and Infant; or if there are any other Hindrances, yet encouraging the Woman frequently to Labour. I pity the Condition of a great many fine Women very much, who are so miserably tormented and worn out by the Imprudence of Midwives, who act preposterously, and ill Advise what is to be done.

If the *Pelvis* be well formed, and yet too narrow for the Head handsomely to slide through it, the Midwife being informed by the Touch, that the Infant directly offers it self in the Entrance of the Womb, and the only Fault lies in the Mouth of the Womb being too narrow, or the Passage of the *Pelvis*; however let her be easie, and let her advise

vise the Woman to have Patience, and to labour gently and not too earnestly ; and if the Pains are slow, they are by no means to be increased ; nay Time is rather to be allowed, lest the Woman be tired, or press down her Labours to no purpose ; so that by this means the Head of the Infant being pressed down into an oblong Figure, it may at the last pass ; which otherwise being pressed down by violent Pains, and made flat and broad, would by no means pass.

As for the Bones of the *Pelvis*, they are not to be made bigger or less by Art ; therefore the Midwife in doing that, would take Pains to no purpose, except the *Os Coccygis*, or the Point of the *Os Sacrum*, which if it turns too much inwards, may be thrust back, viz. If the Passage, as it often happens, is made too narrow for the Infant ; and in such a Case indeed it is very necessary, that the Midwife should thrust back the Point of the *Os Sacrum*, to make way for the Infant as it goes out, which may be done better by the Midwife's Hand, than by the Head of the Infant.

When I speak of thrusting back the *Os Sacrum*, I do not suppose that to be done by putting one Finger into the *Intestinum Rectum* or strait Gut, which thrusts back some part of the Point of the *Os Sacrum* only, which some Authors carelessly recommend ; but what I would say, is, that the whole Point of the *Os Sacrum*, together with the Flethy Part lying about it, is so to be thrust back and dilated, that the Way may be open enough for the Infant to go out ; and since this is a Work of great Moment, we think not much of staying the longer upon it, and to explain what we mean more largely, to excite the Minds of young Midwives to Attention ; for this Work contains greater Conveniences, especially serviceable to Women with Child and Infants, than a great many think ; wherefore the Matter requires to be further insisted on.

I have often wondered and admired with myself, why some Midwives assisting Women in Labour so long, have not delivered their Infant; though they would affirm, that the Infant was well turned, that the Humours was just flow'd out, and that the Head being just fallen into the Passage, considerably hung down, no Strength of Pains being wanting; nevertheless a great deal of Time being past, the Infant was little nearer the Birth than before; but considering every Thing further, I understood, that those Midwives did not sufficiently understand their Business, and acted preposterously through Mistake. Truly I would by no means say, that a Midwife could, or ought, to dispatch the Birth presently in all Cases; I know well enough, that there are some Cases, that a Midwife with all her Skill is not able to deal with; nay that it may happen, that she may not be able to bring forth an Infant at all, though it offers it self with its Head right downwards. But in this Place, I speak of such Cases, as the Infant may be assisted in the by the Help of a Midwife; did not Ignorance make them wanting in their Office, which is too common amongst Midwives, especially in the Country, the most of which want Information; for looking more narrowly into their Work, I found that their chief Attention was to the Mouth of the Womb and the Privities, or the Mouth of the *Vagina*, trying to dilate both the Lips of the *Vagina*, by putting in a Finger of both Hands, and drawing asunder the Lips of the Privities, and almost tearing them in pieces, never minding the Point of the *Os Sacrum*, which commonly is the greatest hindrance to the Infants going out. Most Men exercise manual Operations, like blind Mill-Horses, without Attention, and if they observe any Thing, it is no further than they read, or are told; they understand no more than they see with their Eyes, or feel with their Hands.

Truly

Truly I confess, if one only tries the Mouth of the *Vagina* or Womb by the Touch, and perceives the same to be only a little opened with such great Pains, not observing the Parts that are near it, she may easily mistake, perswading her self, that the Hardness or Thickness is the Reason, that the Orifice of the Womb or *Vagina* is not more relaxed, or the Head of the Infant is not further thrust out; wherefore for the like Reason she begins to tear and break the Parts asunder, as most commonly imprudent Midwives use to do; whence such miserable Inconveniences are wont to happen, as the violent tearing asunder of the Mouth of the Womb, and sometimes of the Private Parts, even to the strait Gut; but it is the hardest to understand, and is the greatest Argument of the Ignorance of such Midwives, that whilst they thus tear and rend Things in Pieces, in the mean Time they suffer the Woman to sit with the Point of the *Os Sacrum* upon the Seat, Bed, or short Couch, which they lean upon, so that *that* being altogether fixed, cannot be moved out of its place: Others inconsiderately laying a Cloth under the Womans Body, by which she is raised by two or four Women, they bring it beyond the Buttocks, so that the Woman pressing with the *Os Coccygis* upon the Cloth, hangs as it were in a Point or confined; and thus they think the Head of the Infant may slip through; others placing the Woman upon a perforated Chair, do not observe that their Cloaths retain the *Os Coccygis*, which likewise are held fast against the Point of the *Os Sacrum*; for whose Ignorance the miserable Women are forced to sweat heartily. Some Midwives (by the Advice of some Authors) putting their Finger up the *Anus*, endeavour to thrust back the Point of the *Os Coccygis*; but since the Strength of the whole Hand is scarce sufficient, I cannot but be concerned for the Ignorance both of those that teach, and those that learn. Truly I dare assert

assert, that two or three Fingers of a weak Midwife are not so powerful as sufficiently to press back the *Os Coccygis*, so as to dilate it sufficiently, but that there is more need for the whole Hand of most Midwives; nay some Mens Hand is not sufficient to perform this Work well; I say the whole Hand, not thrust into the *Intestinum Rectum*, or strait Gut, but the Neck of the Womb; and therefore what Service can the Finger do thrust into the *Anus*? Is it lest the Gut should be hurt? As though it were likely to be less damnified by a single than a double Pressure; and what Advantage could the End of one, or at the most, of two Fingers be of, when the whole Strength of the Hand is required? I my self have not a little Body, and Hands strong enough, yet I have been concerned in Cases where I would have used more Strength, if I could, to press back the *Os Coccygis*, but with that I had, I was always serviceable, both to the Mother and Infant, for which I thank my Great God.

Truly I foresee, that I shall be accused for this of too much boldness, by those that are timorous and unskilful, that this is too dangerous a Method; but I am certain, that if they had made use of it, and tried it as often, with the same Caution and good Success as I have, and which I can testifie, they would not be so fearful; and I am truly perswaded, that the tearing and stretching of the Mouth of the Womb or *Vagina*, is attended with much more Danger than this which I use, by pressing back the *Os Coccygis*, with a smooth Hand, gradually, and with con-comitant Pains, as we shall shew hereafter.

Infants that offer themselves with the Head foremost, being already fallen down into the *Pelvis*, may be stopped there, if the Shoulders stick fast against the Edge of the Bones which form the *Pelvis*, or (sliding down betwixt them, of themselves giving way

to its Passage) the Head is stopped by the narrowness of the *Pelvis*, and especially by the *Os Coccygis*; and of this last kind of Hindrance we speak now, in which we also include those Infants that come forth with their Breech first, their Buttocks being already fallen down into the *Pelvis*; these Infants may stick so fast in it, that they may never be brought forth, and that too by the narrowness of the *Pelvis*, or the bigness of the Head or Shoulders; and this is most usual in such kind of difficult Births.

It is not to be doubted, but that in all difficult Births, if the Womb is well placed, and the Child well turned, the Difficulty is occasioned by the narrowness of the *Pelvis*; and therefore it is necessary, especially in those that Labour of the first Child, that the same should be opened by Force, the Pains pressing down the Head of the Infant, or a prudent Midwife ought to promote the dilation of the Passage, by thrusting back the *Os Coccygis*. Infants therefore that fall down with their Head or Buttocks into the *Pelvis*, are carried down to the *Os Coccygis*, which resists either by reason of its firmness, or the too great dryness and solidity of the neighbouring Parts; or lastly for want of Strength, or the slackness of the Pains, so that the Woman cannot carry so much Force along with her Pains, as to move those Bones; for the *Os Coccygis* sometimes consists of three, and sometimes of four Bones, as may be seen in the first Figure. If the Head of the Infant is great, but the Shoulders small, you will commonly find the Orifice of the Womb much stretched, because the Head forces the most upon it, which then likewise suffers the greatest Resistance; but if the Head be small, and the Shoulders broad, you will most commonly perceive the Mouth of the Womb less stretched, because then the greatest pressure is not upon that; a great Head makes a greater Impression upon the Mouth of the Womb than a small one, but to understand the Matter thoroughly

thoroughly, it is to be known, that neither a great Head nor a small one, makes its pressure chiefly upon the Mouth of the Womb, because the Mouth of the Womb properly going forwards does not resist it, but the *Os Coccygis* presses against it; and for this Reason all that distraction and tearing of the Mouth of the Womb, which Midwives make use of, is in vain.

Therefore it is to be noted, that as long as a big Head cannot move the *Os Coccygis* out of its place, neither can it sufficiently dilate the Mouth of the Womb; for all the Force which depresses the Head, is spent upon the pressing back of the *Os Coccygis*. Experience will also teach, that a little Head with great Shoulders cannot pass so easily, as a big Head with narrow Shoulders. Besides, it is to be noted, that in this Case, sometimes the Mouth of the Womb is not close about the Head of the Infant, but so loose and free, that one or more Fingers may easily be thrust betwixt the Head of the Infant and the Mouth of the Womb, yet the Head does not fall forwards; which only proceeds from thence, because the Head being so far stopped, sticks fast, and makes all its Impression [*N.B.*] not so much upon the Mouth of the Womb, as upon the *Os Coccygis*, to remove it; which if a Midwife does not know, or does not mind, how can she assist the Woman or the Infant, or perform what belongs to her Office? Oh! the deplorable Ignorance of those Women!

The same Hindrance which happens to a big Head, will likewise befall the Buttocks when they come foremost; so that the greatest Help, both to Mother and Infant will be, by thrusting back the *Os Coccygis*, by which the Passage is very much dilated, and the Birth promoted; and so no Damage is occasioned or intense Pain; so that I am the Bolder to affirm, that a Woman, in Labour, assisted by this Method, brings forth her Young with half

the Pain as another, when the Midwife endeavours to dilate the Mouth of the Womb the common Way. This puts me in mind of a particular Case, viz. A Woman of her first Child was in Labour some Days; the Infant offered it self directly, but the Passage was too narrow; and the Woman being tired, was reduced to the last Extremity; I and my Wife hearing of it, went to her House with a Desire to assist her, with God's Help, for she was very dear to us; when we came there, my Wife went in first, and seeing her in a great deal of Danger, asked leave to try her by the Touch, and finding the Matter as I said, she presently did all she could to thrust back the *Os Coccygis*; upon which the Child was presently born, and the Mother safe, who said to me afterwards, *how one Womans Actions differ from anothers! As soon as your Wife handled me, I was presently eased, and having recovered my Spirits was able to bring forth my Child, when before the Midwife had only tormented me, that I could not Labour strongly*; But perhaps some may think, that before, she had only gentle Pains, or none, which afterwards grew strong, and that perhaps was the Reason, that your Wife's Help was more successful; I answer, that sometimes the Matter may happen so, which gave occasion to the Proverb, *he is happy who is called in Time*; but here the Matter was not so, an Artful Hand was rather wanting, than the Labour of the Woman; and what I shall add upon this Occasion is, I have often observed with wonder, that by handling and assisting Women in Labour conveniently, the Pains have been stirred up and increased, which by ill handling, vanish away and cease. I am not ignorant, that it seems a Wonder to most Midwives; yet what I say is true, and since it is true, and very serviceable in performing of these Matters, it is both often to be said and inculcated, that those that are Ignorant, may observe it.

Those

Those who tear, and after an ill manner, pull Women in Pieces, loosing a great deal of Time and Pains, rashly vex and tire them without Success, which breaks their Spirits, and makes them quite Languish; but those that know how to help them as they ought, refresh Nature and give them the greatest Hopes and Expectation of a happy Birth, which adds Courage, and renews their Strength. Hence it is, that one Person's Work stirs up Pains, and anothers makes them abate. I have often assisted Women in Labour, whose Pains, as soon as I came to them, increased; then Midwives, who had a long Time waited with Expectation, and lost their Labour, would say, now the Matter succeeds well; if those Pains had followed upon our Work, we should have brought forth the Child: But I doing my Work as if I had been deaf, thought with my self, if you had handled the Matter as I do, the Woman would have laboured with more Success; and keeping my Art to my self, I let them enjoy their own Opinions; as that destructive Custom hath obtained amongst Men, that for their own private Ends, or for Ambitions Sake, they will hide from their Neighbour, what they might divulge to the great Advantage and Benefit of others; and to confess the Truth, I should scarce have gone quietly to my Grave, except I had taken an Opportunity to publish whatever I have observed and experienced in this Art; and it hath made me the more earnest in doing it, because these Things happen daily in all Countries and Cities, and I may prolong the Lives of so many, as well as save them, and correct the Faults which happen through the Sloth of some Midwives

But if any one should ask, by what Means do you thrust the *Os Coccygis* backwards, and bring the Infant through that narrow Passage? I answer,

That I first place the Woman in such a Posture, which is most convenient for a Woman in Labour, assisting with her Pains to bring forth the Infant, viz. that she may partly sit, and partly lie down, not altogether upon her Back, nor quite erect, but in a middle Posture, betwixt sitting and lying down, with her Legs spread wide abroad, and her Knees lifted up a little, supported by two Women, and so far removed out of the shortened Bed, (if I do not make use of the perforated Chair) that the Point of the *Os Sacrum* may be quite free, and may go back without any Hindrance ; then I thrust up my whole Hand, first put into Oil, or well anointed with it. I say, my whole Hand, or all my Fingers, into the *Vagina* of the Womb, or if the Buttocks offer themselves, or the Head will admit of it, into the Womb it self, as Occasion requires ; my Hands being put up, I turn the palm upwards, and the Back of it downwards towards the *Intestinum Rectum* or strait Gut, and the *Os Sacrum* : By this means, I put my Fingers, as far as I can to the Head, rather thrusting it a little backwards, than it should hinder me from placing my Hand well and firmly against the *Os Coccygis*. My Hand being so placed, I advise the Woman not to let her Pains pass to no purpose, but endeavour with all her Power : As soon then as I perceive the Pain coming on, (which I commonly perceive before the Woman) then I thus advise her, *now the Pains are just coming on, make use of them, press down with all your Force, I will help you* : When I have said this, I gradually press my Hand backwards, and now and then more strongly against the Point of the *Os Sacrum*, bringing it downwards at the same Time, that may give Way to the Head as it slides down ; and the more violent the Pains, the more I press down ; and the more I press down with effectual Pain, the more strongly the Woman is able to Labour. By this means, and the Womans violent pressing

pressing downwards, and by enlarging the Passage, and by bringing my Hand back, the Infant's Head sliding down succeeds and follows it ; this I repeat as often as the Case requires it, no Pain being spent in vain ; by this means the Woman, who already finds Help, takes Courage, especially if upon every Pain, I tell her, *Things go well and prosper in my Hands, we shall presently congratulate you a joyful Mother.* The Woman in Labour being thus encouraged, who just before had cast away all Hopes, is now so much strengthened, that collecting all her Might, she does her best Endeavours ; by which Means the Infant is soon brought forth.

But if the Infant offers its Buttocks, which are neither so round or hard as the Head, then I thrust all my Fingers into the Womb more easily, some of which, and sometimes all, I pass into the Mouth of the Womb, under the Buttocks, as before into the *Vagina* ; when my Hand is there placed, being intent to mind the Pains when they come on, inviting the Woman to Labour ; I gradually press backwards as hard as I can, drawing my Hand downwards by degrees, and this being repeated upon every Pain, the Child is thrust down at every turn, and if my Hand, by drawing it downwards whilst the Pains are upon her, slides down too much out of the Womb, when that is over, I put it up again, that when the Pains return I may be ready ; thus in a little Time the Passage is so dilated, that the Infant may pass forth.

But perhaps some may think, how can it be, that the Hand being added over and above to the Infant folded together in the Mouth of the Womb, should dilate the Passage ? Since it might rather seem to obstruct it, and by this Means to be rather a Hindrance than a Help to the Infant ? But upon Consideration, a three-fold Advantage will easily appear, from my putting my Hand in to the Infant, so far is it from being a hindrance ; First,

when the Pains come on, the *Os Coccygis* is forced back by the Pressure of the Hand, which dilates the Passage ; Secondly, By the Pressure of the Hand, the Mouth of the Womb is enlarged ; and Thirdly, drawing back the Hand at the same Time, attracts the Infant, and by degrees brings it out of the Womb, and the narrowness of the *Pelvis* ; and thus in a little Time the Woman in Labour, by the Assistance of this Art brings forth the *Fætus* : And I can truly witness, that I never, as I know of, tore the Mouth of the Womb, nor its *Vagina*, nor the *Intestinum Rectum* or strait Gut, nor ever wounded or damaged any thing to speak of ; wherefore I fear not but that this Method of pressing back the *Os Coccygis*, and enlarging the Passage by that Means, will be commended as one of the chief Arts, and the most commodious to bring forth a *Fætus* ; yet this Caution is to be added, that all Things must be done with Judgment and Prudence, for the best Arts made use of rashly, are dangerous, and often pernicious.

I have not here represented the Figure of the plain or smooth *Pelvis*, I mentioned ; for he that hath conceived a true Notion of a *Pelvis*, as it is commonly formed, may easily imagine this which we have spoke of in this Chapter.

C H A P. XXVIII.

Of the Constriction, or tying of the Umbilical Vein, and the bringing away of the After-Birth.

BEFORE we pass to the Consideration of a difficult Birth, it will not be foreign in this Place, as in a Parenthesis, to shew, how the Umbilical Vein or Navel-string of an Infant newly born,

born, is tied and cut off, and the After-birth presently brought forth, that the Birth may not only be half, but wholly perfected. As for the tying and cutting off of the Umbilical Vein, I need not particularly speak of it, since 'tis known, not only to all Midwives, but even to common Women; and though they in some measure differ in the Operation, yet they most commonly agree in the Thing.

It may be tied with a thick Linnen-Thread four or six-fold, or if that is not sufficient, with Flax a little twisted together; but Care must be taken, that the rougher Parts of the Flax be not mixed together, for they would cut too much; nor is the Knot to be tied too close, lest the Umbilical Vein of tender Infants, and such as come before their Times especially, should be cut asunder; a great deal of Care is to be taken, that the Vein be tied close enough; for if any Blood should drop out after, it must be tied again in the same Place, or nearer the Infants Navel; wherefore 'tis better not to tie the Thread close to the Infants Body, it being convenient that two Fingers Breadth at least should be left betwixt. Some take some Drops first and give it the Child, which may do Mischief, if the Blood happens to be clotted, and therefore it is better omitted. Some think it not proper, that the Vein should be tied before the Child cries, or hath made Water; but too great Delay is not to be made; if the Child faints, every Thing is to be done to recover it, as by rubbing the Soles of its Feet with a Hair Cloth, putting a bruised Onion to its Nostrils, sprinkling Wine upon its Face, Nostrils, Eyes and Ears, and whatever else is customary to do.

If the Umbilical Vein after it is tied, be swelled with Wind, it is to be loosed, and when the Wind is discharged, it is to be tied again; nor is it to be cut off close to the Knot, but an Inch or two

two, or three Fingers breadth from it; there is no need for it to be longer, since it would but make the Infant cold. They do best who tie the Vein in two Places, and cut it afunder betwixt, being secure from loosing Blood; nor is the naked Vein to lie upon the Infants naked Body, but to be wrapt up in a double or four-fold Cloth, that the Child may be preserved from the Cold, and the Pain of the Belly.

When the Umbilical Vein is tied, the After-birth is to be drawn out without delay; to which end the Navel-string is to be held in one Hand, being turned two or three times about the Fingers, and the other is to be passed by it into the Womb which yet is open enough; if another Woman is by, fit to tie and cut the Navel-string, then the Midwife, as soon as she hath received the Infant well into her Bosom, before the Umbilical Vein is cut off, let her presently pass her Hand into the Womb, to draw out the After-birth; but if the Infant be ill, another in the mean time may take upon her the Care of tying the Vein.

Before we proceed, it is to be observed, that (in my Opinion) it will seem foreign to most, and to practise in general, and contrary to the Opinion of all Authors, that the Hand should immediately be passed into the Womb to draw out the After-birth, since very often that is done after another Manner; for sometimes the After-birth easily comes out by drawing the Navel-string only gently, wherefore all Authors daily deliver this Method, which if it does not succeed, they teach another way, *viz.* The Woman is to blow into her Fist, or her Belly is to be bathed with warm Wine; or as others would have it, a Piece of a Candle is to be put into the Womans Throat to make her Vomit, &c. and if the After-birth is not forced out these Ways, at the last they say, it is to be searched for by the Hand, and if it
sticks

sticks, is to be peel'd off, and brought forth. But what do I do? I shall not be of their Opinion, nor act according to their Method; since I have a safe Way, there is no need to make use of one that is doubtful; For me, let them follow their own Method; I have tried both my own and their Method; and now make use of the best, leaving every one to do freely what he judges best by his own Experience; therefore I repeat again what I have said, to wit, that it is most agreeable to reason, that omitting all other Endeavours, let the Hand presently after the Birth of the Infant, be pass'd into the Womb; and if any one asks, why presently, I answer him,

First, If presently after the Birth of the Infant, I pass my Hand into the Womb, it slips in easily, nay and the Arm, if there be occasion, without any Trouble; for the Head of the Infant hath opened it sufficiently; on the Contrary, whilst all those Tricks are tried, which Authors mention, the Mouth of the Womb is so closely shut up, that you cannot penetrate it without a great deal of Trouble.

Secondly, Presently after the Birth, you may pass your Hand into the Womb without any Pain or Inconveniency to the Woman, which if delayed is not done without a great deal of Inconvenience, because she cannot bear the Relaxation of the Mouth of the Womb without a great deal of trouble.

Thirdly, Presently after the Birth, the Mouth of the Womb is not only open enough, but the Womb it self, which otherwise gradually contracts and grows less, closely binding up the Secundine in it self, so that that which before was smooth and broad, and adhered to the Bottom of the Womb like a Cake, is then long and small, as if you squeezed a Cap together in your Hand, or tied a Purse, so that afterwards it is harder to reach the Bottom, which happens not, if your Hand is presently pass'd in.

Fourthly,

Fourthly, If the Hand is put up presently after Birth, there is no danger by drawing the Navel-string, of drawing down the Bottom of the Womb, and inverting it, which too often is occasioned by unwary Midwives, who through their Ignorance persuade themselves, that another Infant is coming forth, thinking that the Bottom of the Womb is a Head: which sort of Tragedy I have once seen, when such an Ignorant Midwife exposed the Woman to the Hazard of her Life; yet uncertain whether it was any thing else but a Head, she took Care that I should be called; when I came, I found the Woman lying in intolerable Pain, whom having tried by the Touch, I perceived the Bottom of the Womb inverted and drawn down into the Orifice; but it being presently restored to its Place, her Pains began to lessen, and by degrees went away. That Woman had certainly died in a little time, if I had not come to her Help. Those are free from that Dangerous Mistake, that pass their Hand presently into the Womb.

Fifthly, If my Hand is presently after the Birth put into the Womb, it assures me, whether the After-Birth adheres to the Womb or not, which otherwise cannot be certainly known; which if I find loose, I presently draw out my Hand, holding it betwixt my Thumb and the rest of the Fingers of my Right Hand, whilst I gradually draw the Navel-string with my left, by which Method it is thrust out, without any Trouble to the Person; which truly may be done another Way, if Success answers our Wish; but if it does not fall out luckily, then it is not brought out without more Pain.

Sixthly, If the Hand is presently put up into the Womb, I soon perfect the Birth; for it is certain, I can sooner extract the After-birth, than another, who draws it out, or tries other ways; for I do not spend my Time in trying this or that Method, but pro-

proceed in that which is the shortest and most certain.

Seventhly, This Method of drawing it out, presently satisfies me, whether one or more Infants are to be brought forth, or whether a Mole or a dead Infant remains behind ; all which I can bring out before or after the Secundines, as there is occasion.

Eighthly, By this Means, besides bringing away the Secundines, I can presently do that in the Womb, which I commonly used to do after the Birth ; therefore because I think it safe and useful to put in the Hand sooner or later, I think it most adviseable to do it presently after the Birth.

But I do not only put my Hand into the Womb for the Reason just now mentioned, that I might search, whether the After-birth stick to the Womb or not ; nor only that I may know, whether one or more Infants remain behind alive or dead, or whether a Mole lay hid, or any thing foreign is yet to be brought out ; but also that I may be satisfied, whether some small Pieces of the Secundines or Membranes yet remain in the Womb, or any Clots of Blood ; besides I trie, whether the Womb is well seated and contracted as it ought to be, and whether the Bottom stand out a little with a *Curve sinus*, (as the Corner of a Cap, when a Cork is thrust into it) which happens by the drawing out of the Navel-string or otherwise, and which is presently to be restored again, otherwise the Inversion or falling down of the whole Womb follows, which is mentioned above, tormenting the Woman, or exposing her to the Danger of her Life. Sometimes some Reliques of the Secundines adhere to the Womb up and down, which are also to be got out, lest the Woman suffers any Mischief from thence ; besides, some Part of the Membranes may remain in the Womb, especially a great deal of clotted Blood may be contained in the Womb, which it is very necessary should be taken away and excluded, lest an im-

mo-

moderate Flux of Blood follow with Faintings, and sometimes Deliriums or Madness, nay Death it self, as I have often seen ; to wit, if those Clots of Blood have occasioned Corruption ; for these and a great many other Reasons, it is necessary the Womb should be cleansed.

Neither when I take hold of the Secundines, do I presently draw back my Hand, or if that happens in drawing the Secundines out, I presently put it in again, gently searching the Womb on each Side, and if any of the above-mentioned Things are to be met with, I gather them into my Hand, and suffer the Womb first to be gently contracted about it above, and then towards its Orifice, and my Hand being gradually drawn downwards, I take away every thing that is foreign, respect likewise being had to the oblique Situation of the Womb ; if for Example, it lies too much upon the *Vertebrae* of the Loins, and elevating it, (whilst it is gradually contracted) I reduce it into its natural Place towards the Fore-part ; if it tends to one Side, I reduce it into the Middle ; if it hangs forwards into the Belly, I bring it backwards, and by this means I restore it from every oblique Position by degrees ; by degrees I say, and not violently, for Violence is not to be used in these Cases ; Nature is to be helped, not hindered, and every Thing is to be done with Judgment ; by this Means I am now certain and secure, that the Womb is well shut and purged, which is the greatest Advantage to a Woman that lies in. I can truly testifie, that I never saw many ill Symptoms in Women, since I took this Care of them ; wherefore I recommend it to all Midwives. The *Vagina* or Neck of the Womb is also warily to be examined, whether it be smooth, or furnished considerably with Wrinkles or Folds, which if there be any, are to be laid in Order ; if the Womb be too much fallen down, it is to be moved up again, as much as pos-

possible, and all Things are to be restored to their natural State.

But let us see further how the After-birth is to be got out ; holding the Navel-string in the Left-Hand, let your Right-Hand be put in according to the Duct, and if the Secundine offers it self in the Mouth of the Womb, stretching your Hand lengthways, take hold of it betwixt all your Fingers, and bring it out along with your Hand, whilst the other Hand holding the Navel-string gently attracts it ; but if the After-birth is so large that it cannot pass through the Mouth of the Womb, let the Woman press it down as if she were forcing out the Child, and let the String be gently drawn at the same Time, that the Secundine may presently follow it. But if the Secundine partly or wholly sticks to the Womb, yet holding the String in the Left-Hand, let the Right-Hand be passed according to the Duct, even to the Secundine, and search it by the Touch, and in that Part where it sticks the least, or is most loose, having there passed your Hand betwixt the Womb and the Secundine, move it backwards and forwards gently : For except it sticks very fast, by moving the Fingers about thus, even to the Center, it may easily be pulled away, and being freed on each Side, it falls into the Hand of its own Accord ; and when the Secundine is not loosened by moving it gently, then the two hindmost Fingers being placed on its outward Part against the Womb, and the foremost Fingers being placed against the Inside of it, pull it away, proceeding on every Side quite round, till it is quite loosened ; then it is to be brought out, as we said of a loose After-birth, every Thing being observed which we have delivered. All these Things are to be done with a great deal of gentleness and Care, lest the Womb should be broke or torn with the Nails, or the Woman should be troubled with unnecessary Pain ; every Thing being done, as we have directed in the Womb,

Womb, let the Body be wrapped about with a warm Cloth : the Legs put in their Place ; let the Woman be put into her Bed, a Cloth being first girt about her Hips, the Knot being tied on the Left-Side, that she may rest quietly.

C H A P. XXIX.

*Of a Difficult Labour, occasioned by a Disease,
or some Fault of the Womb.*

THE Womb, as well as the rest of the Body is subject to Diseases, and by a Fall, a Slip, a Contusion, or Blow, &c. is hurt, inflamed, exulcerated, grows hard and mortifies, from all which a difficult Labour proceeds. Sometimes the Womb grows schirrous, or is troubled with a *Carcinoma* or fleshy Tumour, which makes it grow stiff and hard, so that it is not pressed together without Difficulty. But since Remedies are not easily invented for these Maladies, nor are they easily (especially by Midwives) corrected, we shall wave offering a Cure for them, leaving Physicians and Surgeons to take Pains in those Cases ; only we shall say something of the Mouth of the Womb, that Midwives may sometimes use their Endeavours there, as occasion shall require.

The Mouth of the Womb in a great many Women is so thick and hard, that it is hardly opened, which is most usual to those in Years, especially in the first Birth, if the Parts are dried by continual Labour, and process of Time, the Womb of these Women grows dry and stiff, it makes the Birth difficult, even though the *Pelvis* or Passage be larger, but much more if it be narrower, and the Point of the *Os Sacrum* be bent inwards. In a large *Pelvis* a difficult Birth is occasioned by too great a
Descent

Descent of the Womb, in which Case the Ligaments as well as the Fibres of the *Vagina* are too much relaxed, and the Bladder is too much drawn down; whence proceeds, as we said above, an incontinency of Urine, and a continual descent or falling down of the Womb or *Vagina* out of the Body, which occasions a great many Inconveniences. In some the Womb hangs out as big as ones Fist, and sometimes larger, which may in time corrupt and mortifie, as several Examples witness.

A Remedy may be found for this Malady, except it be too great; and if it be incurable, Pessaries may be made fit for that Purpose, to hinder its falling down, and hold the Womb up; to which End, see Fig. XV. which represents such commodious Pessaries, being so useful, that they hinder not Copulation with a Husband, which Virgins may also use, troubled with the falling down of the Womb or *Vagina* for other Reasons.

An Explanation of Figure XV.

- a* An oval Pessary, hollow within, a Hole ending in the acute Part.
- b* The same more Triangular.
- c* The same oval and sharper.
- d* The same altogether round.

These Pessaries are made of Cork, Wood, Silver or Gold; those made of Cork or soft Wood are to be well waxed, or they soon corrupt, and so occasion a painful Rottenness and Exulceration; but those made of Silver or Gold need not be waxed, but being hollow and light, are not offensive by their Weight, but they are to be made very smooth, lest they should hurt and occasion Pain; those made of Cork are soft and easily broke, but those of Wood are more lasting.

It is to be noted, that these Pessaries do not only differ as they are round, oval, or of a Triangular Form, but also in thickness, or rather depth; for the Pessary *d* in its Circumference is only at its Extremity as big as a Goose-quill, but in the Middle, near the Hole, it is almost four times thinner, and being on every Side hollow and thin from the Circumference to the Hole in the Middle, it so ends; I have represented these Pessaries of the same bigness they ought to be. The Pessary *d* is only a plain Orb, and not deep, but the rest are broad and deep, the outmost Part being two Fingers broad, and they end towards the Centre, more obliquely or acute from the Circumference; their internal Cavity and Depth is answerable to their external Breadth; all of them are equally well smoothed and polished, without any Edge or roughness which might hurt; those that are plain and orbicular, are fitted for unmarried Women, but the hollow ones are fittest for married Women, for Reasons easily known. *N. B.* All the Pessaries are perforated orbicularly in the Middle, that the Humours may flow through them; when the Womb is restored to its Place and well seated, these Pessaries are to be warily put into the *Vagina*, with the acuminate Part fore-most, so that the Middle of the Hole or Foramen may answer the Orifice of the Womb; whoever therefore knows the Form of the *Pelvis* well, may easily comprehend, that those three cornered or oval Pessaries are not to be inverted, but to be put into the *Vagina* the same Way, as is represented in the Figure.

But it is rather the Duty of an understanding Midwife to assist a Woman in Labour seasonably, and to be cautious, lest she fall into such kind of Accidents; which is done by keeping the Mouth of the Womb in its Place, nor ever suffering it to fall into the Borders of the Privities, when pressed by Pains; much less that the Head by its Force should

should thrust it out of the Body ; but if the Midwife keeps it in its Place, those ill Accidents would not only be prevented, but the Mouth of the Womb would be more easily opened, and the Woman in Labour would sooner bring forth her Child, and more commodiously, as we have shewn in the foregoing Chapter.

If the Womans *Pelvis* is too narrow, the Midwife is not so much to take Care of keeping up the Mouth of the Womb, as of opening it, or of making Way for its opening ; the best Way of doing which is shewn in a preceeding Chapter, *viz.* If she thrust back the *Os Coccygis*, her Hand being first well anointed with Oil, which going back, the Head of the Infant may press upon the Mouth of the Womb with greater Force, and as that resists, it thrusts its Head upon it, and by that means it cannot work its Way ; but first the Midwife ought to be certain, that the *Os Coccygis* is the Hindrance or Impediment, before she endeavours to thrust it back, and to guide the Head first directly into the Mouth of the Womb, whilst she thrusts the *Os Coccygis* backwards, otherwise the Labour is lost.

C H A P. XXX.

Of a difficult Birth from the Faults of the Vagina or Neck of the Womb, of the Bladder, the Intestinum Rectum or strait Gut, of the Privities.

WHatever straightens the Passage more, which was too narrow before, must make the Birth more difficult ; but sometimes the Neck of the Womb, the Bladder and its Neck, or the *Intestinum Rectum* may be affected and troubled with

Tumours or Ulcers, either purulent and other Malignant ones, or with Glands more or less hard, great painful; all which very much straighten, and so closely shut up these Parts, that not so much as a Finger, much less a Hand, can be put up without a great deal of Pain and Trouble. Concerning this, *Paulus Portael* tells a notable Story of a Noble Woman, whose Private Parts were so swelled and inflamed, that he could scarce pass a Probe, but after having thrust in his Finger, he gradually dilated them more and more, till at the last he had opened the Passage sufficiently for the Infant, upon which a happy Birth ensued. In all these Symptoms I refer you, not without Reason, to the Advice of Physicians and Surgeons, especially to a skilful one that practises Midwifery; which a Woman may do without loosing her Credit, or degrading her self; for it is more commendable for her not to meddle, but distrust her self, and commit the Matter to another, than rashly to endeavour more than she can do, trusting to her Knowledge and Experience. I might say more here of the Manner of handling such Symptoms, but since the Information I give in this Book is not writ for Men-Midwives that practise Surgery, therefore I shall pass those as well as other Things by, proceeding to another Accident which often hinders Birth, *viz.* the falling down of the *Vagina*; not that which happens after Birth, but presently before the Birth in the Beginning of the Labour, which often hinders young Midwives from a further search by the Touch, that they cannot proceed so well as they ought; this Sort of falling down of the *Vagina*, the Country Midwives in *Frisia* call *Præcinctorium*, because it is placed before the Entrance, which they might rather call *Obiectus*, because it lies before or opposite to the first Entrance; and then because they know no other Remedy, they endeavour to retain it within or close to the Body, by fomenting that Part of the

Vagina

Vagina that falls down, and patiently wait upon the Case, till all Things succeed of their own Accord; which except it happens, wanting Advice, they know not what to do, only sit by the Woman every Day, till the Infant is brought forth only by the Assistance of God Almighty, or the Mother or the Infant end their Days.

When a Midwife is called to a Woman in Labour, whom she knows to be afflicted with the falling down of the *Vagina*, let her presently use her best Endeavours to restore the Part to its Place; and then take a great deal of Care, that she may not suffer the Mouth of the Womb to fall down, but retain it above in the *Vagina*, and as much as may be, keep it up with her Hands, till the Woman hath brought forth both the Infant and After-Birth; after which, let her use her best Endeavours to restore the Womb and *Vagina*, and every Thing being laid smooth, let her not suffer one Fold or Wrinkle to lie upon another; then placing her with her Head lower in the Bed, (by the Advice of some Physician or Surgeon) give her drying Medicines, making use of Strengthening and Astringent Fomentations, by which, in Time, the *Vagina* is again confirmed in its Place.

The Bladder, and sometimes the *Intestinum Rectum* also, are afflicted with Tumour and Exulcerations, by which the Passage is straightened and tormented; to such the Midwife is to make use of a great deal of Gentleness, avoiding the Parts affected as much as she can. Sometimes Stones in the Bladder, or its Neck, make the Passage painful or difficult; then the Midwife is to dilate the same as much as she can, thrusting back the *Os Coccygis*, that the Infants Head may more easily fall down, without touching the Bladder too much; if the Excrements hardened in the strait Gut make the Passage narrower, she is to empty it by one or more Clysters if there is Occasion, as above-men-

tioned, or by the Advice of a prudent Physician; and whatever Tumour or Ulcer there is in the *Intestinum Rectum*, it is in the first Place carefully to be minded, lest the Excrements hardened, should press against it, by which the Pains would be increased.

CHAP. XXXI.

Of a difficult Birth, from the too great firmness of the Membranes which contain the Humours, or the Placenta being first brought forth.

THESE two Impediments may be reckoned amongst those that, as we have said, hinder the Birth, viz. too firm a Membrane, and the falling down of the *Placenta*. If I speak of the Membranes and the *Placenta*, which indeed are but one, I would have them distinguished, in as much as they distinctly offer themselves most commonly in Birth; for the thinnest Part, if it appears full of Humours like a Bladder, we call it the Lymphatick Membrane; but the thicker Part after the *Fœtus* is brought forth, to which the broken Membrane and the Navel-string adheres and is fixed, we call the Secundine and *Placenta*; that thinnest Part of the Secundine, sufficiently distended with Humours, is either broke, at the last, out of which the Humours commonly flow suddenly, and sometimes the Infant it self comes out; but if that Membrane (or rather Membranes: for it is double, composed of two Membranes) is not broke at a convenient Time, that is, when the Mouth of the Womb is sufficiently dilated, so that the Birth is hindered thereby,

then

then the Midwife may break it without Danger, to promote it; which she may do by pulling it asunder with her Nails, without drawing the Membrane to her, lest she should separate the Secundine or *Placenta* from the Womb, which would kill the Infant, except it be presently born; but the Midwife is to take a great deal of Care, lest she should break the Membrane too soon; for perhaps persuading herself that the Membrane hindered the Birth, by breaking the same too soon, when the Waters are drawn away, the Infant may be left in the Straits, and the Birth be delayed; for the Humours much more commodiously open the Mouth of the Womb than the Head of the Infant; wherefore the Membrane is not to be broken, before the Mouth of the Womb is sufficiently opened, and equals the Bigness of the Head in breadth, so that the Infant may easily penetrate it.

But perhaps some may think, what signifies it whether the Membrane be broke too soon? The Membranes are sometimes broke from about the Humours, when the Mouth of the Womb is scarce half open, and nevertheless the Infants are brought safe into the World; Truly I confess this does happen, and that the Membranes are broke within the Womb, so that the Humours flow out by Drops; and in some Women the Membranes are broke two or three Weeks before the Birth, and yet the Infants are brought forth alive; but this is always the Fault of Nature; for when the Waters flow out so unseasonably before the usual Time, the Birth does not succeed so easily, as when the Humours open the Mouth of the Womb, for the Head of the Infant to go out, and at the same time make the Way moist and smooth, so that the Infants more easily slide out, than when the Humours being first discharged, and the Passage dried, it is requisite to anoint it with Oil to make it smooth and slippery, and thus to supply the Want of Hu-

mours ; therefore except there be necessity, before the Mouth of the Womb is sufficiently open, the Membrane is not to be broke ; I say except there be necessity. For it may happen, that Necessity may compell a Midwife to break the Membrane, to prevent Mischief ; for Example, if an experienced and discerning Midwife find by the Touch, that the Navel-string is fallen down into the Passage before the Head, and that in a round and narrow *Pelvis*, so that it may be feared, that unless that String is moved behind the Head, it may be so much pressed by it, that the Circulation or Passage of the Blood may be hindered or stopped, which would certainly kill the Infant : All her Endeavours to remove and keep the String behind the Head being in vain, she is forced to break the Membrane, without respect to its Quantity ; for the falling down of the Umbilical Vein before the Head, brings more Danger than the Efflux of the Humours ; for this in some measure delays the Birth, but the other kills the Infant ; therefore the least danger is to be chosen ; but in smooth *Pelvis*'s the falling down of the Umbilical Vein is not so dangerous, as in less that are round ; though a smooth *Pelvis* sooner occasions an ill turning of the Womb and Infant ; for in that, except it is too narrow also, there is room enough for the Umbilical Vein, where being laid aside a little, it is less pressed upon ; the Midwife then minding this, as soon as the Waters are flow'd out, may presently remove it behind the Head. And by what Reason the Midwife may know and remove the falling down of the Umbilical Vein before the Head, before the Membrane is broke, we shall deliver in its Place, when we treat hereafter of the falling down of the Navel-string, and then we shall further see, upon what occasion the Membrane may be broke,

Therefore

Therefore as a Membrane which is too firm, so the Exclusion of the Secundines or *Placenta* may be hastened or retained in the Passage, *viz.* if it be loosened from the Womb, and is carried down with its heavier Part fallen into the Entrance of the Womb, and stops the Infants Way. This, *First*, is to be known by the Touch, when both Fingers being put into the Orifice of the Womb, neither the Membrane nor the naked Head is perceived; on the Contrary, thick and soft Flesh is felt, not much different from the Flesh of an Infant, which is always of a more solid Substance, either of it self, or the Bones which are covered with it: Besides, it appears, that that Flesh is without Form and without Bones, quite different from the Flesh of an Infant. This soft Flesh hinders the Midwife, that she cannot feel or distinguish the Parts of an Infant next to the Entrance, as she used to do. *Secondly*, This Case is always joined with a Flux of Blood, so great sometimes, that both the Mother and the Infant are in danger of their Lives; wherefore a prudent Midwife, without any Delay, will hasten the Birth of the Infant after this Manner. Her two first Fingers either together, or successively being thrust into the Mouth of the Womb, let her remove, as well as she can, the *Placenta*, till the Membranes appear, which she is to pull in pieces with her Fingers or Nails; or when she cannot remove the Secundine, thrusting her Fingers into its soft Substance, and there dilating them, and moving them to and again, she may so tear it in pieces, that at the last it is perforated, and instead of the constant Flux of Blood which appeared before, the Humours will presently flow out; upon which the Flux of Blood is presently lessened, or will altogether cease; for the *Acetabula* or Vessels of the Womb being opened by pulling away the Secundine, which could not be stopped whilst the Womb was altogether so much extended, upon the
flowing

flowing out of the Humours are contracted, because the Womb can now contract it self, or rather when it is straightened by the Intestines more powerfully, the *Acetabula* are more compressed, and the Mouths of the Veins shut up more closely; this is the Reason both of the Flux, and its stopping. Some presently penetrate the *Placenta* or *Secundines* with a hair Needle, which I do not approve of, (if it can be done with the Fingers) because the Infant is easily hurt; and therefore I had rather she would endeavour to perforate the *Placenta* with her Fingers, and then dilate the Hole (as much as the opening of the Mouth of the Womb will admit) and as much as she can, remove the *Placenta* by dispersing it; so that the Head, if it is first, may fall into the Passage, and the Infant, being pressed down by Pains, may be brought forth; or if it be ill turned, the Midwife without delay is to endeavour to draw it out by the Feet, as we shall teach in its Place, when we treat of the turning of Infants: Truly in this Case, delays are not to be made, because the Infant in this Condition cannot live long; wherefore a discreet Midwife will endeavour, though not rashly, to hasten the Birth of the Infant as much as she can, and will bring forth the After-birth presently when the Infant is born, which sometimes sticks so fast to the Mouth of the Womb or the *Vagina* with congealed Blood, that one would think they were not only grown together, but one: Then it is to be separated by the Fingers, always beginning in that Part where it sticks the least, as will appear, when we teach the Manner of bringing away all After-births. But if the Secundine by chance comes so forwards, that it can scarce be removed, it will be better first to bring that forth; but otherwise it is better to leave it in the Womb till the Infant is born.

C H A P. XXXII.

Of a difficult Birth, when the Child is dead.

AMongst the Difficult and Non-natural Births, the Exclusion of dead Infants is also to be numbered, whether it happens at the set Time, or the Infants die in the Birth, or some Days before; for certainly a dead Infant is born preternaturally, and contrary to expectation; since Birth is considered as the Entrance into Life, and not Death.

As Nature by no means designs to produce dead Children, so also their Birth is not so easy as that of those alive; for whatever Lives, hath Motion, and living Infants with their Size and Vigour have a Tendency towards a larger Space; and so perceiving themselves to be urged by the Intestines or Guts pressing upon them, they endeavour to clear themselves, and try by repeated Pains, to break out from their Confinement by the Way that is open, always rushing into a larger Space, which dead ones do not; for as much as like Sacks filled with Sand, or a Lump of dead Flesh, they lie immoveable, and are only moved one Way or the other by their own Weight, being void of Motion of themselves; if by chance dead Infants are placed in an oblique Womb ill turned, in or above an oblique plain *Pelvis*, the Woman in Labour being sick and infirm, and that the *Os Coccygis* is much bent, and the Privities straightened, or at least some of these Inconveniencies meet, then the Midwives must take a great deal of Pains; Besides it often happens, that dead Infants offer themselves ill turned; one Side, or the Belly, the Hands or the Feet, being against the Entrance of the Womb; or some way obliquely turned, as it will more evidently appear, when we speak of Infants ill turned,

turned, or an oblique Womb ; all these Inconveniences make the Work more difficult, so that they are not undeservedly reckoned amongst unnatural or difficult Births. But that we may avoid Confusion, we shall not here speak of any Inconveniency, but what is occasioned by the Death of the Infant, leaving the rest to their proper Places ; in this Place we only treat of a *Fœtus* or dead Infant in a Womb well seated.

Though none can doubt, whether dead Infants are born ; yet it is very doubtful, whether an Infant be alive or dead, as long as it sticks in the Mouth of the Womb in order to Birth, especially if it comes with the Head foremost, well turned ; for it can neither be certainly known by the Midwife's Touch, who can only touch a Part of the Head, nor by the Testimony of the Woman in Labour, who for a longer or shorter Time asserts that she felt the Infant alive ; because we are sufficiently taught by Experience, that those Signs commonly fail. The most certain Sign of all is, the Dissolution of the Cuticle on the Top of the Head, which happens not till some time after the Death of the Infant. I remember that I was once called into a certain Town not far from my own House, where a Woman had lain some Days in Labour ; the Infant came very well turned, and the Mother and Midwife affirmed, before me and my Wife, who was with me, that she had not for two Days perceived the Infant move, and therefore doubted not but it was dead ; nor could we learn any thing else by all the Signs that we enquired after ; therefore we did all we could to save the Woman, who was in danger of her Life, by no means sparing the Infant, pressing the Head sometimes this Way, sometimes that, and a Linnen Rowler, like a *Frisian* Collar being put in behind it, we pulled it considerably by both Ends ; at the same time doing our utmost Endeavour to dilate the

the Passage that was very close, by which means the Woman, as we thought, brought forth a dead Child, nor did any Body about her doubt of it : But the miserable Infant a little after, beyond expectation filled our Ears with its Crying, and lived a few Days after. I was mightily concerned for it, upon the Account of two or three Lumps which it had got on its Head by too much Compression, and I confess that this Mistake for so many Years hath been a Warning to me, and will so continue, whilst I live, never to deal with an Infant as if it were dead, perswaded by the Testimony of the Woman or the Midwife ; nay I mistrust my own Sense, taking nothing as certain, but the Dissolution of the Skin upon the Top of the Head, which is not easily dissolved there, because it sticks there by the help of the Hair, nor can the Infant be touched further without the greatest Labour ; wherefore I think it necessary to add here, that Midwives cannot meet with a more grievous Case than when they are obliged to handle the Infant as dead to save the Mothers Life, which never happens, except when Infants offer themselves well turned, with a Head very big, and too small a Passage, not subject to extend ; or if the Infant, by reason of an oblique Womb sticks in the Passage like an Elbow bent, as will appear by what follows, where we treat of an oblique Womb : It was a Case of that Kind, which we just now mentioned an Example of ; and for several Reasons, there is seldom occasion for an Infant to be handled like a dead one, that is held in the Passage only by its bigness, if as it is very necessary, the Midwife does but know presently in the Beginning, whether the Womb is ill or well turned, that she may discern, whether the Infant is to be brought forth only by pressing Pains or an assisting Hand ; so that to draw out such Infants with Hooks or other wounding Instruments, out of a Womb well situated, seems to me unjust ; for
those

those which come well turned, with too big a Head, or in a Passage too narrow and unapt to extend, if they are already fallen down with the *Pelvis*, may be yet saved by seasonable help; therefore I think those sort of Men certainly commit a Fault, who are so little afraid of handling these Infants, as if they were dead; if not before Men, to whom every thing is not seen through, yet sure before God, to whom the most hidden Things are visible; therefore such sort of Infants, of which we speak, whether dead or alive, are to be brought forth only by the Midwife's Hand, and not by wounding Instruments, because it is hard to be certain, as we have said, whether they are dead or alive.

Some being ignorant whether those Infants are placed in a direct or an oblique Womb, make use of a Sort of Hooks to draw them out, which they fasten, if they can, in the Side of the Head or Ears, or any Place they can conveniently; and if they can, they make use of two, *viz.* One of each side the Head, with which they draw down the Head, taking Care, if the Hooks happen to slip out, lest it should hurt the Womb or *Vagina*. But to confess the Truth, the Use of them is very dangerous, especially if the Midwife or Surgeon is not very careful, or ready handed, because they may easily hurt the Woman some where or another, and especially if the Hook happen to slip out, as it may easily though the greatest Caution is used; besides those that make use of Hooks, most commonly kill the Infant. Mr. *Mauriceau* hath invented another kind of Instrument, which in *French* is called *la tire teste*, which may be termed an *Extractor* or an *Eductor of the Head*. Truly this Instrument is more commodious, and less dangerous for the Woman in Labour than Hooks, but always kills the Infant; therefore in this Case it cannot be used with a safe Conscience, but (the direct or oblique Situation of
the

the Womb being known) is to be rejected by all good Men as hurtful, except they are certain upon Trial, that the Infant is dead, which does not certainly appear, except by the Dissolution of the Skin upon the Top of the Head, as we said above.

C H A P. XXXIII.

Of a difficult Birth, by reason of the Infants coming before the Time.

Nature designs (if I may so speak) her Fruit to be ripe and kind, but when her common course is hindered, the Fruit falls unripe and untimely, without Pleasure or Sweetness; therefore Infants that are born before the Seventh Month, may be compared to unripe Fruit, seldom living; such a Birth is reckoned amongst those that are unnatural; most commonly occasioned by ill Symptoms.

By an untimely Birth, I mean such, as when a human Body is born, whether big or little, alive or dead; but not what some call an Abortive, or Miscarriage, in which the Parts of a human Body do not yet appear distinct, but rather like a Bubble or Wind Egg; nor do I mean that Birth, commonly called a Mole, which is nothing but a shapeless Mass of Flesh without a Secundine; nor do I mean several other sorts of Excrements, which the Womb usually casts forth as hurtful and troublesome to her; but a Woman that is truly with Child, if she bring forth a *Fœtus* before the Seventh Month, though never so little before it, that I call an untimely Birth and Abortive; this, as common Experience witnesses, happens too often, the Cause of which is manifold and various; yet fearful Women, and those that are timorous and passionate
are

are most commonly subject to it ; for those Passions of the Mind putting all the Blood into a violent Motion, occasion an Hæmorrhagy, which is most commonly succeeded by a Miscarriage. And in general, whatever destroys a *Fætus* in the Womb, is the Cause of a Miscarriage ; for an untimely Birth commonly follows the Death of an Infant ; for the Infant being dead cannot be long contained in the Womb without Corruption ; and though some Examples happen of dead Infants being contained in the Womb a long Time, and almost consumed there, yet they are unusual and rare. On the Contrary, we find by Experience, that dead Infants stay not long in the Womb, for as much as they lie there, as an useless and troublesome Weight contrary to Nature. But I shall pass by the proper Causes of Miscarriage, lest I should rather seem to instruct Physicians than Midwives, for it is not my Design to prescribe them Forms of Medicines to remove them ; but I shall insist only on the Art of Midwifery, and the general Knowledge which belongs to that.

I have said, that fearful, timorous, and passionate Women easily miscarry, especially if any of them are subject to Hæmorrhagy upon Passion or Fear ; for nothing sooner drives out a *Fætus* than a Hæmorrhagy ; and though perhaps the *Fætus* is not quite drove out by it, yet if it continues till she is troubled with fainting Fits, and it be observed, that after an immoderate Flux of Blood, she is seized with Cramps and Convulsions, then the *Fætus* must needs be brought forth, except you intend the Woman should die ; so that a Hæmorrhagy is always the Cause of a Miscarriage, whether the Pains force the Birth, or the *Fætus* be taken away by the Midwife.

Those immoderate and continual Fluxes proceed from the separation of the Secundine, if that is partly or wholly loosened and separated from the
Womb

Womb by violent Passions of the Mind, or a Fall, a Slip, or too much Extension, or any violent Motion; when this is done, the Flux cannot be stopped, but continues, so that the Blood falling down in Clotts, at last occasions fainting, and except the *Fætus* is then brought away, Convulsions follow, and at last certain Death; wherefore in such Cases Extremities are not to be waited for, but the Infant is to be drawn away in time, especially if the Secundine is found by the Touch to lie against the Mouth of the Womb, because then all hopes of stopping the Flux is past; and if there be any Sign of Hopes to save the Infant, preparations must be presently made to bring it forth, by which means the Infant is sometimes saved, if it be about the Seventh Month.

Sometimes it happens, that Women with Child have their Courses regularly till they are brought to Bed, or are troubled with some other extraordinary Flux, which, if they lie in their Bed, may be stopped by the Use of internal or external Medicines, and then there is no need of bringing the Infant away; But if the Flux owes its Original to the Separation of the Secundine, nothing will stop it but a sudden Birth of the Infant, which is not to be deferred too long, lest the Woman should die under your Hands. This Exclusion of the Infant, after such an Hæmorrhagy, may be not only before the seventh Month, but also at any time, whether before or after the seventh Month; and if the Business is easily perfected after the seventh Month, that gives greater hopes than before, that both the Mother and the Infant may be saved; for it seldom happens, that Children that are brought forth before the seventh Month are alive, or if they are born alive, yet they commonly die soon after.

The Method of bringing forth such *Fœtus's* is thus : The Woman being placed in Bed, with the upper and lower Part of her Body almost equal, thrust one or more of your Fingers into the Mouth of the Womb, (as it is more or less open) dilating it so much with them, that you may put in the Ends of them all, by which means being gradually dilated, at last it is open enough ; supposing the Infant five, six, or seven Months old, or more ; otherwise if it be younger, it may be brought forth sometimes with one or two Fingers ; therefore all Things are to be done with Judgment. The Mouth of the Womb being thus enlarged, the Membrane, if it offers it self, is to be torn with the Fingers, making use of the Nails if there be occasion, upon which the Humours will soon flow out ; when the Membrane is broke, the Hand is to be put into it, to the Infants Feet, which (except they offer themselves first) are to be sought in their Place, nor is any other Part of the Infant to be taken hold of, or brought first into the Passage, not though it be the Head that offers it self ; for when a Woman with Child is weak and infirm, and most commonly wants the Pains of Child-Bed, the Exclusion of the Infant is by no means to be left to Nature, but to be performed by Art ; therefore the Infants Feet are to be found out, and to be drawn out both together, if possible, and thus the Infant is to be turned, which is easily done before the Humours are wholly flow'd out, and the Womb is loose and slippery. But if you cannot join both Feet together, draw down one at least, only taking care, that it sticks no where, and the turning of the Infant will succeed well : Having drawn one of the Feet towards you, endeavour to get the other, and joining them together, draw them out ; and whilst they are drawn into the Passage, it is to be observed well, how they are turned. If the Toes are turned upwards or towards either Side, then holding

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ing the Feet together, as you draw them out gradually, turn them after this manner; both Feet being taken hold of, are drawn forward with one Hand, whilst the other, as well as you can, is thrust towards the Knees or Buttocks, and by this upper Hand the Body of the Infant is twisted or turned, so that its Belly, Toes, and Face tend downwards towards the *Intestinum Rectum* or straight Gut; and thus the Infant is quite drawn out; after which the Secundine is brought forth, whether it be yet separated and loose from the Womb; or in some Measure, though commonly slightly, adheres to it. Then further, the Womb is to be cleansed from all the clotted Blood, Membranes, or whatever was left in it, as we shall shew more fully hereafter.

C H A P. XXXIV.

Of a difficult Birth from the Infants being too big.

AS the Parts of Women serving to Generation are sometimes too small, so Infants sometimes are too big; for between the Passage and that which ought to go through it, a just Proportion is required, otherwise the one cannot pass through the other; and whether the Passage be too narrow, or the Thing that is to pass too large, that alters not the Midwives Work necessary in this Case; and since the Bones of the *Pelvis*, if they hinder the Passage, cannot be dilated, but the *Os Coccygis* only, all the Work is with the Infants, which since they cannot be drove out by the Efficacy of the Pains, there is occasion for the Hand of a Midwife, by which they are more commodiously brought forth by the Feet than the Head, and

this is done more safely in the beginning of the Labour, than afterwards, when you are in distress; yet when Infants are already pressed down into the narrowness of the *Pelvis*, they are to be assisted, by dilating in some measure the Passage below, near the *Os Coccygis*, as we have shewn in the XXXII. Chapter, which we shall not repeat here.

It may sometimes happen, that the Infant's Head in proportion to the *Pelvis*, so much exceeds in Quantity, that it cannot be brought whole through the *Pelvis*, though it comes well turned, the Womb being in a right Posture; in such an extraordinary Case, extraordinary Means are to be used to preserve the Mother's Life; but of this we shall give our Opinion at the End in the Appendix, where we shall shew what we think is to be done in such a Case, since under the Pretence of great Heads, a great many Infants have perished miserably.

C H A P. XXXV.

Of a difficult Birth occasioned by the ill turning of Infants in general.

HAVING hitherto observed the Method proposed, we have considered the Causes of a difficult Birth in Infants well turned in a Womb well placed: We shall next proceed and consider the ill Posture of Infants in a Womb well placed, as the Cause of a difficult Birth, and that in a two-fold Sense: *First*, properly, according to the Opinion of Authors who have writ before of Midwifery, whose Opinion is received generally as grounded upon Reason and Experience. *Secondly*, We shall see from the Annotations annexed, that such an ill turning of the Infant, joined with an ill Situation of the Womb, makes the Birth much more difficult, and that

that the true Knowledge of a Thing being learned by this Hypothesis, all Endeavours are to be used in such a Case, which being neglected through Ignorance, is the Cause, why the Woman does not bring forth the Infant, or that a great many Pains are inflicted on the Mother and Infant, to no purpose. I am obliged to a clearer and fuller Explanation of this Matter, the more, both because I am the first Author of it that I know of, and because I think the Demonstration of this Truth is of the greatest Concern; wherefore, if to illustrate the Thing more clearly, I have occasion to repeat the same Thing in a great many Places, that is done only, that I may add more Weight to the Truth and Importance of the Matter, which otherwise may be but slightly regarded.

Therefore in the following Chapters, we shall consider and explain the ill Situation of Infants in a Womb rightly placed; affirming, that the ill turning of Infants in a Womb ill placed, always occasions more inconveniency and hindrance, than in one well placed, which we shall demonstrate every where in its Place, with Notes annexed; also amongst the ill turnings of Infants, we shall reckon those which offer themselves in the Passage or Mouth of the Womb, with the Head foremost, yet with their Face upwards, or turned on either Side; or, whose Heads are stopped in the Passage by this or that Thing coming forth before or along with them; for Example, a Hand, a Foot, or the Navel-string, &c. which hinder the Birth and make it difficult.

If I should satisfy my self only in proposing the ill Version or turning of Infants in a Womb well placed, I should do the same which all other Writers before me have done, who either wanting sufficient Light, or Ingenuity, have neglected or concealed the chief Science in Midwifery in a difficult Birth. I easily perswade my self, that is

done for want of Knowledge, Attention, and a distinct Apprehension of Things, rather than Dis-
 ingenuity ; for it is scarce credible, that if they had
 known Things well, they would have given us Fi-
 gures so defective. Amongst all the Figures I have
 seen, I have not met with one that represented the
 ill Situation of the Womb, much less an Infant ill
 seated in a Womb ill situated ; whence I conclude,
 that all Authors believed, that every difficult Birth
 took its Original only, from the ill turning of the
 Infant in a Womb well placed ; when on the Con-
 trary, a great many difficult Births, nay most of
 the most difficult, proceed from the ill situation of
 the Womb, by which, very often, that ill turning
 of the Infant in the Womb is occasioned ; for those
 that in the beginning are well turned, by reason of
 the ill situation of the Womb, being not able to
 pass into or through the *Pelvis*, from being well
 turned, they become ill turned ; which commonly
 happens for want of seasonable Help, as we shall
 demonstrate in the following Chapters. Since these
 Things are so, who will not assert with me, that the
 Knowledge of the various Positions of the Womb, is
 of the greatest Concern, and very necessary for those
 that practise Midwifery, who would faithfully assist
 a Woman in Labour ?

But if I had represented all and every one of the
 ill Positions of the Womb, and the ill Versions of
 Infants in it, which might happen, I had too much
 increased the Bulk and Price of this Book, and
 new Things are subject to greater Difficulties, by
 reason of the Charge ; wherefore being content to
 represent the Figures of the principal Situations of
 the Womb and of Infants, *viz.* those which chiefly
 serve to explain our Conceptions, we shall add the
 Discription of the other ill Situations in Words,
 for the Explanation of those, as well as may be ;
 not doubting but that these few will sufficiently
 furnish Matter for Discourse of the other, so that

an attentive Reader may form a clear Idea of them, and these being well understood, he may easily conceive the rest in his Mind. And first we shall treat of the ill Version or turning of Infants, in a Womb well placed, proceeding gradually to the more difficult Cases.

C H A P. XXXVI.

Of a difficult Birth proceeding from an Infant's coming forth with its Face upwards.

TO confirm what we have laid down in the foregoing XXXV. Chapter, of the necessary Knowledge of the various Positions of the Womb; in this Chapter we shall demonstrate the difference betwixt an Infant coming into the Passage, with its Face upwards or forwards in a Womb well situated, and the same Situation of the Infant in a Womb ill placed.

The Birth of an Infant coming with its Face turned upwards in a Womb well placed, is certainly more difficult and much different from an Infant well turned, *viz.* coming forth with its Face downwards. For that end, let us look into the XVIth Figure, representing to us such an Infant, in a Womb well placed, who falls down into the Cavity of the *Pelvis* with its Head through the Mouth of the Womb, and consequently hath all the Advantages, which an Infant well turned can have, towards a happy Birth, because the Parts have altogether the same Form and Size, whether downwards or upwards; yet an Infant, with its Face upwards, cannot be so commodiously bent and adapted to the Form of the *Pelvis*, as one that falls with its Face turned downwards. A Midwife

ought not to be disturbed by this Posture of its coming forth, but to hope for the Birth of the Infant with the same ease, as if it were otherwise turned, and came with its Face downwards, if she only takes care, that it fall down with its Head direct, nor hurts it, whilst she endeavours to bring it forward ; therefore she ought to do all she can to enlarge the Passage, dilating the Privities, and thrusting back the *Os Coccygis* with her Hand against it, as we have said above, taking care not to lift up the Head with her Hands or Fingers, (while she presses back the *Os Coccygis*) and so rub or bruise the Face by pressing it against the *Os Pubis*. But to proceed, let us see, whether the Birth will be as easy, if the Infant turned in the manner just mentioned be in a Womb ill placed : And it will appear, that there is a great deal of difference, consisting in the following Particulars.

An Infant turned in the manner aforesaid, in a Womb well placed, is no otherwise situated, than an Infant well placed, the Head hanging over the Cavity of the *Pelvis*, so that it can press upon neither Side, and can no where be obstructed ; but in a Womb ill placed it will turn the Head either before or behind, or on either Side, and be apt to stick fast, as the Womb is more or less obliquely seated ; for when the Womb is supine, and placed to the *Vertebrae* of the Back, and suspended higher within the Body, what else can be the Event, than that the Infant should press with the Top of its Head, and as it were stick fast upon the *Os Pubis*, which an expert Midwife may find with the Touch ; for she will perceive the Mouth of the Womb suspended higher, either fixed upon the *Os Pubis*, so that she can (not without a great deal of trouble) touch only a small Part of the lower Border of the Orifice like a Semi-circle, as we have elsewhere taught, as if the Infant was well turned. But the Head after this manner being fallen

len down into the *Pelvis*, would be brought forth with the Face upwards, if ever it happened to come forth, which is almost impossible, and at the best very dangerous; but if the Womb be placed backwards in a Woman that hath a great Belly, and the Infant in her, being with its Face upwards, sets its Head against the Mouth of the Womb; then the Midwife will find the Mouth of the Womb backward against the *Vertebrae* of the Loins, on the upper Part of the *Os Sacrum*, and cannot touch it without a great deal Trouble, like a Semi-circle; when on the Contrary, the Mouth of the Womb well placed, will be found much lower, and she may without any difficulty, touch and take the Dimensions of its whole Circuit or Circumference.

But in this Place it is also worth Observation, in what Midwives ignorant of these Situations of the Womb, are most deceived, *viz.* that they think from the beginning, that they feel the Infant much otherwise seated, than it really is; for from the first, such an unskilful Midwife will think, that she distinctly perceives, that the Infant rightly turned, will go into the Passage, mistaking the back Part of the Infant's Head, which she perceived in that Part of the Womb which was betwixt it, for the Crown of the Head. Further, the Midwife persists in her Error, because this same Infant passing further into the Passage, is not excluded as one Supine, or with its Face upwards in a Supine Womb, but like an Infant well turned; for there the Head continues in the same Posture in which it first offered it self. And the Reason of that turning is, because the Infant being in the above-mentioned manner slipt into the Passage of a prone Womb, ought in some sort to be routed forwards Head foremost, so that then it may appear above, what before was perceived below, which is only occasioned by that ill Posture of the Womb. No Body hath

hath hitherto exp'ained this Matter, for who ever considered this Change, or described it, *viz.* that the Posture of the Womb was only the Cause, that of two Infants falling into the Cavity of the *Pelvis*, with the back part of their Head, the Crown of both their Heads being opposite to the Mouth of the Womb, the one should be born with its Face downwards, turned towards the *Intestinum Rectum*, but the other with its Face upwards, turned towards the Bladder of the Woman in Labour.

So also an Infant that is supine in a Womb lying much oblique to the Right or to the Left, in a Woman whose Belly is stretched very broad, runs the Head against the *Os Pubis*, or the Spine of the *Os Ilium*, and there is held; so that without a great deal of Pains it cannot be introduced into the *Pelvis*. Such a Situation of the Womb may be known by the Touch, *viz.* If the Mouth of the Womb be found opposite to either Side of the *Os Pubis*, or the *Ilium*, so that it can only be touched on one Side, *viz.* the lower Edge. By this Method all the Postures of the Womb are known, by all and every one of which, difficult Births are occasioned, of which these last are most difficult, especially if Midwives are ignorant of this ill posture of the Womb; and how should they know this? When hitherto not one of the Writers knew it, or at least, hath writ nothing clearly, that I know of, about it; therefore because Midwives know not how to distinguish this various Posture of the Womb, they do not look after Women in Labour seasonably; and by this Ignorance, the Safety of a great many Women in Labour is hazarded, *viz.* when the Womb being placed in these Positions, the Infants thus offer themselves; when being destitute of due Help, they die without bearing their Children; whereas had they been seasonably assisted by a good Midwife, or skilful Surgeon that practises Midwifery, they might have been saved.

Now

Now here it might be seasonable to shew, how these Infants are to be introduced into the *Pelvis*, and moved forwards into the Passage; but because we shall do that in the following Chapter, treating of the Womb thus ill placed, we shall say nothing of it here, referring the Reader thither. Nor do I think it necessary here to tell, by what Signs it may be known, whether an Infant comes forth with its Face upwards or downwards, when we suppose that the Nose, Mouth, Eyes, and Chin, may easily be distinguished from the back of the Head, which is even, smooth, and round; but an Infant being turned so from the first, they are not easily distinguished, yet an Experienc'd Hand with only one Finger, will easily perceive the Difference of the fore and back part of the Head, before the Head is come so much forwards, as to leave the Eyes and Ears uncovered.

An Explanation of Figure XVI.

- a a* The *Vertebrae*.
- b b* The Belly or Circle representing the Place of the Belly.
- c c* The Bones called *Ossa Ilium*.
- d d* The *Ossa Pubis*.
- e e* The Womb in which the Infant is placed.
- f f* The Sedentary or Seat-Bones.
- g g* The Cavities of the *Os Coxendicis* or Hip-Bones.
- h* The Infant in the Womb.
- i i* The Navel-string.
- k* The Secundine.

Let now the modest Reader judge, how falsely, imperfectly, and detrimentally the Situations of Infants have been delivered to us. Who would believe, that so many famous Men and Women that have practised Midwifery for so many Years, and
writ

writ Books of Observations concerning that Art, yet never observed the different Situations of the Womb, with the Inconveniencies proceeding thence in Labour? I confess, I have very much admired it; can any Body think otherwise, but that those Men have handled the Matter with very little Study, Meditation or Attention? Because they have not observed, of how great Moment it is, nor sufficiently weighed the greatness of the Consequences; for this Matter is of so much moment, that when the Infant is turned the most commodiously, so that it is almost brought forth of its own accord, and without trouble, when the Womb is well placed; nevertheless the Womb being ill situated, the most difficult and dangerous Birth follows, as appears by this Chapter and others.

Justina, Midwife to the most Serene Electorefs of *Bradenburgh*, being very attentive to these Matters, that she might write something conveniently of the Art of Midwifery, for the Instructions of others, hath also noted in her Book, that she found some Infants in Women that had thick Bellies, hanging forwards, with a prone Head (*i. e.* the Face downwards) and their Feet upwards, fall forwards, because, as she says, those Infants were slipped down too much into the Belly hanging forwards; but she did not understand the true Reason of the Thing, with its Consequences.

Mr. *Mauriceau*, treating of the Causes of Barrenness in some Women, lays this down amongst the Chief, *viz.* because in some Women, the Mouth of the Womb obliquely answers to the Entrance of the *Vagina*; whence he thinks, that the Seed is only cast on one Side, and not directly into it, which as I do not altogether deny, so much less do I affirm it; besides he elsewhere mentions Women in Labour, whose Womb is obliquely situated, yet he does not explain what he would have understood by

by that; for he writes in so few, obscure and abrupt Words, that I confess, I did not mind the Matter before, till I truly knew the ill Situation of the Womb a long Time since by Experience, and had writ it down; and this is all which I remember I ever read of this Matter; nor did I ever discourse with any Practitioner in Midwifery, either Man or Woman, who had observed the ill Situation of the Womb and its Consequences.

What now do you think, Candid Reader? If those whose Office it is to assist Women in Labour, and to whose Care the Life of the Mother and Infant is committed, are not acquainted with the Situation of the Womb and Infant, being ignorant what Hindrances Women's Labours are incumbered with, why one Woman though labouring with violent Pains, cannot bring forth her Infant; or why the Infant, after a great many severe Pains, continues suspended so high in the Body, and sticks fast; I say, what do you think of it? Is not their Condition unhappy, who are assisted by such? Therefore I would advise all young Midwives, carefully to consider, how necessary the Knowledge of the various Situations of the Womb is, so that foreseeing what Dangers may happen in the beginning of Labour, they may speedily do what is to be done, and secure the Mother and Infant from danger.

C H A P. XXXVII.

Of a difficult Birth, when Infants come into the Passage with their Face forwards.

AN Infant comes well turned, if the Chin leaning upon the Breast, the top of the Head tends to the Mouth of the Womb, then in some measure open ; and in this Sense Midwives use this Term *well turned*, which I would here make so plain to every Body, that young Midwives may understand its genuine Sense. But if it happens by chance, that an Infant tending with its Head to the Mouth of the Womb, yet the top of his Head inclined upwards, offers it self in the Passage with its Face forwards, instead of the Crown of its Head, then it is an ill Situation, which commonly occasions a difficult Birth ; the Reason is, because the Head being so placed, the Mouth of the Womb, and the rest of the Passage must be more dilated for its Exit, than when the top of the Head comes first into the Passage ; for when the top of the Head is first, the Head alone, and then the Shoulders may pass through the Way that is open ; but when the Face comes forwards, the Head is bent upwards into the Neck or to the back, which increases its Bigness, so that it cannot, or at least not without a great deal of Labour, pass through.

It is the Midwife's Duty therefore, as soon as she perceives by the Touch, that the Head comes so ill turned, presently to use her Endeavours, to mend that ill Situation ; which may most seasonably be done presently after the Waters are flow'd out, for then there is Room enough to turn the Head, or to bend the Head backwards into the Breast, so that the Crown of the Head may be gradually moved forwards to the Birth. But the Midwife
must

must handle the Face very cautiously and gently, and the Nose and Eyes are to be spared most, being easily hurt; but that the Matter may succeed the better, the Woman is to be laid down on her Back with her Head low, and to be hindered, that she may not work with her Pains, before the Head is turned; neither is the Infant to be taken by the Face (to place the Head with the Chin upon the Breast) or to be drawn out, as some seem to advise, but the Woman being laid upon her Back, the Midwife putting the Palm of her Hand to the Breast next the Infant's Throat, let her press back the same wholly towards the Bottom of the Womb, and the Head will fall forwards of its own accord, upon the Arm of that Hand that presses it back; which being taken notice of, the Midwife presently withdrawing her Hand, will find the Head well turned, or easily to be placed right; but if by chance the Head is too strictly held, because she cannot sufficiently press the Infant back, then with her Fore-Finger or Thumb thrust into its Mouth, let her gradually draw it forwards, or the Ends of her Four Fingers being thrust betwixt the Womb and the back part of the Head, let her endeavour to depress it. Judgment is to be used, and it is to be considered by the Situation and Space, how the Head may be turned most conveniently. As soon as the Head goes as it ought into the Passage, the Woman is to be placed commodiously for Birth, *viz.* That she may partly sit, and partly lie down, with her Legs stretched out, and her Knees bent or lift up to her Belly; and then let her loose no Opportunity of her Pains, but as much as she can let her strive with every Pain to bring forth the Infant.

Perhaps thus much might be sufficient to shew, how Infants coming with their Face forwards, are to be helped; yet we shall spend a little more Time in considering Infants in a Womb well placed, and see,

see, what Inconveniencies result thence, and how it may be known, where the Womb is, and how the Infant is placed in it. Whoever allows, that Infants come with their Face forwards in a Womb well placed, they may easily conceive, that there may be the same Version of Infants in a Womb ill seated, whence they may more easily allow, that greater Inconveniencies happen from the latter, than the former Position of the Womb, and that we may help our Conception in understanding this Posture more clearly, let us look into the XVII and XVIII Figures.

The XVII Figure shews us the Womb rightly seated, in which the Infant is placed with its Face not directly against the Passage, but with the Chin turned to the *Os Pubis*, both Hands and Arms being excluded or drawn out; but the Infant, before the Waters flow out (not presently after they are come away) are not turned after this manner, but on the contrary are often turned that way, as the XIII Figure shews; but if the Midwife, presently after the Waters are come away, does not thrust the Hands back quick enough, and promote the Motion of the Head into the Passage, then the Hands come first, but the Head is turned up forwards, and the Infant is forced with its Face near the Chin upon the *Os Pubis*; so that after, by reason of the strict Contraction of the Womb now dry, it is almost unapt for any Assistance in the Exclusion, and then most commonly they endeavour too late to thrust the Hands back again, and to turn the Head into its natural Situation; for nothing then is more to be done, than to thrust one Arm, or both, if possible, back again, and passing the Hand under the Breast, to pull the Infant out by the Heels, as if they had offered themselves first for Birth. It may happen, that the Infant may offer its Face first in the Passage, without the Hands coming before, and then almost the same Method

is

is to be used, as above mentioned ; in which the Head is produced in a natural Manner, *i. e.* with the Crown of the Head first.

But if the Infant comes with its Face foremost in a Womb placed obliquely, whether the Hands come with it or not, the Difficulty encreases ; nor does the Matter succeed so well : Nay, it is often unadvisable, to take Pains in bringing an Infant forth with its Head first into the Mouth of the Womb ; for as much as by this Means, the Mother as well as the Infant would be exposed to greater Danger (with a great deal of Labour) than before, when it was obliquely turned ; because it is safer to draw out the Infant, so placed, without delay, by the Feet, than having turned the Head into the Passage, to expect its exclusion by the Mothers Labours ; and doubtless also, it will be easier to turn the Infant in its first Posture by the Feet, than after, when the Head is brought into the Passage.

Therefore an Infant offering its Face first, is to be treated much otherwise in a Womb rightly seated, than in one that is oblique ; the Head of the first is to be turned, and to be directed into the Passage, but the latter is more safely drawn out by the Feet, when they are found ; and that the Ground of this Assertion may appear more plainly, look into the XVIIIth Figure, representing an Infant with its Face and both Hands placed before the Mouth of the Womb, in a Womb obliquely placed to the Left ; but because the latter part of the Womb so placed, tends in some measure obliquely ; (as this Figure represents) the Infant is in some measure obliquely turned, chiefly on its Back, by reason of this Position of the Womb. The Mouth of this obliquated Womb is opposite to the Spine of the *Os Ilium*, betwixt the *Vertebra* of the Loins, and the Left *Os Pubis* ; so that the Mouth of the Womb can scarce be touched

with the Fingers of the right Hand, to feel with them the lower Border of the Mouth of the Womb; nor can you introduce the same without a great deal of Pains, or discern any Part opposite, whether the Membrane be broke, which sometimes happens, or be yet whole. This Posture of the Womb without Controversy requires, that the Infant, whatever Posture it offers it self in, be presently drawn out, not by the Head, but most conveniently by the Feet; but those that do otherwise, do not act with mature Judgment, exposing both the Mother and the Infant to the greatest Danger. To make this Assertion more evident, let us see how the Infants Head may be most commodiously directed right to the Mouth of the Womb; and how both the Head and the Mouth of the Womb may be introduced together into the *Pelvis*: And lastly, how it is to be brought through the narrow Passage of the *Pelvis*.

First then, the Mouth of the Womb being taken hold of by one or two of the Fingers, it is as much as possible to be drawn from the *Os Ilium*, and to be directed straight into the *Pelvis*, that as Occasion requires, the Hand may be passed into the Womb. But the Membrane is either now broke or not; if not, it is either to be broke with the Nails, or we are to wait till it breaks of its own Accord; perhaps it may be long before the last is done, because in such a Situation the Pains press down very little, and in the mean while, Time is lost, and the Woman is weakened; but if you break the Membrane before the Womb is sufficiently opened, the same must be opened with the Hand; for the Waters flowing out, no delay is to be made, otherwise the Opportunity of turning the Child will be lost: Besides, the Womb being thus oblique, its Mouth will not be easily opened, and her Woman is tormented with it, as well as her Strength impaired; the Privities are also to be dilated; for the enlarging

ing of the Mouth of the Womb, and the turning of the Infant cannot be done, except the Hand is passed through the *Vagina* into the Womb. When this is done, the Woman is seized with the most violent Pains, and the strongest Labour being over, when it hath proceeded so far, you may easily reach the Feet, and turn the Infant at pleasure, which sometimes is done so readily and easily, as if you had rightly disposed the Head, and placed the Hands according to the length of the Body. Supposing now, that the Head rightly turned, tended toward the Mouth of the Womb, and the Arms were placed backwards according to the length of the Body, what then? How much progress is made by all these Endeavours? Are we like to succeed well? Or is the Womb now rightly placed? Where is the Infant's Body? How shall the Pains bring the Infant to the Birth, or the Midwife perfect it? Not at all; for now at last, the height of the Labour is upon her, we shall soon find the Infant dead, the Mother in danger of her Life, and the Midwife at a Loss what to do; except God Almighty wonderfully take care of them.

But perhaps some may say, how came you to talk so inconsistently? Just now you said, when you treated about turning the Infant's Head, that the greatest Work was over, and that the Woman had suffered the sharpest Pains; why do you now say, that now the greatest Danger is at Hand, when the Infant is placed right in the Passage? But what is it to be placed right in the Passage? I confess, the Head is opposite to the Mouth of the Womb, and in this Sense directly hangs over the Passage, but it is not well placed so as to be Born; for it is an old Mistake, which hitherto the whole World hath made; so that all the Books hitherto writ concerning the Art of Midwifery, have delivered erroneous Instructions; they think all is right, as soon as the Infant hangs over the Mouth of the Womb

with the top of its Head; nor is further search made, where the Body of the Womb and the Infant is placed, in what Posture it hangs over the *Pelvis*, or how it is to pass into the same. Look into the XVIIIth Figure, and consider, whether the Body of the Womb and the Infant being in so oblique a Posture, the Infant can be pressed down through the *Pelvis*, although the Head is a little thrust by force into the *Vagina* of the Womb, above the Cavity of the *Pelvis*? by no means. Truly the Head might slip down into the *Pelvis*, because it hangs over it, and only wants Depression; but by what force must it be promoted? They say the Pains will force it into it; but it should be added, *perhaps*, if sufficient Pains be not wanting; but when the Head is forced into it, what then? How will the Head pass? How will the Body fall down? Do not you know, that when the Head is slipped down, the Shoulders are forced against the *Os Ilium*, and there stick fast, where the Mouth of the Womb stuck before? And how will the Shoulders be forced down thence? Can your Hand be put in next the Head to move the Shoulders forwards? I believe no Body can do it, except the Woman's *Pelvis* be very large, and the Midwife's Hand very small, otherwise it will be impossible; and what is to be done then? Except to preserve the Mother, the Infants Head be opened to the Brains, and taken out with Hooks, a Forceps, or Eductor, which yet does not so prosperously succeed, because the Shoulders are held, that they cannot follow, though you draw with all your Power, as if you would draw the Head from the Shoulders; wherefore it is sometimes necessary, to pass the Hand near the Head that is Brained, even to the Shoulders, to remove them from the *Os Coxendicis* or Hip-Bone, and the *Os Pubis*, that the Body may easily follow the Head; and then it will be very well, if after so many Labours to no purpose, the

Mother's Life be saved. Do not our Writers give very good Advice? Always urging, that the Head may be brought into the Passage, without respect to any difference of the Womb, whether direct or oblique; most deplorable blindness, with which so many Men are in the Dark! and every Day are led into Mistakes! I hope the World will be better informed by what I write, recommending a new Method of Midwifery, which may be used successfully. Therefore I think I have said enough in this Place, to demonstrate the Difference betwixt a direct and oblique Womb, when Infants come with their Face forwards; and if I had a Mind to take a View of the same Situation further, in a Womb that is prone or supine, *i. e.* oblique backwards or forwards, the Subject would be very large and ample; but passing from these, we shall proceed to the Consideration of other ill Situations.

An Explanation of the Figures XVII, XVIII.

Figure XVII.

- a a* *Vertebræ.*
- b b* The Circle, representing the Place of the Belly.
- c c* The *Ossa Ilium.*
- d d* The *Ossa Pubis.*
- e e* The Seat-Bones.
- f f* The Cavities of the *Ossa Coxendicis*, or Hip-Bones.
- g g* The Womb, in which the Infant is placed.
- h* The Infant in the Womb.
- i i* The Navel-string.
- k* The Secundine.

Figure XVIII.

- a a a a* The *Vertebræ* of the Loins.
- b b* The Circumference of the Belly.
- c* The Left *Ossa Ilium.*
- d d* The *Ossa Pubis.*

e e The Seat-Bones.

f The *Acetabulum*, or Cavity of the Left Os *Cox-endicis* or Hip-Bone.

g g The Womb, in which the Infant is placed.

b The Infant in the Womb.

i i The Umbilical Vein.

k The Secundine.

CH A P. XXXVIII.

Of a difficult Birth, from an Infant's coming with the Navel string foremost.

THERE is scarce any Posture of an Infant, which may not be attended with an untimely Birth of the Umbilical Vein, *viz.* in which the Navel-string is carried down, first into the Passage, whether alone, or with any other Part, as the Head, Hands, Feet, or along with any other Part of the Body ; and this most commonly happens, if it be pretty long, and not turned about one or another of the Infant's Parts. The Navel-string is variously turned about the Parts, *viz.* the middle of the Body, the Belly, the Neck, the Arms, or Legs, whence a great many Inconveniencies arise, which occasion a great deal of Trouble.

Here I shall by the by, take Notice, that I have seen, not without Wonder, the Figures Mr. *Pew* hath in his Book of the Art of Midwifery, which I read in hopes to find new Experiments, besides what have been delivered by others ; but I wonder to see nothing new, except the various Circumvolutions of the Umbilical Vein, all his Figures to that Purpose being very elaborate. But besides, that it is ridiculous that so expert a Man as he would seem to be, should represent such Wombs

Wombs full of Water ; it is moreover a Wonder, he would perswade us, what Reason tells us is impossible ; for Example, In his third Figure is represented an Infant suspended in the Middle of its Waters, with its Hands, Feet, and Head turned downwards, who sticks so suspended by the Umbilical Vein only, rowled about the Middle of the Body. For a like Reason, another is represented in the Fourth Figure, suspended in the upper Part of the Womb, with its Belly turned downwards. These two Figures are false, because the Cases can never be found in that Manner, but are only feigned by himself, to add Beauty to his Work ; the same may be said of the Fifth and Sixth Figure ; and I thought my self obliged to shew those Errors, lest young Midwives should furnish themselves with his Mistakes.

I do not deny, but that the Navel-string may be turned as those Figures represent ; but I deny, that the Infant can continue suspended after that manner by the Navel-string, except the Navel-string were tied, after some sort, in a Knot ; but they are not tied in those Figures ; wherefore the Infant must needs rowl down by the Weight of its Body ; and as a Spindle cannot continue suspended by a Thread that is only turned round it, unless it be tied with a Knot or made fast ; so an Infant cannot continue suspended by the Navel-string, only turned about the middle of its Body, except it be made fast by a Knot, or the like. But perhaps the Authormay say, that the Infant swimming in Water, hath no Weight, being pressed on every Side, and supported with the Water, so that it cannot be depressed by its Weight : But supposing it was so, yet his Argument must fail ; for those Figures are shewn, to teach, that the Infants are retained by that Suspension, that they may not fall into the Passage ; if this be true, Gravity is to be supposed, otherwise that Suspension cannot be the Cause that the In-

infants do not fall down ; and suppose, that in standing Waters Gravity had no Force, which is false, yet presently after the Waters are come away, it would take place. His Ninth and Tenth Figures also are feigned and false ; for never any Infant can continue suspended after this manner, with the Navel-string turned about its Neck ; for either the String holds it suspended, or not ; if the First, the Legs and Buttocks of the Infant at the least will hang down, but not the Back or the Side ; if the latter, the Infant will not continue suspended, as it is represented in this Figure, but would rowl down by its Gravity to the Mouth of the Womb ; therefore these Figures being false, are only Figments. By this means the World is filled with Books and large Volumes, in which those Things that are good, are only Transcripts of other Authors ; but those Things which are new, are the ingenious Inventions of the Brain, in reading which, Men lose both their Time and Money. Who that looks into this Author's Figures, would not say, that nothing is more easy, than for an Infant to be turned in a Belly where there is so much Room, such as here is represented ? For Infants placed in so large a Space, as these Figures shew, might as easily be turned, as in a large Vessel or Butter-trough ; but the Matter does not so readily succeed under our Hands, for a great deal less Space is allowed, not the half, nay if I should say, not the fourth Part, I should not err.

But to return to the Inconveniencies arising from the falling down of the Navel-string, of which there are chiefly Four. The *First* is, The narrowness of the Passage, whence it is more difficult for the Infant to pass, and for the Midwife to remove the Navel-string, or to bring forth the same along with the Infant. *Secondly*. The Infant is retained by it in the Orifice of the Womb, because the remaining Part of the String is so much shorter ; or *Thirdly*, The Death of the Infant follows, *viz.* If the String

String grows stiff with Cold, or is stopped by the Pressure, by which the Motion of the Blood is hindered, or quite stopped; or *Fourthly*, the breaking of the *Placenta*.

That the Passage (both of the Mouth of the Womb and of the *Vagina*) is made straighter, and obstructed by the falling down of the Navel-string, is certain; for whatever falls down there, without the greatest Necessity, must needs obstruct the Passage; indeed the Navel-string is not very thick, but it always falls down double; and if it hangs down long so, it grows thick by swelling, and then it takes up a great deal of Room, which straightens the Way for the Infant, and the Midwife is hindered, that she cannot do her Endeavours to promote the Passage of the Infant. That the Umbilical Vessel falling down, may retain the Infant by its shortness, is easily understood; for sometimes the String falls down so far as its Length will allow; and if the Infant penetrates along with it, the String is then drawn as far as it can be, and when it can be let down no further, it is either broke, or breaks from the *Placenta*, so that the Infant is retained. Sometimes also, the falling down of the String may occasion Death, which Midwives have sufficiently experienced, especially those who neglect to restore it presently into its Place again; for if the String be long excluded, the Infant cannot remain alive, because the Motion of the Blood is stopped, either by Cold or Compression; for the Cold seizing the String when it is fallen down, it easily coagulates and stops the Blood, especially if the String be compressed or straightened; which may happen two Ways; either when it is only pressed against the Mouth of the Womb, or the Bones of the *Pelvis*, and that both in a well and ill placed Womb; yet it takes place after a different Manner, as we shall see hereafter, where young Midwives are informed, how they are to behave themselves in such Cases, to
which

which end they may look into the 19th and 20th Figures.

The 19th Figure represents an Infant well turned in a Womb too much re-supined or inclined to the *Vertebrae* of the Loins, so that the Head of the Infant sticks fast against the *Os Pubis*, and Way is given more easily for the String to slip under it; for whilst the Head sticks fast upon the *Os Pubis*, and cannot press upon the Mouth of the Womb, the String falls down along with the Waters into the Passage, and when the Waters are flow'd out, it presently passes through, and falls down; which an observing Midwife ought to prevent, by removing the String presently, as soon as the Waters are flow'd out, if it cannot be done before; besides, let her use all her Endeavours to remove the Head from the *Os Pubis*, and direct it exactly into the Passage, that by this means, the falling down of the String may be prevented for the future, which can scarce be done any other Way; or if it be thought better to draw the Infant out by the Feet, let it be done presently.

The 20th Figure shews an Infant well turned in a Womb obliquely seated to the Right, where the Mouth of the Womb, and the Head of the Infant press upon the Left Hip-bone; whence if the String slides down to the Mouth of the Passage, it falls with the Humours depressing it as they flow out; and then the Midwife ought to take care of this especially, *viz.* That she presently try by the Touch in the beginning of the Labour, whether the Navel-string or any other Part, hangs over the Passage along with the Head or not; which being observed, she is to do her best to remove it, if possible, before the Waters come away, repeating her Endeavours after the Strength of every Pain is over, if the Membrane be slack; striving also as much as she can, without delay to direct the Head well turned into the Passage; and except there be reason to the

con-

contrary, to draw out the Infant when turned, by the Feet.

And as a prudent Midwife takes a great deal of Pains and Caution, lest the Navel-string should fall down before the Head, or should come forth along with it, so she ought to use all the Caution she can, lest the String be pressed betwixt the Parts, which most commonly happens when it comes before or near the Head; for suppose the Navel-string not to hang down before or close by the Head loose, but to be stretched before or about it, and the Head to be fixed upon the *Os Pubis*, as it is represented in the 19th and 20th Figures, *i. e.* with its Face downwards, or obliquely upon the *Os Coxendicis* or Hip-bone, what would follow thence, but that the Infant, the String being pressed betwixt the Head and the Bones, should die in a little Time, because the Motion of the Blood is stopped? Which since it may happen, the Midwife ought with all her Skill and Pains to take Care, that the Navel-string may not be so pressed upon: But if being sent for late, she finds the Infant in that Condition, she is presently, without delay, to free it from that Compression: To which end, if the String be pressed against the *Ossa Pubis*, the Woman being laid upon her Back, with her Head low, and the lower Part of her Body raised, and the Infants Head pressed back, let her put back the Navel-string behind it as much as she can, and bring the Infants Head first into the *Pelvis* without delay; which if it seems not convenient or impossible, finding the Infants Feet, let her draw it out turned.

And if the Navel-string be pressed against the left *Os Ilium*, let her lay the Woman with the lower Part of her Body elevated on the right Side, and remove the Head with her right Hand, reducing the String when freed into due Order; also if it seems convenient and possible, let her bring the Head foremost into the *Pelvis*, or presently without delay draw

draw the Infant turned by the Feet. On the contrary, the String being pressed against the right *Os Ilium*, the Woman is to be laid on her left Side, and the Head to be removed with the left Hand, and by this means the String is to be freed.

It happens likewise, but seldom, that the Navel-string is pressed by the Head backwards, against the *Vertebrae* or the *Os Sacrum*; then the Head is to be removed with either Hand, as it tends more or less to one Side or the other: The Woman, if her Strength will bear it, is to be turned upon her Knees, and the Midwife is to apply her Hand on the back Part: Or, if the Woman be weak, she may be laid upon either Side, one Foot to be drawn up to her Belly, that it may allow more Room; in all these Cases the Business is to be done readily and without delay.

Indeed I am not ignorant, that it may be said to these Things, that they cannot always be done, and that the Head so firmly fixed, cannot be easily removed, and that it is easier said than done; but I have found it by Experience, that though it is hard to be done, yet it is not impossible, except by unexperienced and fearful Midwives, who neither dare nor know how to do it. Here the Case is much otherwise, when the Infant is suspended so high, than if the Head was already fallen into the *Pelvis* and compressed there; in which Condition I confess, it cannot be done sometimes.

If the Umbilical Vessel or String comes before or round the Head of a Womb rightly turned, then indeed the Danger of Compression is less, yet the Motion of the Blood may be stopped two Ways, *viz.* If the String be compressed betwixt the Head and the Mouth of the Womb, or if the Head be great, and the String be straightened betwixt it and the Bore of the *Pelvis*, not indeed after the same manner, as in the foregoing Position, where the Head being fixed upon the Bones, sticks fast,
and

and presses the String betwixt them ; but because the Head, with the Navel-string passes through the narrowness of the *Pelvis*, which cannot be done without Pressure, then the String must needs be compressed on the Side ; the Pressure, 'tis true, is less, if the String lies on the Temples ; on the contrary, if it lies upon the Forehead, the greatest Danger is threatened, which being observed, it will be to the Purpose, to move it as soon as possible to the Temples.

If by chance the Navel-string comes along with the Elbow, Shoulder, Foot or Cheek, so that it does not touch the Head ; then the Midwife, if the Humours are not flow'd out, is not to spend her Time in removing this or that Part, for it would be Labour in vain, except sometimes by pulling the Hand or Foot, she hath a Mind to try, whether by so doing the Infant will alter its Posture ; in the mean Time the Midwife must not go from the Woman, but must attentively wait the coming away of the Waters, being ready with her Hand presently passed into the Womb, to introduce the Infant with its Head foremost into the Passage, according as it is situated ; or to draw it out by the Feet, not suffering the Navel-string to come out before the Infant. But a Midwife or Surgeon that practises Midwifery being sent for late, if they find the Navel-string along with the Arms, or Foot already come forth, the String being as soon as possible put back again, she ought to draw out the Child by the Heels.

Lastly, The Navel-string fallen down into the Passage alone, without any other Part, most commonly shews that the Infant is situated across in the Womb, and that the Hands and Feet, or the Back and Belly will offer it self ; wherefore the Midwife is to observe attentively, the Moment the Waters flow out, that she may presently, before all the Waters are out, pass her Hand into the Womb,

Womb, and enquire the Situation of the Infant, judging with her self, whether it be adviseable to direct the Head into the Passage, or to draw the Infant out by the Feet; and what she thinks most safe and commodious, must be done; for it is better without delay, to draw the Infant out by the Heels, than to delay it longer, by directing the Head into the Passage; and nevertheless, at the last, to be obliged by Necessity to seek for the Feet.

I could further represent the various Situations of Infants, and shew how in those Versions or Turnings the Navel-string might come first; but those who well understand what hath hitherto been delivered, I suppose know well enough, what is to be done in the rest; on the Contrary, those that cannot comprehend the foregoing Instructions, would not be sufficiently instructed if they were larger; wherefore we shall put an end to this Chapter.

If by chance the Infant be brought forth with the Head foremost as far as the Neck, the Navel-string being turned two or three times about its Neck, so that by this means being shortened it could not be sufficiently extended, and the Infant is by that means held; then the Midwife putting her Fingers under, may try to bring it over the Child's Head, being first slackened, which commonly is not hard to do, though sometimes attended with greater Pains. I could always perform it by this means; yet when by reason of the Straightness of it, you cannot bring the Navel-string over the Head, you must take the common Method, thus, *viz.* the String is to be tied in two Places, distant about two or three Fingers breadth, and to be cut in two betwixt the Ligatures; but it is necessary then that the Infant should presently be brought forth, or it will die.

An Explanation of the Figures XIX, XX.

Figure XIX.

- a a* The *Vertebræ*.
- b b* The *Offa Ilium*.
- c c* The *Offa Pubis*.
- d d* The Seat-Bones.
- e e* The *Acetabula*, or Cavities of the Hip-bones.
- ff* The Circumference of the Belly.
- g g* The Womb.
- h* The Infant, whose Head rests upon the Bones,
called *Offa Pubis*.
- i* The Navel-string, hanging down below.
- k* The *Placenta*, or part of the After-birth.

Figure XX.

- a a a* The *Vertebræ*.
- b* The Left *Os Ilium*.
- c c* The *Offa Pubis*.
- d d* The Seat-Bones.
- e e* The *Acetabula*, or Cavities, in which the Heads
of the Thigh-Bones are turned.
- ff* The Circumference of the Belly.
- g g* The Womb.
- h* The Infant, whose Head rests upon the Left
Os Ilium or *Coxæ*.
- i i i* The Navel-string hanging below.
- k* The *Placenta* or After-birth.

C H A P. XXXIX.

Of Infants coming forwards with a Hand, Elbow, or Shoulder foremost.

INfants ready to be born, offer themselves variously to the Mouth of the Womb, viz. with a Hand, an Elbow, or a Shoulder; but the Birth is easier, if the Infant offers it self with a Hand, than if with an Elbow; and in like manner, if with an Elbow easier than if with a Shoulder. The Hand is placed most commonly near the Head, so that it is no wonder, if it come into the Passage before, or along with the Head. Before the Membrane is broke, the Hand commonly comes first; and when the Hand does not presently break into the Passage or Mouth of the Womb, as soon as the Humours are flow'd out, but passes obliquely along with the Head to either Side, then the Elbow or Shoulder easily falls into the Passage, the Navel-string often following, as you may see in the XXI. Figure.

These ill Postures of Infants are sometimes found in a Womb rightly turned, but oftner in one that is ill turned; for as it is not strange in a Womb well turned, for an Infant to offer it self in the manner mentioned, ill turned; so in an oblique Womb it is most common to have Infants obliquely situated: The Reason is, because most commonly they rest upon one or other of the Bones of the *Pelvis*, being prone (*i. e.* their Face downwards) or tending to one Side or other; so that it is no wonder, if the Head be seated either prone, supine, or obliquely on either Side; and if a free Way is given after this manner to the Hand, the Elbow, or the Shoulder, what wonder if they first offer themselves.

Indeed

Indeed in a direct Womb, the Head sometimes also declines on one Side or the other, especially if it be placed in the same Manner as it is represented in the 23d Figure; for then, except you move the Hand seasonably, and the Head presently penetrates into the Passage, it fixes it upon the Spine of the *Os Ilium* or *Pubis*, when it is easily moved obliquely to either Side, or re-supined (*i. e.* with its Face partly upwards) in a Womb rightly seated. But if a skilful Midwife, before the Membrane is broke, forces back in some Measure the Infant's Hands, or provokes the Infant by pulling its Fingers, that it may draw its Hand back; then its Head may easily slip into the Passage, because then it does not stick fast pressed against those Bones, and therefore may easily slip down. But the Matter is otherwise in a Womb ill turned, where the Infants are placed across upon the Bones and the Mouth of the *Pelvis*; and all Things are attended with greater Difficulties and Danger. A Midwife can less distinctly feel an Infant's Members, and less commodiously handle and dispose them, and with much more difficulty come at them in an ill, than a well situated Womb; for the Mouth of the one, that is, of a well situated Womb, is turned right down; but the other always bends down to one Side or the other, either forwards or backwards; wherefore I would have all Midwives to direct the Head into the Passage without delay as soon as the Waters are flow'd out; to wit, in a well placed Womb, such as the 23d Figure represents, where it is most necessary to thrust the Hands back, and the Head of its own accord will fall into the Passage; or the Fingers being thrust in past the Face to the Forehead, the same may be turned and brought down into the Passage; as for Infants placed in an oblique Womb, I would perswade them without delay to find out their Feet.

And though the Arm hanging down in the Passage, may be less commodiously put back or retained, yet they are to penetrate and seek for the Feet; very often the Time is lost in putting back an Arm, or in retaining it; for Experience teaches us, that sometimes a Hand can more easily penetrate, when the Arm hangs down, than when the same is thrust back again. Truly I have been forced to turn the Arm out again, till I had found out the Feet, which being drawn down, I removed the Infant with its Arm back again; and the Arm being then easily thrust in, I commodiously turned the Infant; this is done with good Success in a direct Womb; but those that try the same in an oblique Womb, will find the greatest Difficulties, especially if the Arm be already come forth up to the Shoulder, the Humours flowed out, and all Things closely compressed by the violent Force of Pains.

An Explanation of the Figures XXI, XXII, and XXIII.

Figure XXI.

- a a a* The Vertebrae.
b The Left *Os Ilium*.
c c The *Offa Pubis*.
d d The Seat-Bones.
e e The *Acetabula*, or Cavities of the *Offa Coxendicis* or Hip-Bones.
f f The Circumference of the Belly.
g g The Womb, with its Mouth obliquely to the *Os Ilium*, near the *Os Pubis*.
h The Infant in the Womb, whose Head rests upon the Left *Os Ilium*, and the Arm comes forth into the Passage.
 The Umbilical Vein.
 The Secundine or Placenta.

Figure

Figure XXII.

- a a a* The *Vertebrae*.
- b* The Left *Os Ilium*.
- c c* The *Offa Pubis*.
- d d* The Seat-Bones.
- e e* The Cavities of the *Os Coxendicis*.
- f f* The Circle of the Belly.
- g g* The Womb with the Mouth obliquely to the Right *Os Pubis* and *Coxendicis*, or Hip-Bone.
- h* The Infant, with its Head fixed upon the *Offa Pubis*, whose Shoulder inclines to the Mouth of the Womb.
- i* The Navel-string.
- k* The Secundine.

Figure XXIII.

- a a* The *Vertebrae*.
- b b* The *Offa Ilium*.
- c c* The *Offa Pubis*.
- d d* The Seat-Bones.
- e e* The Cavities or *Acetabula*, in which the Heads of the Thigh-Bones are turned.
- f f* The Circle of the Belly.
- g g* The Womb well placed.
- h* The Infant with its Hands foremost, in the Mouth of the Womb.
- i i* The Navel-string.
- k* The Secundine.

A further Explanation of the Figures XXI, XXII, and XXIII.

Having looked through those Things which are necessary to the Knowledge of the various falling down of the Navel-string, and the Inconveniencies resulting from it, it will not be amiss, before we

go from these Figures, in some measure to enquire, how Infants so placed may be commodiously turned. Letting alone then the Navel-string, we shall take a View of these Figures, as if they did not represent the same hanging down; so that the Infant and Womb are sometimes found turned after this Manner, which they are here represented in, without the Navel-string coming down.

Figure XXI.

The 21st Figure represents the Womb with the Bottom to the Right, and its Mouth obliquely to the Left-Hand towards the *Os Coxendicis*; the Infant in it inclines partly to the Belly with its Face downwards, and partly towards the Side, with its Head placed upon the *Os Ilium*, and its Arm coming forth into the Passage or Mouth of the Womb. Infants commonly fix their Heads so upon the *Os Ilium*, because they are ill handled in the Beginning, before or presently after the Waters flow out; for before the Waters flow out, they are not so closely compressed in the Womb, but have Room enough, and the Humours allow them free Motion; but when they are flowed out, the Womb is more closely contracted, and the Infants are so compressed, that they cannot then change their Situation; but the Parts next the Passage fall into it, and there are as it were made fast. The Midwife therefore presently after the Waters are run out, passing her Hand into the Womb, may turn the Infant commodiously enough, and direct the Head into the Passage, or with less Danger draw the Infant out by the Feet, being turned; wherefore the Midwife ought always to have a ready Hand, that just as the Waters flow out, she may pass it in presently, and stop them as much as she can, dispatching whatever else may tend to the disposing and turning of the Infant.

The Midwife perceiving the Mouth of the Womb not suspended so high, that there may be hopes of introducing the Head easily into the *Pelvis* and Mouth of the Womb; she may do it by thrusting back the Infant's Body, when the Arm or Shoulder lies betwixt, so that the Head may be carried down of its own Accord into the Passage by its own Weight: But if this does not proceed so successfully, she may promote or draw forwards the Head a little, that it may slide down. And if this be less convenient, by reason of the Womb's being obliquely seated on one Side, whence its Mouth continues suspended too high, so that the Head, though moved forwards into the Passage, yet nevertheless is fixed upon the *Os Ilium*, then I think it by no means adviseable, to bring it into the Passage; but rather passing the Hand under the Belly to the Feet, to draw them (either singly or together) under the Belly into the Passage; for when they are after this manner drawn into the Passage, the Bottom of the Womb is more easily lifted up, till its Mouth falls into the *Pelvis*; and at last the Exclusion succeeds more safely, and with greater Advantage, both to the Mother and Infant.

In this Case, I think it is farther to be noted, that most are too much afraid of the Infants coming with their Feet first into the Passage; wherefore the Antients teach, that an Infant coming with its Feet first, is to be turned, and that its Head is first to be directed into the Passage, which Work would be either impossible or useless; for the Exclusion of an Infant coming with its Feet first, is sometimes as successful, nay, sooner succeeds than when it comes with the Head foremost; and to speak freely, there seems less Danger in that; so that I dare affirm, that preposterous Births are attended often with less Danger. And though I am the first, perhaps, that dares to

write so, yet I cannot forbear discovering my Opinion; I can affirm, that I never perceived so much Danger and Pains in the Exclusion of an Infant coming with its Feet foremost, as in those that offer the Head; wherefore I readily advise to take hold of the Feet and so draw it out, especially in an oblique Womb, which, though it may have a happy Event, it is always the Cause of a difficult Birth.

Figure XXII.

This 22d Figure, as well as the foregoing, represents an oblique Womb, in which the Infant is seated supine (*i. e.* with the Face upwards) the Head a little inclined upwards, and the Shoulders next the Entrance or Mouth of the Womb: This Situation of the Infant is reckoned one of the worst. The Shoulder being raised up again, and the Body moved back, the Head at the last with much ado, is brought into the Passage; but when this is done, what will be the Event? Then it comes forth with the Head yet supine, or the Face turned upwards, which also is a kind of difficult Birth; and what aggravates the Mischief, is, that the Crown of the Head sticks fast on the Left *Os Ilium*, and is not brought into the *Pelvis* without a great deal of Pains; wherefore I would advise, that when the Womb and Infant are in that Posture, you would not direct the Head first into the Passage, but rather seek for the Feet, the right Hand being passed betwixt the Head and the Right Shoulder, even to the right Foot or Knee, which is first to be drawn downwards a little, and then the lower Foot may be drawn to you with the Toes first, then the left Foot is to be sought and drawn down likewise, and at the last, both together are to be brought gradually into the Passage, and so the Infant is easily turned.

And

And here it is also to be noted, what seems a Wonder to me, that *Justina*, Midwife to the most Serene Elector of *Brandenburgh*, did not observe, that Infants might be more commodiously turned, if they are drawn out with the Toes rather than the Heel first; for she represents in her Figures, the Method of drawing out Infants commonly with the Heel first; when yet the Body of an Infant may much more easily be turned and inverted with the Toes towards the Belly, than the Heels towards the Back, for the Loins and the Back are much more commodiously bent towards the Forepart than towards the Back. By reason of this preposterous Inversion, in almost all difficult Versions or Turnings, she was obliged to make use of Bandages (called *Laquei*) that she might make use of both Hands at her Work; but I moving the Toes towards the Belly, turn the Infant without such Bandage, *viz.* with the other Hand, without Force or Danger. And this Observation I recommend to young Midwives, as of great Advantage; for it is scarce credible, how commodious it would be in the turning of Infants; to perform which rightly, it is requisite to have a distinct Knowledge of the Situation of the Infant, whence it appears what Hand it is to be done by, and which way you are to come at the Feet.

If you would turn the Infant situated after this manner, by lifting the Foot with the Heel turned towards the Back, that cannot be done without Force, except a Bandage is applied to the Foot, by which you must draw with one Hand, whilst with the other you thrust up the Head and Shoulders to turn the Infant. But it is to be noted, that it is very difficult, to put a Bandage upon the Foot, the Way being full of Turnings; so that the Bandage, though it be luckily put upon the Foot, in drawing it down very much, frets the Mouth of the Womb, and the *Vagina* or Neck, which, when the Infant

is so placed, make a bending Passage like an Elbow when bent, in that Place, in which neither the Mouth of the Womb, nor the *Vagina* can be so much slackened and relaxed, by reason of the Borders of the *Pelvis*, as to draw the Bandage in a Right Line; therefore if there is occasion at any time to put a Bandage upon the Foot, a small one is not to be made use of, but a broad one (called *Mitra*) or a soft firm Cloth, which is more commodious for the Foot, but harder to be put on, but it will not fret the Mouth of the Womb so much by rubbing upon it, as a small Bandage. An Infant thus turned is to be drawn out without delay, according to the Method before directed.

Figure XXIII.

The 23d Figure shews a Womb rightly placed, with an Infant coming forth into the Passage with the Hands foremost, whose Head a skilful Midwife may direct easily into the Passage, before or presently after the Waters are flow'd out. But if the Midwife observe by the Touch, the Hands thrust out into the Passage, and perceives that they have sufficiently opened the Mouth of the Womb by their Bulk, without the Membrane being broke of its own Accord, she may break it, and presently putting in her Hand, (for then it will not be difficult) she may bring the Head of the Infant so placed into the Passage. And the Waters being now come away, and the Hands moving in the Passage, and the Womb being now closely contracted, I advise, that she presently seek out the Feet, and draw out the Infant by them.

The Feet of the Infant being so placed, are easily found and drawn out, the Right Hand alone is sufficient for this Work; the Way is direct, and the Knees now next the Belly. I know not, why
Wri-

Writers have blotted so many Reams of Paper concerning the difficult turning of Infants, when they might conceive in their Minds the true Method ; It would not be so hard a Work to turn Infants, if it was not attended with greater difficulty in an oblique than in a direct Womb. But to turn Infants in an oblique Womb requires both solid Knowledge and sound Judgment, and long experienced Hands.

C H A P. XL.

Of Infants placed across or transverse.

EXperience teaches, that Infants in the Womb do not always fall down directly to the fore-part, nor always directly to the back-part supine ; or if it should so happen, they do not continue in the same Position, but sometimes move from one Place to another, which succeeds more commodiously or inconveniently, according as the abundance or defect of Humours allows a greater or less Space.

We shall now speak of those Infants which lie across, as they are represented in the 24th and 25th Figures. The first Figure shews an Infant transverse in a direct Womb ; the last represents an Infant transverse in an oblique Womb, viz. whose Bottom being prone (or downwards) is inclined in a Belly that hangs forwards, the Mouth being turned to the *Os Ilium* near the *Vertebrae* of the Loins. We shall speak of the 24th and 25th Figures together, since they very much agree with one another, that the Difference may appear the more clearly. The 24th Figure shews an Infant offering it self with both Feet together near the Mouth of the Womb ; but the Infant in the 25th Figure sits higher, nor is yet fallen down to the Passage,

Passage, only with one Hand, which is next the Passage.

In Infants offering themselves so, the Midwife, in the beginning of the Labour, before the Humours are flow'd out, can perceive nothing at all by the Touch; and if she just perceives something, presently after she will perceive nothing by it; for such Infants being as yet seated high, and swimming in a great Quantity of moveable Liquors, are easily turned, and move their Hands and Feet especially, sometimes drawing them up, sometimes thrusting them down, so that you may perceive about the Mouth of the Womb, sometimes a Hand or a Foot, and a little after, nothing; but soon after a Part of Head or Buttocks, which presently cannot be felt; but in the Room of them a Hand, Foot, or Back offering it self, which is to be well observed by the Midwife; for Infants that move so much, seldom come forwards well placed; and if this Inconveniency may happen in a Womb well placed, surely in an oblique Womb it may very easily fall out, because then the Infant is not carried to the Mouth of the Womb by its own Weight, especially in such a prone Womb, such as the 25th Figure represents, where the Infant seems rather to sit than lie down, being at play with its Hands and Feet, moving its Members freely and without trouble; so that it is no wonder, if sometimes one and sometimes another Part be felt in the Passage by the Touch.

In such Postures the Humours commonly are compressed into an oblong Form; the Mouth of the Womb empty, or only filled up with Waters, in which sometimes one and sometimes another Member, as we have said, may be felt; which being observed, the Midwife may expect a difficult Birth; wherefore if she be diligent in her Business, she must prepare her self to perform it extraordinarily, and consider every Thing according to Reason,
that

that she may know what is to be done. The Waters are forced into an acuminated or an oblong Form, because those alone with the Membrane press upon the Mouth of the Womb, lying against the *Os Illium* : On the Contrary, if the Head being free were placed in the Passage, its thick roundness would dilate the Mouth of the Womb more, and distend the Membrane wider, so that the Waters would not be so much expanded in Length as in Breadth. And it is to be noted, that it cannot always be certainly concluded from the oblong Form of the Waters, that the Head is not turned forwards or in the Passage, as most think, making the Mistake, because they do not understand the Difference betwixt a direct and an oblique Womb ; in a Womb rightly situated this Argument is firm enough, but not in an oblique one ; for when the Head of the Infant sticks fast upon the Borders of the *Pelvis*, the Waters cannot be expanded breadth ways ; whence they are deceived in their Judgment who argue thence, that the Head is not turned forwards or in the Passage.

A Midwife therefore in the first Place ought studiously to weigh, whether the Womb is placed directly or obliquely, for according to that, her Proceedings must be ordered. If she finds the Womb rightly placed, and the Humours expanded Length-ways ; if sometimes she can only touch the Hand, sometimes the Foot, or the Head, then she is not to neglect the seasonable Time ; but finding the Waters sufficiently protuberant, and feeling the Head in some measure by the Touch, let her presently break the Membrane with her Nails, and direct the Head into the Passage with her Fingers, all Hindrances whatsoever, *viz.* of the Hand, Foot, or Navel-string being removed, which may then easily be done, because there is room enough ; the Head by this means being brought down into the Passage, the Midwife needs not fear, that it will
go

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the Waters are juſt come away, and that the Hand or Feet are juſt thruſt into the Mouth of the Womb, in a Womb well ſituated; there is no need to ſeek and direct the Head into the Paſſage; on the Contrary, let her lay the Woman upon her Back, the upper Part of her Body being loweſt, and raiſed with Boulſters, leſt the Womb ſhould be depreſſed by the Weight of the *Ilia* upon the Hand, but rather giving way, let it yield to the Midwife's Hand; then with her Hand or Fingers, let her remove the Infants Hands into the Womb again, the Feet being left in the Paſſage, or if both are not then in the Paſſage, let her produce both, and thus ſhe may extract the Infant, taking Care that the Toes are upwards, that by gradually turning the Infant, ſhe may bring it forth, by the Method juſt now delivered. But when the Womb is obliquely placed, the Hands and Feet offering themſelves in the Paſſage, and the Humours being flow'd out, the Midwife muſt uſe all her Study to move the Mouth of the Womb in ſome meaſure into its Place, as well as ſhe can, to direct it into the open *Pelvis*; and to that purpoſe, let her diſpoſe the Woman in ſuch a Poſture, that ſhe may make more Room for the Womb, leſt that, as well as the Infant ſhould fall upon the Midwife's Hand; when the Womb hangs forward, it is requiſite, for the Woman in Labour to lie forward upon her Knees, or to incline to the Right Side, the lower part of her Body being in ſome meaſure raiſed, and for the moſt part prone (*i. e.* with the Face downwards) then let the Midwife, having put back the Infants Hands, bring forwards the Feet into the Orifice of the Womb, but when the Feet alone are conveniently turned into the Mouth of the Womb, the Woman in Labour is to be placed in a Poſture quite different from the Former, that the Weight of the Womb, as well as of the Infant, may preſs upon

upon the Mouth of the Passage, and then let the Midwife gradually draw out the Infant, being well turned, or if it be ill turned, turning it gradually, draw it quite out, after the Manner elsewhere delivered.

An Explanation of the XXIV and XXV Figures.

Figure XXIV.

- a a* The *Vertebrae*.
- b b* The *Offa Ilium*.
- c c* The *Offa Pubis*.
- d d* The Seat-Bones.
- e e* The *Acetabula*, or Cavities of the *Os Coxendicis*, or Hip-Bone.
- f f* The Circumference of the Belly.
- g g* The Womb well placed.
- h* The Infants seated transverse or across in the Womb.
- i i* The Navel-string.
- k* The Secundine.

Figure XXV.

- a a a a a* The *Vertebrae*.
- b* The Left *Os Ilium*.
- c c* The *Offa Pubis*.
- d d* The Seat-Bones.
- e* The *Acetabulum* of the Left *Os Coxendicis*.
- f f* The Circumference of the Belly.
- g g* The Womb hanging forwards, and oblique to the Left-Side.
- h* The Infant, with its Hands placed in the Womb.
- i* The Umbilical Vessels, or Navel-string.
- k* The Secundine or After-birth.

C H A P. XLI.

Of Infants coming with their Buttocks forwards.

THE Hands are most commonly found near the Head, but sometimes they are so far distant from it, that when you feel the Hand, you can by no means be certain of the Place or Situation of the Head or Feet. The 27th Figure gives us an evident Argument of this, where we shall see the Right-Hand of the Infant stretched forth into the Mouth of the Womb, whilst the Left-Hand and both Feet are placed in the Bottom of the Womb near the Head, with the Breech or Buttocks placed before the Mouth of the Passage. Sometimes I have perceived the one Hand excluded out of the Womb quite up to the Shoulder, whilst I found the Hand of the other Arm above in the Bottom of the Womb, though so great a distance almost seemed impossible; wherefore those Things are to be observed with the greatest Attention, which are perceived by the Touch. *N. B.* In this 27th Figure something is to be excused. The Infant ought to incline more to the Right-Hand, but now that Arm exceeds in Length, the Proportion of the rest of the Body.

The 26th and 27th Figures represent to us, two Infants, both of which come double into the Mouth of the Womb; the one turns his Back towards us, and the other his Side. Infants who offer themselves so complicated in a direct Womb, whether they turn their Back, or their Belly towards us, are brought forth almost with the same Ease, as those that offer their Head foremost (especially if they turn their Back towards us) only the Labour commonly is more difficult in this, that

that the Buttocks also complicated together exceed the Head in thickness, but the Mouth of Womb being first dilated by the Buttocks, the Head afterwards will easily follow, according to the Proverb, *the Buttocks going before, nothing can hinder the Head*: Wherefore let not a Midwife throw away her Pains in turning such complicated Infants, but suffer them to come forth freely; only let her assist the Woman in Labour, as much as she can, in dilating the Mouth of the Womb, and *Vagina*, or its Neck, and in pressing back the *Os Coccygis*, that the Way may be more commodiously opened; taking care especially, if it be a Male Infant, lest the *Scrotum* be hurt by pressing, which may easily happen. But when Infants offer themselves with their Belly upwards, all Things do not succeed so commodiously; then there is greater danger, lest the Head should stick by the Chin to the Bones of the *Pubis*, to which it is turned; to prevent which, when the Buttocks are a little thrust out, the Feet are to be drawn out, and the Infant is presently to be turned with the Belly bent downwards, which is done with one Hand under its Back as far as it may be put, and by putting the other upon the Belly, turning the Infant with both at once, drawing it out after the same manner as if the Feet came first.

But if the Infants complicated or folded together with their Buttocks first, lie upon either Side, whether a Hand comes out at the same time or not, as the 27th Figure shews, then the Birth is much more difficult; for then the Infant with its whole Breadth lies upon the *Pelvis*, by which it is very much straightned. The Midwife therefore, if she hath observed before or after the Waters are come away, that the Infant offers it self in this manner, let her hinder it from coming into the Passage so turned; and before the Waters flow out, as often as the Pains go off, let her as well

as she can, endeavour to turn the Infant, that it may come with the Belly turned downwards. But if the Midwife, before the Waters flow out, cannot turn the Infant so, let her not neglect to do it as soon as they come away, whilst there is Room enough left for that Purpose ; for when the Waters are quite flow'd out, and the Infant is compressed on every Side, she will scarce be able to do it, but will afflict both the Woman and Infant with a great deal of Pain ; therefore then it will be safer to take hold of the Infants Feet and draw it out. What signifies it here to make longer Delays? The Infant, whether it offers it self double or single, with its Feet foremost, or Head last, is brought forth ; why then should a Midwife think much to draw out the Feet presently ? If she can but do it with dexterity enough.

A Midwife desirous to turn an Infant, and to bring out the Feet first, ought to lay the Woman upon her Back, with her Head downwards, for then the Infant is not so much depressed. Then her Hand being thrust in by the Buttocks and Thighs up to the Feet, let her draw them out by the Heels even to the Buttocks, then with the same Hand let her press the Buttocks up again, or remove them on one Side or other, and then let her draw down the Feet ; but if there is not sufficient Room, let her hold them, having fastened a slender Bandage upon them, till she hath pressed the Buttocks up again ; but sometimes the Infant is easily turned with one Hand.

But if a complicated Infant offers it self in the Passage, with the Breech first in an oblique Womb, whether with the Face upwards or downwards, or oblique on either Side, then it will be most convenient, presently after the Waters are flow'd out, to seek for the Feet ; thus the Woman being so placed, that the Womb may not fall upon the Hand, let her as much as she can, move

the Infant back, and then her Hands being thrust in up to the Feet, having laid hold of them, first draw them down to the Buttocks, and then press up the Body of the Infant again; then both Feet are to be brought down into the Passage, and at last the Infant, by this means is to be quite drawn out; and truly this Method is much more convenient and safe, than to suffer the Infant to come forth complicated; for it would be most difficult, and attended with the most intense Pains, for an Infant to be brought forth thus complicated or double.

From hence it will appear to a modest Reader, how useful the Knowledge of a right or ill situated Womb may be; whence we may easily gather, what great Errors Midwives were formerly, and are now subject to, when Ignorant, whether the Womb is directly or obliquely placed: They are to be pardoned indeed, who never had the Knowledge of any other than a Womb rightly seated, if they endeavour to promote the Birth one and the same way, let the Posture be what it will; they must all tread in the same Steps; but how great Inconveniencies Women have hitherto suffered by it, and yet suffer, daily Experience can witness. Let every one search their own Conscience, and confess their Offences to God, who passes over Crimes committed in the Times of Ignorance. But whoever, since this Discovery is made, will be wilfully blind, will not easily excuse himself of the Crime, when called to an Account for it.

An Explanation of the XXVIth and XXVIIth Figures.

Figure XXVI.

a a The *Vertebrae*.

b b The Bones called *Ossa Ilium*.

c c The *Ossa Pubis*.

d d The

d d The Seat-Bones.

e e The Cavities of the *Ossa Coxendicis*, or Hip-Bones.

ff The Circle of the Belly.

g g The Womb.

h The Infant complicated or doubled in the Passage.

i i The Navel-string.

k The After-birth.

l The Breech.

Figure XXVII.

a a The *Vertebrae*.

b b The *Ossa Ilium*.

c c The Bones called *Ossa Pubis*, or *Pectinis*, i. e. the Bones of the Privities, or Comb-like Bones.

d d The Sedentary or Seat-Bones.

e e The Cavities of the Hip-Bones.

ff The Circumference of the Belly.

g g The Womb.

h The Infant sitting transverse or across, with its Breech, and one Hand offering themselves in the Passage.

i i The Navel-string.

k The Secundine or After-birth.

l The Infant's Hand stretched forth into the Passage.

If elsewhere we have laid it down as a general Rule, that the Infants Feet are not to be drawn out, except the Toes are turned upwards; that by no means hinders, but that in this or the like Case (to wit, when the Feet so nearly hang over the Passage) it may be convenient sometimes to draw them out by the Heels; for we would have that understood, of the Feet being placed above, in the Bottom of the Womb, and when the Infant is to be turned altogether; but not in such Cases, where the Feet being drawn a little downwards, may presently be brought into the Passage by the Heels without much Trouble.

C H A P. XLII.

*Of an Infant offering its Belly in the Passage,
along with the Navel-string.*

WHEN Infants offer themselves with the Belly first, it often happens, that the Navel-string hangs down first into the Passage; which if it appear only in the Passage, and you find that no other Part is along with it, either moveable or fixed, then it is to be feared, that the Infant appears with the Belly or Back first, or that it will do so.

In the 24th and 25th Figures, we have seen that Infants are sometimes situated transverse in the Womb; this with its Head on one Side, and its Breech on the other; one Infant offers its Hand in the Passage, and another its Feet; and sometimes neither the Hands nor the Feet appear, but the Infant falls down with its Head re-supined, or a little bent upwards; and its Belly first, which commonly happens after the Waters are come away; then the Womb is contracted, or rather falls down; if it happens to be depressed when straightned with violent Pains, by which the Infant is obliged to fall down, and if the Head and Feet stick fast, then the Back being bent backwards, the Belly falls into the Passage; to prevent which the Midwife being diligent and attentive, when the Woman is conveniently placed, and the Waters are flowed out, having thrust her Hand into the Womb, she must remove the Navel-string; and if the Womb be rightly seated, she is to endeavour to bring the Head forwards into the Passage, if it may easily be done, as it sometimes is, *viz.* when the Infant is as yet suspended high, and the Back is not too much bent, for then she may put her Hand in gently

gently up to the back part of the Infant's Head, and drawing it gently down, may gradually bring it forwards into the Passage.

But if the Infants Loins are so far fallen down, as they are represented in this 28th Figure, which most commonly happens soon after the Waters are come away, then I would not advise to bring the Infant's Head into the Passage, but should think it adviseable to draw the Feet first, which is to be done considerately; for it is not sufficient to penetrate with the Hand up to the Feet, which is difficult when the Infant is so turned; but it must be farther known, how they are to be drawn downwards; for it is no indifferent Matter how it is performed, and truly it may be done, either well or ill. Supposing any one would extract or draw out an Infant by the Feet so turned, as the 28th Figure represents, who for that end, having put her Hand below, near the Belly, along the Infants Side, even to the Feet, and having taken hold of one or both, would draw them directly down, the Feet indeed would follow the Hand that drew them, and if there was Room enough in the Womb to turn it, the Infant might this way be conveniently preserved; but if the Waters are quite flowed out, and the Infant is closely compressed in the Womb, his Loins would be twisted, so that the Infant, if then not quite dead, would soon expire; and therefore I should not approve of this way. Also if a Midwife having thrust her Hand betwixt the two Feet, and having taken hold of the Left-Foot, should draw it down by the inward Ankle, she would rather lame the Foot, by putting the Knee or Hip out of Joint, or kill the Infant, than give Assistance.

But such an Infant is most commodiously turned, either of these two Ways; either pass the Right-Hand to the Left-Thigh of the Infant, and that taken hold of, near the Knee, thrust it upwards

with the Thumb, which is nearest the Hip-Bone, and at the same time, draw it downwards with the Fingers which are hindmost; in some measure removing the Womb with your Hand against the Infant's Knees, yet cautiously and gently, lest the Womb should be hurt or tore; and by this means, first bring down one Knee to the Passage, the Foot being yet left above; then bring the other Knee after the same manner down to the Passage; which being done, change your Hand, and the Left-Hand being put up to the Child's Belly or Breast, thrust back his Body upwards, and presently there will be room enough, taking hold of one or both Knees to remove the Infant higher, and so you may bring the Feet successively more commodiously into the Passage, if not both at once; or the Legs being bent with the Right-Hand, and the Knees brought into the Passage as we said before, take hold of them below the Ham, and bring them so far past the Passage or Mouth of the Womb, till the Feet are placed before the Passage, which is not difficult to do; and then the Infant may be drawn out by the Feet, as we have elsewhere delivered. Or the Right-Hand may be put up along the Belly to the Thigh, or one of the Knees; and at the same time, a thin Bandage doubled, being put upon the Fingers ends, well softned with Oil, may be put upon either Knee, by which you may draw gently; then it may be drawn out again by the Right-Hand, whilst the Left-Hand holds the Ends of the Bandage, lest they should be moved out of their Place; then holding the Extremities of the Bandage in your Right-Hand, the Left is to be put up, which may thrust the Infant's Belly upwards, at the same time gently drawing the Bandage with your Right-Hand, by which means the upper Part of the Body is moved upwards, and the Feet downwards, and the Infant's Knees brought nearer to the Mouth of the Womb.

But

But if by chance this transverse Situation of the Infant be found in a Womb too prone or supine, or tending obliquely to either Side, then I think that the bringing down of the Head into the Passage is by no means to be thought of in the Beginning ; but as soon as possible, after the Waters are flow'd out, the Feet are to be found out ; and those I think convenient to be brought first to the Passage, as we have said ; and when the Humours are flow'd out for some time, and the Belly of the Infant is fallen down to the Mouth of the Womb, the same Care is to be taken to turn the Infant commodiously, lest it should be twisted, or suffer Violence, which succeeds much more Difficultly than in a Womb rightly placed.

Perhaps it may seem strange to most Midwives, that I should perswade them to put their Hand presently into the Womb ; and perhaps it might seem to some Women more strange, if Midwives should take my Advice, because it is not common for them to take so much liberty with Women's Bodies, fearing, lest they should do some Damage ; nor will it be always amiss for them to be fearful, because few have Knowledge and Dexterity enough to handle a Woman in Labour as they ought. Nor would I encourage such Midwives as those to take such Things upon them, but such as are enabled by Skill and long Experience, and are thoroughly acquainted with the Parts of Women that serve to Generation, as we have above shewn. As for the rest, if they think a Birth is likely to prove difficult, I would have them advise with a more knowing Midwife, or send for a Practitioner in Midwifery who is skilful, in time, who would presently and seasonably know how to assist a Woman in Labour.

An Explanation of the XXVIII Figure.

- a a* The Vertebrae.
b b The *Ossa Ilium*.
c c The *Ossa Pubis*.
d d The Seat-Bones.
e e The Cavities of the *Os Coxendicis*.
ff The Circumference of the Belly.
g g The Womb.
h The Infant, with the Belly hanging over the Mouth of the Womb.
i i The Navel-string.
k The After-birth.

C H A P. XLIII.

Of an Infant coming with its Back forwards.

IT is not so rare or seldom, that Infants come with their Back forwards into the Passage, as with the Belly; for a prone Bending, *i. e.* with the Face downwards, is natural, but a Supine, *i. e.* with the Face upwards, is troublesome to the Infant, whence most Infants offer themselves bent more or less with their Face downwards. When the Infant is in this Posture, the Navel-string very often falls down into the Passage; yet sometimes the Back offers it self in the Passage, and the Umbilical Vein is not perceived. And truly this Posture of the Infant happens as well in an oblique, as in a direct Womb. In both Positions of the Womb, nothing is felt in the Mouth of the Womb besides the Navel-string, which falls down into the Passage, the Waters settling in the same Form as in the foregoing Posture, and that whether the

Belly

Belly or the Back offer themselves first, neither this or that so much bent before the Waters flow out, but that they are sufficiently distant from the Passage; so that if it happens, that one of them may be felt, it must be the Infant that offers it self with the Back first.

In this Case, it is the Midwives Business, the coming away of the Waters being well observed, to seek presently for the Feet, and to draw the Infant out by them; so that this, when Things are in this Condition, is the most ready way to Exclusion, both in a right and an oblique Womb; and here her Care is by no means to be placed in producing the Head foremost to the Passage, for she would take Pains to no purpose, because the Infant so placed, is turned with much more Difficulty with the Head, than with the Feet foremost; and yet there is Difficulty enough to come at the Feet; for the broad Back of the Infant takes up the whole Space; so that there is need of a skilful and experienced Hand, to find out the Way to the Infant's Feet on one Side, especially in an oblique Womb, in which a great many can scarce believe how much Trouble it is to turn such an Infant. But in the first Place it is to be tried by the Touch, whether the Infant's Back-bone tends too much upwards or downwards, that you may know by that, whether the Hand is to be passed in above or below the Infant; and then it is to be tried, where the Head is placed, and in what Place the Feet are situated, that you may thence know, whether the Right or Left-Hand is rather to be made use of to turn the Infant; which being known, if the Infant lies more to the Right-Side, as this 29th Figure shews, the Hand is to be passed below, behind the Back, near the Belly, and the Left Knee or Foot being sought there, is to be brought down, and the Infant to be a little turned by it; and then the other Foot being drawn down, both together are to

to be brought into the Passage; or if you find both Feet above the Head, (*viz.* the Head and the Breech placed about an equal Height) then taking hold of both Feet, being placed near the Head, it is an easy Thing to bring them into the Passage, turning the Infant round in a Circle; and I most commonly find, that Infants drawn this way in a Circle, *viz.* their Toes being directed to their Head, are easier turned, then on the Contrary, when their Heels are turned to their Breech, as we said above.

The Waters being already flow'd out, and the Infant closely compressed, so that it cannot be turned; it is convenient to place a Bandage upon one or both Feet, not tied with a Knot, but the Bandage being put with a double Turn upon the Feet, both Ends being a little twisted, lest it should fall off, draw this down with one Hand, whilst you move the upper Part of the Infant's Body upwards. Having brought the Feet this way into the Passage, as soon as you can, take hold of them with your Hand, and draw the Infant quite out with it; I say with the Hand, because you may handle the Parts much more gently, than by any Bandage, though soft and broad enough. I think indeed, that no narrow Bandages can be useful when put upon the Feet, much less tied with a Knot; for those Bandages called *Laquei*, tied to the Feet, slip too hard about them, and hinder the Circulation; and therefore I would rather use the Bandage, called *Mitra*, or a soft Cloth, or a slender Silk Girdle. When the Feet are thus brought into the Passage, the Infant is to be quite drawn out, and those Things to be done further, which we have delivered above.

An Explanation of the XXIX Figure.

- a a* The Vertebrae.
b b The Ossa Ilium.
c c The Ossa Pubis.
d d The Seat-Bones.
e e The Cavities of the Hip-Bone.
f f The Circle of the Belly.
g g The Womb.
h The Infant, with its Back towards the Passage.
i The Navel-string.
k The Secundine.
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C H A P. XLIV.

Of Twins ill turned.

IF the Turning of one Infant coming with its Back foremost be difficult, the turning of Twins so placed, will not be less difficult in one and the same Womb; and more difficult, if both Twins are contained in one and the same Secundine, or seem to be contained in one, viz. when the Membranes are broke, or the Partition which separated them. The Difficulty of turning them does not so much proceed from the narrowness of the Room, for the Space is always answerable to the Bigness of the Infant; but rather, because the Hands and Feet are so interwoven, and as it were twisted together, that they cannot be cleared of one another, without a great deal of Difficulty.

It is sometimes difficult to know or judge, whether there is one, or more Infants, especially in the Beginning, when you have not yet felt the upper Part of the Womb by the Touch. Sometimes
one

one Infant may have its Hands and Feet so intermixt in the Womb, that there may seem to be Twins; whatever way you turn your Hand, you feel the Arm, or the Leg, or Hand, or Foot, so that I have sometimes said, that it seem'd as if the whole Infant was made of Arms, Legs, Hands or Feet only. I am not ignorant, that what I have said, may seem strange to those that are unexperienced, thinking that nothing is more easie, than to distinguish Things by touching, and that a Hand is easily distinguished from a Foot, if one will only be attentive. But what those sort of People say, is to be received without Offence; according to the Proverb, *in a Calm all are Masters*. If the Parts hid within the Womb might be as soon distinguished, as those without, a heavy Countryman, or a Boorish Woman would easily perform that Work; but since the Hand is so closely compressed by the narrowness of the Womb, and especially of the Mouth of it, scarce any Thing is more difficult than to distinguish by the Touch, what you hold in your Hand, especially when the Hand is put further up, when the Waters have flow'd out for some time. I allow indeed, that by handling of one Part, one may judge of another; as for Example, from the Buttocks and Thigh, what is joined to them is easily perceived, and we may certainly judge, that it must be the Leg, and not the Arm; so if you descend from the Shoulders and Arm, it is easily known, that the next Part is the Cubit, or that Part of the Arm below the Elbow, and not the Leg; in the mean time it is to be known, that there is not always Room enough for you distinctly to pass from one Part to another, or that you can so freely move the Hand forwards or backwards, and then Judgment is to be made from any Part that first offers it self. For suppose you meet with the Hand first, and when you have left that, with the Foot; and then having bent
your

your Hand to the Right or the Left, you perceive the Arm or the Leg, so that you may be certain you feel this or that Part? Or if you can distinguish them, how do you know that they are the Parts of the same Body? Perhaps it may be so, perhaps not; nor will you be more certain, though four or five times successively you think you have felt, by a repeated Touch, the Arms or Legs; how do you know whether they are the same which you felt before? I am certain, a great many have made this Mistake. The most certain Sign of Twins is, if you feel two Heads, or two Backs; a double Head is never felt in one and the same Body, except it be a Monster; and then you may easily make a Mistake, except you enquire very accurately, whether that double Head be fixed to one and the same Body.

If any one ask, in case two or more Infants contained in the Womb, should offer themselves in the Passage ill turned, what is to be done? I answer, That the Matter is to be handled almost after the same manner, as if but one was to be brought forth; yet Care must be taken, lest you entangle or press one with the other; therefore in this Case the same Caution is to be used, as always in turning of Infants; *viz.* it is to be inquired, whether the Parts that you would draw forwards, are at liberty, otherwise all Endeavours to turn the Infant would be in vain, and you would sooner maim the Parts, or pull them out of the Body, than turn the Infant. Supposing the Infant's Back was bent downwards, as the lower Infant is represented in the 30th Figure; supposing further, that the Right Leg was placed upon the Left Thigh, the lower Foot being placed under the Left Arm, as it might easily happen according to the Posture expressed in this Figure: Supposing still, that the Midwife passing her Hand near the *Ossa Pubis*, by the Back near the Left Cubit, or that part of the Arm, be-
low

low the Elbow, ſhe ſhould find the Right Foot, and thinking that all was well, without further Examination ſhe ſhould try to draw the Foot into the Paſſage : Suppoſing laſtly, that ſhe thinking the Foot was retained, ſhould put a Bandage, called *Laqueus*, or a ſlender one, called *Faſcia* upon it, to draw the Feet to her, whiſt ſhe thruſts the Infant upwards with the other Hand ; it is demanded, what Succeſs may the Midwife expect? What do you think can follow this Work, but the numbing or laming of the Foot ; and laſtly, the making the Labour to no purpoſe, in which the Woman is tormented in vain? Nor does it answer the Deſign ; the Infant being more and more ſtraightened before the Paſſage by all that Work, ſo that the Inverſion of the Infant does not ſucceed, nor will that drawing down, or thruſting back of the Infant, do any good, except that the Infant may be a little bent in from the Right Side to the Left, nor is any thing done to promote the Birth ; for indeed the Inverſion of the Infant from one Side to the other, is by no means meant, but the bringing of the Feet into the Mouth of the Womb, and the raiſing of the Head upwards, which by that ill management in drawing it down, will by no means ſucceed.

By a like Reaſon, the Legs of Twins may be folded one within another, and at more or leſs Diſtance ; ſo that ſometimes you will find the one Foot of the upper Infant not far from the Paſſage, the lower Infant's Feet lying upon it tranſverſe. Now will it be ſufficient to draw down that Foot? By no means ; for you might ſooner ſeparate the Feet from the Legs, or the Legs from the Body by drawing, than by this means draw the Feet forwards into the Paſſage. Sometimes alſo the Head of the Lower Infant is placed betwixt the Legs of the Upper ; ſo that the Legs of the Upper Infant cling cloſe about the Neck of the Lower, as it is represented

represented in this 30th Figure; whence it sometimes happens, that one or both Feet of the Upper Infant are found near the Passage. Are those Feet then to be drawn out without any further Enquiry? By no means; for as long as the one Infants Head is not freed of the others Legs, neither of them can be brought forth. In like manner the upper Infant sometimes is placed upon the lower Infant's Body, with its Legs across, and then either Foot may be easily touched, or come at; but if you try to bring the Feet successively into the Passage, you will take Pains to no purpose, except the Infants are cleared of one another, and disposed to come forth. And thus Infants may be variously involved or intermixed one with another; to explain all whose different ill Situations would detain us too long; wherefore leaving that to every ones Judgment, we shall briefly shew the Method of correcting those ill Situations.

As for the first Posture, *viz.* of the lower Infant represented in the 30th Figure, that is corrected, if the Woman in Labour is first laid upon her Back, with the Head low down, and the Buttocks raised up, then the Hand being put up under the Infant, along by the Mothers straight Gut (because there is most Room) you may search whether you can find the Infants Feet there; but you will not find them, if the Right Leg by chance goes across the Left Thigh near the left Cubit; but if both Feet are joined together, you will find them in that Place; therefore one or more Feet being found out, you are to search, whether they are the Feet of that Body which lies against the Passage with its Face upwards, after this manner; being sure that you feel the Feet, your Hand is to be drawn back, and you are to search with it along the Side and the Belly, even to the Thigh of the lower Infant; then the Hand being further thrust in along the Thigh to the Knee, as you go along you must accurately

curately observe, whether the Arms or Legs, or other Parts are placed betwixt this Infant's Legs; or whether the Legs of this are folded with any part of the other. If you find that, the turning of the lower Infant being deferred, the Legs of the upper Infant as well as its Feet are first to be cleared; and then at the last, the Lower is to be turned; for as long as the lower Infant continues against the Passage, there is not room enough to draw out the Upper; the Lower therefore is to be turned first, and to be drawn out by the Feet; but if the Hand is thrust out, as we said before, and you find nothing in the Way, then the lower Infants right Leg is to be drawn forth a little, and to be cleared on every Side, pressing the same Infants right Knee to its Breast, and the Leg as well as the Foot being removed from the Thigh, both Feet are to be placed together.

The Feet of the lower Infant being now cleared, you are accurately to search, whether the Legs of the upper Infant are any where placed across the Body of the Lower; which if it be so, those are first to be removed, lest they should again hinder the turning of the lower Infant. The lower Infant being by this means cleared on every Side, you are to consider, whether it may be turned more safely forwards or backwards. When Matters are in such a State, you would see a great many ready to put a Bandage (called *Laqueus*) upon the left Foot, with which, whilst they draw down the Foot, they thrust the Body back with the other Hand; but I thinking such Bandages less proper, am not so ready to make use of them; but rather advise a much different Method of proceeding; for I have shewn above, how the right Knee of the lower Infant is to be applied to the Breast; which being done, I would endeavour to bring the Left to it, which may easily be done by stretching your Hand along the right Leg up to the Knee, and both
Knees

Knees being applied to the Infant's Breast, (so that nothing interposes) the Hand being stretched forth, as we said, upon the right Knee, the left Knee being taken hold of next, I would bring the Leg directly into the Passage; so the Infant must needs be turned with its Belly downwards, and the Knee towards the Orifice of the Womb; which being done, the Feet are easily one after another, or both together brought into the Passage; then there is no need of the Bandage, called *Laqueus* or *Fascia*, the other Hand is sufficient to perfect the Work. The Infant being at the last so turned, and the Feet brought into the Passage; it is further to be handled, as if it had first offered its Feet there, as we have elsewhere shewn.

The lower Infant being brought forth, the Navel-string is to be tied in two Places; that being tied above and below the Incision, both towards the Secundine and the Navel, it may prevent the spilling of Blood: which being done, the Midwife is presently to put her Hand up again, and seek for the Feet of the Infant, to draw it out by them; nor let her alter this Advice, though the Head seems to offer it self commodiously for Birth; for the same way that was open for the other, is open for this; and if it happens, that each Infant hath a proper and distinct Secundine, and she finds the After-birth of the Infant that is already brought forth, separated and loose, she may presently bring it forth, and then draw the other Infant out by the Feet. Or if both Secundines as yet stick fast in the Womb, letting that alone, let her first perfect the Birth of both the Infants, and the cutting off of the Umbilical Veins or Navel-strings; then her Hand being presently put up, let her enquire whether there be yet another Infant; if not, let her bring away the Secundine, whether simple or double, gently drawing it out, if it be loose; but if it yet adheres to the Womb, let it be loosened, as

we have directed. N. B. *We have not spoke here of the Navel-string's falling down, because we have sufficiently treated of it above.*

Whatever is said above of Infants ill seated in a direct Womb, the same holds good in a Womb tending too much forward or backwards (*i. e.* prone or supine) or obliquely leaning to either Side. It would be easy to demonstrate, if I had a Mind, how much the Pains and Dangers both of the Mother and Infants, and how much the Pains and Labour of the Midwife are increased and made more grievous thereby; but that we leave to the Candid Reader, to be gathered from the several kinds of difficult Births already alledged, (*viz.* those which proceed from an oblique Womb) and from the following Chapters added to these. We might also enlarge this Book by offering a great many Cuts, representing the Postures of two or three Infants contained in the Womb, adding Instructions to every Figure, how such Infants are to be turned; but this we think would be troublesome both to our selves and others; because we believe that a discerning Person will easily conceive the other Posture of Infants, and therefore for this Time we shall be content with these.

An Explanation of Figure XXX.

- a a* The Vertebra.
- b b* The *Ossa Ilium*.
- c c* The *Ossa Pubis*.
- d d* The Seat-Bones.
- e e* The Cavities of the Hip-bone.
- f f* The Circumference of the Belly.
- g g* The Womb.
- h* The Infants in the Womb.
- i j i* Two Navel-strings.
- k k* Two Secundines.

C H A P. XLV.

Of Agrippa's, or Infants brought forth with their Feet foremost.

HAVING begun with Infants ill turned, who offer themselves with the Head first in a direct Womb, and having taken a View of several other ill Positions, at last we shall end with the Birth of *Agrippa's*, or Infants coming with their Feet first. Though we put these two Figures in the last Place, yet we do not think therefore, that they are the most difficult and dangerous; on the Contrary, next to a natural Birth we think this the easiest and least dangerous; but for Methods-sake, we have assigned it this Place, repeating again what we have hitherto said of Birth.

We have shewed the Way to all the ill Versions of Infants, either of bringing Infants with their Heads first into the Passage, or of drawing them out by the Feet; judging that there is not a more convenient Way for a mature and safe Birth, than to turn Infants by the Feet, and so draw them out; and therefore for a Conclusion, speaking again of it exactly, we propose these two Figures. The 31st Figure represents an Infant with its right Foot excluded, or brought forth into the Passage; the left Knee moved to the Breast, and the lower Foot raised a little higher than the Buttocks. This Situation happens the most frequent, especially if Midwives are less attentive, suffering the other Foot, when it offers it self in the Passage, to fall out, which is never to be admitted; for though from the beginning of the Labour, the two Feet are next the Passage, yet one Foot slipping into the Passage, the other being held by the Side, is thrust back, which commonly occasions this Situation.

To prevent which, the Midwife, having observed that one Foot offers it self in the Passage, as soon as the Waters are flow'd out, she ought to retain it there, and not suffer it to slidethrough ; but pre-ly let her look out for the other Foot, either with the right or left Hand, as she perceives the Infant's great Toe situated ; along whose Side the other Foot is to be sought, and for that end, the Ball of the Hand is to be pass'd above the inward Ankle, near the great Toe ; and not finding the other Foot near the Passage, you are to pass your Hand along the other Leg up to the Belly, where you must needs find the other Thigh, and you will presently find, your Hand being applied to the Knee, whether that Leg tends upwards or downwards, and consequently proceeding along the Shin to the Foot ; if it be yet situated above (as this Figure in some measure represents) it is gently to be drawn down, and to be placed near the other in the Passage.

But the Midwife coming, or being sent for late, if she find one Leg so far slipped through, that the Buttocks are confined in a straight Place, she is to lay the Woman in Labour down upon her Back, with her Head low, that the Womb and Infant may go a little back ; then taking hold of the right Leg with her right Hand, let her thrust the Infant back, till the whole Foot, or at least the Knee is brought back into the Mouth of the Womb, that there may be more Room in its lower Part, for her to pass her Hand along the Leg ; and having taken hold of the other Foot, and brought it into the Passage, she may place it with the other, that both may come out together. The 31st Figure is like the 32^d, representing an Infant with both Feet excluded or brought forth together, which are never to be thrust back, but Passage is to be allowed them as in a convenient Posture ; for it is not at all adviseable, to thrust the Feet back into the Womb,
to

to bring the Head first, as those would perswade, who have writ of the Art of Midwifery, governed more by Theory than Experience; but when the Feet come first, the Way is to be made free for them, especially if the Head and the upper Part of the Body is in the upper Part of the Womb; but if both the Head and Feet are near the Passage, as we have seen in the 24th and 25th Figures, then if you will, the Head may be brought first into the Passage, especially in a Womb rightly seated; but in an oblique Womb, I would recommend the Contrary, where I would rather bring the Feet than the Head foremost; yet upon these Terms, that the Midwife take care to turn the Infant, if not so well turned at first; I say not so well turned, if the Toes tend upwards, and the Heels downwards, as is represented in these two Figures; for if Infants proceed in this manner, their Chin is easily hooked upon the *Offa Pubis*; to prevent which, it is convenient to turn them, with their Heels and Buttocks upwards, and their Toes and Belly downwards.

Nevertheless it is not to be thought, that an Infant can be turned suddenly at once, and be freely turned every way, as if it were in a wooden Vessel; by no means; if it be too much confined in the Womb, if you should turn it all at once, either you would hurt the Womb or the Infant. Therefore Infants are to be turned gently, at the same time that they are drawn out, making use of both Hands, *viz.* the one being put under the Body as far as you can, whilst the other holds both Feet together, that not only the Feet, and by that means the Legs, but the whole Body also may be turned; by this means the Infant being gradually turned, is brought forwards, till he lies with his Belly downwards, and is out above half way; and then it is a proper time for the Woman to Labour, as we have elsewhere shewn; for now the Head and the

Arms are to pass through at once. And though all Authors that I know of, teach the Contrary, requiring, that the Arms being brought forwards one after another, should be placed upon the Body, yet I both think and have found the Contrary, in this and a great many more Cases; wherefore I positively advise, that the Arms be left about the Head, to be excluded along with it; I confess, that the Woman is obliged to force the Infant forwards with all her Endeavours, but like a small Cloud 'tis soon over. I most commonly prevent the Woman from having Pains, till the Infants are come so far; then allowing a little Rest, and encouraging her, I positively promise, that if she performs her Part courageously, the Birth will be presently performed; only for that Purpose, she must use all her Strength to bring the Infant forth, behaving herself as if the Pains were pressing; so that at that time natural Pains are not to be waited for, if they are wanting, but the Woman is to behave herself as if they were upon her, pressing down with all her Force; which if you perceive the Woman doing, she must be faithfully assisted, by drawing the Infant downwards with Force, yet cautiously; I say downwards, not upwards; not according to the Woman's Length, as most Midwives use to do, but downwards towards the *Intestinum Rectum* or straight Gut, otherwise the Infant being straightened, passes not without difficulty: The Woman is to be admonished, to make a constant depression, by being told, the Infant's Life depends upon it, and that therefore she is to use her utmost Strength, and that all things will be over in a little Time; and by this means, the Infant will be brought forth presently. In my Practice every thing hath succeeded very well by this Method, and I shall for the future follow the same, by which there is no danger of pulling the Head from the Shoulders, which hath often happened to *Paulus Portaat*

Portaal and others, as they freely confess. Nor is this a Wonder; for the Arms being drawn down aside of the Body, the Mouth of the Womb being contracted like a Snare or a Halter, and shut up, often stifles the Child; or if it be already dead and tender, the Head is easily pulled away, which continuing in the Womb, is to be drawn out with Iron Hooks.

These are the Consequences of drawing the Arms down this way, and proceed from the miserable Sloth of those People, who follow the Examples of the Antients in every thing, insisting on the Institutions and Directions of great Men, without minding whether they are approved or not, or whether the Practice contrary to those Traditions, is more convenient, by which the Reasons and Experiments of the Antients are explain'd; hence proceeds the Corruption and Damage of Arts and Sciences; for unless we exceed the Antients in the Invention of new and better Methods, certainly the best Part of those Arts and Sciences is lost, since our Memory is not renewed with continual Observations; so that these or other lesser Matters are lost, and Sciences in process of Time grow dull and obsolete; so that they are to be wholly reformed, if you would have them shine out with new Clearness and Splendor.

I know well enough, that a *Zoilus* or *Momus* is not wanting, who will not be pleased, that I speak my Mind so freely, in so many Chapters, contrary to the Opinion of so many famous Writers, both Antient and Modern; but what shall I do? It is not for the Sake of Applause or Reputation, that I write this Book, nor will Malice or Envy deter me from writing what is true, and confirmed by Experience. I make use of other Men's Writings to gain the Knowledge of Things, and respect them all, who writ by Experience, gratefully acknowledging whatever Good I obtain from God,

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An Explanation of the Figures XXXI and XXXII.

Figure XXXI.

- a a* The Vertebrae.
- b b* The *Ossa Ilium*.
- c c* The *Ossa Pubis*.
- d d* The Seat-Bones.
- e e* The Cavities of the Hip-Bones.
- f f* The Circumference of the Belly.
- g g* The Womb.
- h* The Infant in the Womb, one of whose Feet is excluded.
- i* The Navel-string.
- k* The Secundine.

Figure XXXII.

- b b* The *Ossa Ilium*.
- c c* The *Ossa Pubis*.
- d d* The Seat-Bones.
- e e* The Cavities of the Hip-Bones.
- f f* The Circumference of the Belly.
- g g* The Womb.
- h* The Infant with both Feet excluded.
- i i* The Umbilical Vein.
- k* The Secundine.
- l l* The Infant's Feet.

C H A P. XLVI.

*Of a difficult Birth, from a Womb ill seated,
viz. hanging too much forwards.*

HAVING thoroughly considered as well generally as particularly, the ill Postures of Infants in a Womb rightly seated; and having also taken notice of the same ill Positions in a Womb obliquely situated, with Observations added to them; we shall now proceed, and speak particularly of a Womb obliquely situated, that it may appear, what sort of ill Births proceed from thence, whether the Infants are well turned in them, or ill. First therefore, we shall enquire, why a difficult Birth is occasioned by a Womb hanging too much forwards. Secondly, How it may be known, that the Womb hangs too much forwards. And Thirdly, What is to be done, to hinder or prevent the ill Consequences thereof.

The Reason why the Womb hanging too much forwards, occasions a difficult Birth, is this, *viz.* because when the Womb is so placed (especially in Women that have big Bellies, who carry the Womb too low in the *Abdomen*) betwixt the Pains, the Infant must needs be forced upon the *Vertebrae* that are bent inwards, or the *Os Sacrum*, by which the Head is stopped; so that it cannot fall into the *Pelvis*. That these Things may appear more plainly, yet not to confound them with the Consideration of the ill Positions of Infants in a Womb hanging forwards, we shall here in the first Place only treat of an Infant, who being well turned, offers it self in a Womb thus obliquated or too much hanging forwards.

I call an Infant well turned in respect of the Womb, both here and elsewhere, when the upper Part or Crown of the Head lies against the Passage or Mouth of the Womb; such an Infant is commonly said to be well turned, and in respect of the Womb is really so, nay in that respect cannot be better turned. And though an Infant so placed in a Womb too much hanging forwards, is well turned, and I agree with other Writers in this Matter; yet I am so far from saying, such an Infant is well turned in such a Womb, in respect of the *Pelvis* and *Vagina*, or the Way it is to pass through, that I would rather say in this respect, that such an Infant is ill turned, because by reason of this ill Posture, the Infant falls transverse upon the *Ossa Pelvis*, and especially in the hindmost *Vertebrae*, or the *Os Sacrum*, as it appears by the 33d Figure.

An Explanation of the Figure XXXIII.

- a a a a a* The *Vertebrae*.
- b* The left Hip-bone or *Os Coxendicis*.
- c* Part of the left *Os Pubis*.
- d d* The Seat-bones.
- e* The Cavity of the left Hip-bone.
- ff* The Circle, shewing the Place of the Belly.
- g g* The Womb, with its Mouth opposite to the *Vertebrae*.
- h* The Infant in the Womb well turned.
- i* The Head of the Infant, over the Mouth of Womb.
- k* The Secundine or Womb-Cake.
- l* The Place of the Navel.
- m m* The Umbilical Vein, or Navel-string.

Infants in a Womb so placed, sometimes (not without Reason) offer themselves with the Face prone, or turned downwards; and nevertheless are
not

not brought forth, but with the Face upwards or supine, because as they pass, they are obliged to be turned round, partly in a Circle, like a Tumbler, with their Head prone, and their Feet drawn up under it. It is worthy Admiration, that some Men could observe such a Precipitation of these Infants, yet not clearly conceive in their Minds the oblique Situation of the Womb; they observed truly, that those tumbling Infants came from Women that had big Bellies, carrying the Womb low; but because they did not well know the right and oblique Situation of the Womb, taking one Thing for another, they did not understand the true Reason, why Infants so precipitated, or falling Headlong, should be so rowled forwards by the Toss. The true Reason of which, is only that oblique Situation of the Womb.

And it is to be noted, that this sudden cast of the Infants is by no means made in the Womb, for they come out of the Womb direct; but as they go out of the Mouth of the Womb into the *Pelvis*, or are as yet covered or enclosed in the Neck of the Womb, as soon as they come into the Turning, (which they must pass) they are obliged to bend themselves, and to be crooked, as the Way is bent; by which means the Face is sometimes bent downwards, and sometimes turned upwards; which that you may understand more clearly, conceive in your Mind a brazen or wooden Tube of that Size, that a naked Infant may slide through it; suppose to your self, that this Tube was crooked like an Elbow a little bent, so that you may look into the upper Hole, and put your Hand into the Lower; then imagine, that you throw an Infant into the upper Hole, with its Face and Breast turned downwards, and the Crown of its Head foremost; the Infant being now injected even to the Angle of the Elbow, if you put your Hand into the lower Hole of the Tube, you will feel the
Crown

Crown of the Infant's Head opposite to the Tube, as if it were sticking fast, with its Face yet as before turned downwards, very difficult to turn ; nor can it be brought through, except with a great deal of trouble ; and if at last you draw the Infant through, you will find him in the bending of the Elbow, to be inverted of necessity by this sudden Cast ; so that its Face being bent downwards in the upper Part of the Cubit, is now found in the lower Part turned upwards ; and thus the sudden turning of Infants is occasioned, which in a Womb that is too prone or hanging forwards, offer themselves well turned, that is, with the Head foremost.

Here it is to be noted, that the Womb, together with the *Vagina*, may make a longer Tube ; besides, that joined together, they may make the Form of the Cubit more or less bent, as the Womb hangs more or less forwards ; and because that bending of the Cubit is formed about the Confines of the Womb and *Vagina*, next the Mouth of the Womb : Lastly, it is to be noted, that as soon as the Head of the Infant hath begun to enter into the Mouth of the Womb, then it presently fixes upon, and as it were sticks fast to the last *Vertebræ* of the Loins standing forwards, or to the *Os Sacrum* ; so that consequently it cannot go forwards, except the Head is bent downwards, and the Neck, and the whole Body be accommodated to that bending, whence the first Posture of the Infant must needs be altered ; so that that which just now was situated in the Womb, prone upon its Belly, now passing through the *Vagina* is bent upwards, supine upon its Back ; whence it appears, that that Inversion is not properly in the Womb, before the Infant slid down, but in the *Vagina* of the Womb ; or if you please, in the Borders of both. And thus I think I have clearly enough demonstrated, that a Womb too much hanging forwards, forces the Infant, by being cast Head foremost

most, to be inverted, which forward Inversion proceeds slowly and with Difficulty; so that such a Birth can by no means be reckoned amongst the most easy, but rather amongst the most difficult.

But some perhaps may ask, whether such difficult Births happen to all Women that have great Bellies? And whether their Wombs always hang so much forwards? To which I answer, that though Women that have great Bellies, are more subject to this ill Position of the Womb than others, yet it is not always certain, that they have such a hanging forwards of the Womb; for sometimes it happens otherwise; and I my self have been with Women that had big Bellies, who had very hard Labour, because their Womb was too much inclined upwards, tending towards the *Vertebrae* of the Loins or the Back-bone; which Situation of the Womb differed as much from the former, as the *East* from the *West*.

And if any Body should ask of me, whether the Womb of one and the same Woman with Child, may one time hang forwards, and the next time she is with Child, be resupined, inclining backwards, and what is the Cause of this or a contrary Posture? I answer, that it may be, and then especially, when the Intestines depress the Womb, forcing it this way or that, whence the change of the Situation happens according to the difference of the ill Depression; the Cause of which may be, that the Woman with Child indulges her self too much in this or that Position of the Body, sitting too much, or lying more or less upon one Side or other, or the Body being too much elevated or depressed, or as they are carried on a Horse or in a Coach, or by the use of some other Exercise, which makes way for that Depression. But omitting now the more remote Causes, by which the Womb is moved out of its Place, we only say; that the Intestines may press the Womb on either Side, as well

well as it may be depressed by them forwards or backwards, which may occasion a great many kinds of ill Positions. Since therefore the Belly hanging forwards, is not an infallible Argument of a Womb hanging too much forwards; and nevertheless it will be to the Purpose, to know presently in the beginning of Labour, whether the Womb be so placed or not; that Help may be the more seasonable, it is requisite, that young Midwives should be informed by what Signs they may know this ill Position of the Womb, and what they are to do in this State of Affairs.

A Midwife therefore may know this Position of the Womb by the thickness and hanging forwards of the Belly; nor will it less confirm it, if she knows from the Woman with Child, in what Place she chiefly feels the live Infant moving, for the Infant cannot move, except where it is placed; besides she may handle the Belly, all which may make her guess the more certain; but the Touch will afford the most certain Sign; therefore a Midwife ought not to be slow or dilatory about touching a Woman with Child, as most are to their Disadvantage, neglecting their Complaints and Groans as they please, and not trying them by the Touch till they think the Infant is already sufficiently forwards; so that they do not only neglect the true Signs, by which the true Position of the Womb might be known to them, but also (if the Case not being already desperate in some measure happens well) torment the Woman in Labour with a great deal of Pain to no purpose, prolonging the Time of the Labour, till they cannot afford sufficient Help; which they might have done, if they had been prudent and ingenuous. But a Midwife may know when the Womb hangs down too much prone or forwards, the Touch assisting, by these Signs.

1. She will find the Mouth of the Womb suspended higher than usual.

2. She cannot touch it without a great deal of Trouble.

3. The same is opposite to the bending of the last *Vertebra* or the *Os Sacrum*.

4. The Midwife can only touch the lower Border of the Mouth of the Womb more or less, as the Womb hangs forwards more or less; but by no means the upper Border, except the Mouth of the Womb already begins to fall down.

5. The Midwife cannot at all, or very hardly put her Finger into the opening of the Mouth of the Womb, and it must be bent or crooked.

6. The Midwife may feel the Mouth of the Womb strongly pressed against the said *Vertebrae*, whenever the Pains come on, so that it cannot fall down.

7. The Waters, if they hang over the Passage, may be felt in a slender Form.

When a Midwife finds all these Signs, she may be certainly perswaded that the Womb hangs too much forwards, and that there is need of Help to correct this ill Situation of the Womb, and to promote the Birth. We know all these Signs are found in the beginning of Labour, before the Pains have closed up every Thing, or depressed too much; nay before the Mouth of the Womb is to open; for afterwards, all those Signs are variously changed, till at last, they almost entirely vanish; wherefore it is to be well noted, that you can never more certainly know by the Touch, the true Posture of the Womb, than presently in the beginning of Labour; though sometimes at that Time the Mouth of the Womb can scarce be touched, being suspended too high; yet it is necessary it should be touched, and therefore you are to penetrate so far, till you do

do touch it ; and if the Fingers are not sufficient, the Hand is also to be thrust in ; and if any Woman shall be against this, she debars the Midwife of the genuine Method of knowing the true Posture of the Womb ; alas ! how prejudicial and deplorable is their Blindness ! By which the Woman's Pains are avoided, whilst in the mean time the Mother's as well as the Infant's Life is exposed to Danger ; what extraordinary Providence attends unskilful Governants, by which they establish Laws contrary to Reason, teaching others what they do themselves ! for it is very certain, that she can by no means do her Duty conveniently to a Woman in Labour, who hath not found by the Touch the ill Situation of the Womb ; wherefore Midwives are by no means to neglect the Time, but the same accurate Method is to be taken, that they may seasonably inform themselves of the true Condition of Things.

The Midwife being certain, that a Womb hanging too much forwards in a Belly bearing pretty much out, is deeper depressed, is to consider with her self, how she will correct this Situation of the Womb, and be assistant both to the Mother and Infant ; to which end, two Steps are to be taken : First let her endeavour, that the Head of the Infant may fall down into the *Pelvis*, even to the bending of the *Os Coccygis* : Secondly, let her from thence promote the Head, that the Exclusion or Birth of the Infant may be wholly performed ; for she is not to be satisfied that the Infant's Head is already brought into the *Pelvis* : The Matter is not yet out of danger ; but now Pains must be taken, for half the Work is not yet done. In this Place a great many Infants have stuck, and never been born ; a great many Mothers as well as their Infants have perished, when the Crown of the Head hath already been fallen down into the bending of the *Os Coccygis*, where they continued till both the

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Mother

Mother and the Infant were dead ; nor is it to be denied, but that this Place is like some of the more dangerous Rocks of the Sea to Infants, upon which a great many striking, suffer Shipwreck : In the mean while this dangerous Rock must needs be passed over, nor can it be avoided, and without Help they can by no means pass through easily, if we measure the Matter by the rule of Reason, and the present State.

The Help which is required, consists in this, that first the Infant's Head, with the Mouth of the Womb, be brought forward into the *Pelvis* ; to which end the Woman is to be placed with the upper Part of her Body lower than the inferiour Part, which may be commodiously done in our perforated Chair, contrived for Women in Labour ; the hinder Part of which, that is the Back, being let down, and the Seat with the two Foreparts so far elevated, that the Back, and the Seat may make a right Line, yet so, that the Head and Shoulders may bend downwards, and the Buttocks upwards ; by this means the bottom of the Womb is lifted up, and gives the Mouth an Opportunity, that it may be brought more commodiously into the *Pelvis* : First, because the Womb, so erect, is carried by its own Weight downwards, if the Mouth be moved out of the Place ; Secondly, the Womb being so erect, is not so much depressed by the Weight of the Guts, by which it is otherwise forced down into the Abdomen ; the Woman often labouring without good Reason, as she is commonly advised, when no respect is had to the Situation of the Womb, or the Infant. In that Situation, the Womb may be pressed back more and more, because the Intestines are carried down by their Weight towards that part of the Body which is now lowest. The Woman in Labour being now placed in the manner just mentioned, the Midwife using both Hands is to clear both the Womb
and

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Body in some measure bowed forwards, that the Womb, as much as possible, may be brought down into the *Abdomen*; then the Hand is to be put into the *Vagina* or Neck of the Womb, that the Tops of the Fingers may not only tend into the Mouth of the Womb, but may also pass by it a little, till they come above the upper Border of the Mouth of the Womb. *N. B.* Not betwixt, but behind the Lips of the Mouth of the Womb; so that the Mouth of the Womb, and the Top of the Infant's Head, and the inward Part of the Fingers, may touch one another, the Hand or Fingers being formed according to the Roundness of the Mouth of the Womb, or the Infant's Head; and the external Part of the Hand or Fingers touches the Bending of the *Os Sacrum* that hangs forwards, or the lower *Vertebra*. The one Hand being thus placed, the other is placed outwards, as we said before, and then the Woman is gradually to be laid upon her Back, till the upper Part of her Body is more depressed than the lower; by this Means, the Hand being in the mean while alway kept within the *Vagina* in the same Place immoveable, the outward Hand skilfully forces the Womb from it, that it may be restored to a right Place, as much as possible. Whilst the Womb is thus driven back, the Hand within, being now streighten'd, is at the same time to be moved gently back, the Extremities of the Fingers stirring much, that the Mouth of the Womb and the Infant's Head may be carried downwards with a gentle Quivering. As soon as the inward Hand perceives the Mouth of the Womb to begin to fall down, it must also slide down with it, every Turn tending a little forwards: This is to be repeated several times, till at last the Mouth of the Womb (freed from that difficult Obstacle) and the Cavity of the *Pelvis* answer one another; which being done, all Things conspire for the further Depression of the Infant.

This

This Work of Art is most fit and safest for an experienced Hand ; for the Mouth of the Womb and *Vagina* are so situated, that you may go a Finger's Breadth, nay, sometimes you may touch an Inch behind the Mouth of the Womb : But a skilful Hand must take care lest it hurt the *Vagina*, or tear it from the Mouth of the Womb, seeking room where it is not allowed. The driving back of the Womb, made by pressing the *Abdomen* with your Hand, is also to be performed with sound Judgment, not drawing the Hand from above downwards, for then the Womb would be pressed more strongly below ; but the Midwife, as much as the Woman in Labour can bear, ought to press from below upwards, that, if it be possible, the Womb may be re-supined or turned backwards : But the Midwife is to observe, that this pressing back of the Womb is not to be attempted with one Hand, before the other is placed conveniently within ; for then the Work is seasonably perform'd with both Hands. But if it does not succeed according to your Mind the first Time, it is oftner to be repeated, till, by many Turns, you have proceeded so far, that you may feel the Crown of the Infant's Head, that is, till you can feel the Borders of the Mouth of the Womb round about, hanging over the Entrance of the *Pelvis* ; and then you may be certain of very good Success, and hope that the Force of depressing Pains will not be in vain.

Hitherto we have said nothing of the Woman's Labour, because 'twas not yet seasonable for the Woman to be encouraged to Labour, being not only in vain, but a great Hinderance to the Midwife, to whom as yet all the Labour belonged. But, perhaps, some may ask, What is to be done by the Woman that is to bring forth, perceiving her self to be urged by Pains to Labour ? May not she labour then ? Or, can she forbear it ?

I answer, That, indeed, she cannot restrain it, but that she will be seiz'd with Pains; yet may she forbear working along with them, or at least abstain from too much Depression, which the Midwife ought to enjoin her very strictly, who, if she feels the Pains rushing in upon her (which, if she be attentive, she may most commonly sooner observe than the Woman her self, since her Hand is apply'd to the Mouth of the Womb) then she ought to be quiet, and attempt nothing, but take an Opportunity to act as soon as the Pains are gone off, by pressing back, drawing forwards, &c. as we have shewed above, before another Pain comes on.

Perhaps it may seem strange to most, that a skilful Surgeon, that practises Midwifry, or a Midwife, should perceive the Pains before the Woman her self: But, as strange as it may seem, 'tis true; nor does it afford small Assistance to a prudent Midwife, who, knowing how to use this Observation, takes the Opportunity of fit Times to act in, and seasonably lends Nature a helping Hand, that both may jointly effect what neither could do separately; or, on the contrary, may act by Turns: For, as here the Midwife is to cease, while she perceives, by the Pains, that Nature is working; and to work, if the Pains are past; so another Time she is to work along with the Pains, and when those are past, to cease: Therefore a Midwife perceiving the Pains coming on the Woman, is to forewarn her that she would rather bear her Pains patiently, and suffer them to pass off, than work with them, lest the Infant and the Womb should be more and more straiten'd.

Perhaps some may ask, How can the Midwife perceive that the Pain is coming on? To which I answer, That I can tell it by feeling, and that I commonly foretell the Woman of it, and admonish her of her Duty, whether she is to labour or not,

as the Occasion requires ; but, I confess, I know not how to express it, but a kind of subtil Motion begins in the Mouth of the Womb, or a Contraction or Compression, which can only be observed as often as the Muscles are affected with a new Sense, to which they being excited by a new Influx of Spirits, occasion a new Force upon the Womb, which we commonly call a Pang ; whoever therefore knows how to distinguish this Motion from others, may perceive before-hand that the Pains are coming on.

Here Midwives are to be put in mind, that if they are busy with their Hand about the Mouth of the Womb, they are to feel the Borders of it's Mouth with their Fingers well, as we have said, that they may abstain from too much Motion of them, not moving them here and there, whilst they handle the inward Border of the Mouth of the Womb ; for this stirs up Pains, when the Woman in Labour hath no need of them, being ordered to stop her Pains, and therefore the Midwife must take care not to stir them up. I have learn'd, by Experience, that the different handling of Things stirs up different Sensations ; and that there is a Way to excite the Pains of Women in Labour, or put them by, as shall be spoke of hereafter more at large.

When the Midwife hath happily brought Things so forwards, that the Mouth of the Womb and the Head of the Infant begin to slide down into the Cavity of the *Pelvis*, she is further to study how to be serviceable to the Infant, and to use all her Endeavours to make the Infant's Passage easy. In the first Place, she is to take care to raise the upper Part of the Woman's Body a little, giving her Respite for some Time, before she brings the Mouth of the Womb into the *Pelvis* ; for it occasions Inconveniency as well as Pain to the Woman in Labour, to lie long upon her Back with her Head

downwards, Respiration being in some measure stopped, all the Intestines pressing upon the *Diaphragma* with their Weight, which occasions a great deal of Pain: But if the Woman lie down a pretty while, and finds no great Inconveniencies by it, (for some Women are stronger to bear it than others) she may continue some Time in the same Posture, and the Midwife may enjoin her, That, minding every Pain for the future, she should work along with them as much as she can; for now the Pains ought, by the Assistance of the Infant's Head, gradually to open the Mouth of the Womb, and to force forwards the Infant's Head.

But here the Midwife ought to be careful and diligent in sustaining or keeping up the Mouth of the Womb, lest it should fall down along with the Crown of the Head into the *Sinus* of the *Os Sacrum*; which if it happens, she will be no better than a Butcher to move the Head any further downwards; for there is a great deal of Difference whether the Head of the Infant is brought down into this *Sinus*, or whether you find the Head and the Mouth of the Womb enclosed and compressed there together, especially if the Posture of the Womb be yet so ill as this is, which occasions the greatest Difficulty to bring the Head out thence: For this Posture of the Womb consequently shews, that the Infant and the Womb together will sooner fall down, than the Infant alone, and that the same will sooner be bound up with the Crown of the Head immoveable in that Bending of the *Os Sacrum*, than that it will pass through. Therefore Midwives, not understanding this, suffer all to fall down together so commonly, that, I believe, the thousandth Part scarce understand this Matter thoroughly; for which Reason so many fine Women die with the Child in their Belly. Others sacrifice the Infants, and cannot bring forth, except the Head being first opened and brained, they draw them away without

out a Forceps. Another thinks himself Master of a great Secret, because he knows how to draw an Infant out with an Eductor, without braining the Infant; to correct which, another makes use of a couple of Hooks fixed in the Eyes, Ears, and other Parts of the Head, by which he violently draws out the Infant; which, if it comes out alive, in a few Hours or Days after it must die; not to speak of the Inconveniencies which are brought upon the Mother besides. Behold the excellent Art of Midwifery! And this is all done under the Notion and Colour of the Infant's being already dead. The Midwife says, *I have taken all the Care and Pains I could, but could not relieve her, whilst the Infant hung up or was suspended so high*: But being ignorant what to do when the Mouth of the Womb is yet suspended, she will be much less able to do it when it is fixed below upon the Bending of the Os Sacrum; nor can the Surgeon give better Advice in bringing forth the Infant, except by taking away the Infant's Life by Hooks, Knives, Forceps, or an Eductor, and to draw it out dead, either whole or in Pieces: And what now can be done, but what is usually observed? *Viz.* that it is better for one to die than both; and therefore to kill the Infant and draw it out, if it is not already dead, that by this Means the Mother's Life may be saved? O miserable Choice! where the Mother's Life is to be redeemed by the Death of the Infant! Away with this Negligence, and this pernicious Ignorance of Midwives, who know not how to relieve a Woman or Infant seasonably. But who shall accuse them, who had never been taught better? Hitherto no Body hath explained this Art upon firm and mathematical Foundations and Demonstrations; What Wonder is it then, if they continue in such thick Clouds of Ignorance?

But that the Midwife may prevent this sad Mischiefs, she is to use her best Endeavours to keep up the

the Mouth of the Womb, nor is she to suffer it to fall down, that the Infant's Head being cleared of the Womb, may be brought down, which may be much more easily done, than if it be covered about with the Womb, and stick fast in the *Sinus* of the *Os Sacrum*: And if in the mean time the Membrane presses strongly instead of the Head, it must be dealt with all one as the Head, *viz.* the forming of the Humours is not to be hindered, but the Mouth of the Womb is only to be kept up, which the Midwife is not to suffer to fall down, taking care not to break the Membrane; therefore, let her always stretch out her Fingers wide enough, applying them to the Borders of the Mouth of the Womb only, and not to the Membrane; and let her continue to do so till the Membrane is broke; which being done, let her handle the Head as we have said.

But methinks I hear the Midwives crying out against me; *Whatever you write, there is a great deal of Difference betwixt Saying and Doing: Things do not always succeed according to our Thoughts: Who can know all Things so accurately? And though we could know, yet our Women will not suffer it; they will not be touched, except with one or two Fingers at the most, and so that you must not put them to Pain, for they will suffer no Hardships, especially those that are rich, who will not be handled, except with the softest Touch.* I answer, That I am not ignorant that there is a great deal of Difference betwixt Saying and Doing, and that it is easier to write of this Matter, than to perform it well; and I know well enough also, that Midwives cannot execute my Precepts without accurate Attention and close Study; nor am I ignorant that Women with Child are tender enough, nor will easily endure Pain, indulging themselves, and desiring Midwives to do the like: Charity and Equity also require, that Midwives should be cautious not to put Women to unnecessary Pain. Further,

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the Birth with her joint Force, and that in the following Manner : The Midwife having put one Hand into the *Vagina* of the Womb, the Back turned to the streight Gut, or the *Intestinum Rectum*, let her thrust the Ends of her Fingers as far as she can under the Head of the Infant, (yet cautiously, lest the Head should be pressed too much) then let her hold her Hand still, till the Pain comes on : Let her put the other Hand outwardly upon the Woman's Belly, about that Place where the Bottom of the Womb lies ; and when the Pain begins to come on, let her begin to work with both Hands, *viz.* let her press gently downwards with her Hand within the Body, that is, against the Point of the *Os Sacrum*, which is to be pressed back ; and with the other Hand, on the Out-side, let her gently raise the Womb into a re-supine Posture, and at the same time let her press gently downwards ; I say gently, in Proportion to the Pain gradually encreasing from the Beginning, which as it successively excites the Woman to stronger Labour, so the Midwife ought to press down by Degrees more strongly.

But it is to be noted, that this external Pressure never ought to be vehement or violent, but always moderate. And the Depression made with the other Hand internally ought to be strong ; so that the Midwife ought to make use of all her Strength upon that Depression, yet with these Cautions ; First, That violent Depression is only to be made use of, as long as the Woman in Labour is excited to it by the height of her Pains ; but when the Pain ceases, the Depression is to cease likewise. Secondly, That Depression is to be made equally with the Back of the Hand upon the Part, and not with the Joints of the Hand griped. Thirdly, The Hand, as much as possible, is to be opened broad, that it may press equally every where. These Things being well observed, the Midwife may use
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all her Strength, without being afraid of hurting the Woman, since it will be most grateful to her.

But perhaps some may think with themselves, Would not the Midwife by this Means hurt the Woman, by tearing her in Pieces? Or, would not she so compress the *Intestinum Rectum*, or streight Gut, as that at last it might mortify? Since a great many Examples witness, that either the Privities of the Woman in Labour have been broke, and tore even to the *Anus*, or the Mouth of the Womb. But I answer, that in the Manner above-mentioned, it cannot be done; but the Privities or Mouth of the Womb are broke, if Midwives thrusting in a Finger of each Hand into the Mouth of the Womb or Privities, with all their Force, draw the Parts asunder without Caution, and so tear those Parts; but in so general a Depression there is no Danger of it.

Further, Midwives are to observe well, that it is not sufficient to press back the *Os Coccygis* after this manner, with all their Strength, but also as they press down, they are at the same time to draw their Hand to them, and they will find the Head a little pressed forwards by every strong Pain, and successively coming forth; those that draw the Hand so, at the same time draw it under the Infant's Head lying upon it; but this signifies nothing, if they presently put it in again as soon as the Strength of the Pains is over, and they place their Fingers under the Head again, repeating the Depression and Attraction every Turn along with the Pains; this being done, as it ought to be, they will find how much Room is got by it, and how the Passage is opened for the Infant to slide down; to which end also, the Hand pressing externally, does not less contribute, being placed upon the *Abdomen*, and strongly thrusting forwards both the Infant and the Womb. And here the Reason is worth observing, why an Infant goes forth
so

so slowly ; for here it is not placed in the narrowness of the Mouth of the Womb, nor of the *Pelvis*; but rather in this, that the Pains cannot commodiously make an Impression ; and the Infant is so straitened in the upper Part of the Womb, whence that slow Progression continues, till the upper Part of the Infant's Body hath passed that sinuous Bending above ; which when it is done, the Infant presently breaks out, and is brought forth.

As soon as the Midwife hath received the Infant in her Lap, she herself ought either to tie and cut off the Navel-string, or commit it to others to be done ; but she is presently to thrust her Hand into the Womb to draw out the Secundine, and to restore the Womb into its genuine Place, taking care, that it being rightly contracted, should be well shut ; which not being well done, the Womb is often filled with Blood, which at the last is coagulated and shut up in it, which easily occasions Raving, want of Rest, a continual Fever, an immoderate Flux of Blood, and at last Death, which are commonly imputed to hard Labour, when in Truth it often proceeds from a negligent Purging of the Womb, and a careless Closing of it up. I am not ignorant, that there are other Causes of Death ; but I know very well too, that it takes its Original from thence ; which Causes, a prudent Midwife by handling Things circumspectly, may easily take away.

It is a Midwife's Duty, after the Secundine is come away, her Hand being gently passed in again, to put the Womb in a re-supine Posture, and in some measure bring it downwards, keeping her Hand there, till the Womb is contracted about her Hand ; except it grows stiff like a Board, which sometimes, though seldom, happens ; then no delay is to be made, till the Womb is shut up ; but the Woman is carefully to be observed, whether ill Symptoms afterwards shew, that the Womb is to be cleared of
clotted

clotted Blood ; but if the Womb be of its usual Thickness, it is easily and presently, nay, more commodiously contracted, than when it is extremely thin, which falls about the Hand, like a piece of wet Cloth in a thousand Folds ; when the Womb is closed about the Hand, it is to be drawn out, and whatever Excrement is contained in it, is to be got out, that being well purged, it may be shut without any hindrance.

Hitherto we have informed young Midwives what is to be done, if they are presently called to a Woman in Labour, whose Womb hangs forwards or prone in the Belly, that, as well as they can, they bring out the Infant after the usual manner, without turning ; but if by chance, the Midwife, through Ignorance, neglects all these Precepts, and through a great many Endeavours and Uncertainties, the Matter proceeds so far, that the acuminate or lower Part of the Womb falls into the *Pelvis*, and the Mouth of the Womb with the Infant's Head breaks through into the crooked *Sinus* of the *Os Sacrum*, and is there bound up ; if in this Case the Membrane is broke, the Infant's Head being yet a little bare, if the Woman in Labour, after a great many Endeavours, is now tired ; then it is asked, What is to be done by a Midwife when she is sent for in this Case ? I answer, that to perfect the Travell of such a Person, a Man's, rather than a Woman's Help is required ; wherefore it would be better to commit her to a skilful Surgeon that practises Midwifery ; though I do not mistrust, but that an experienced Midwife sometimes may be capable of that Work.

We have already supposed, that the Infant's Head is but a little bared as yet ; besides, we supposed, that the Infant's Head sticks fast as it were in the crooked *Sinus* of the *Os Coccygis* ; whence it is to be concluded, that here the Infant cannot make any Force upon the Mouth of the Womb that is
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to be opened ; therefore the Situation of the Womb is to be altered ; wherefore the Woman in Labour is to be placed in a commodious Seat, fit for that Purpose. To that end, let the Person that practises Midwifery, place the Woman upon a Pallet or low Bed, or on some Pillows laid on the Ground ; that she may lie with her Face downwards upon her Knees, and her Head low ; let her Arms be supported with so many Pillows, as are requisite to sustain her, and to lean upon without moving : This may be conveniently done, if she leans upon the Seat of a Stool turned with the Feet upwards ; the Feet of the Stool (now upwards) being placed against a Wall or Bed-side, that the Woman may keep her Body steady, lest she should be moved, which might easily happen, if she was not furnished with such a Support.

We place the Woman in Labour thus, with her Head downwards low, and kneeling upon her Knees, that by the Help of this Posture, the Womb may be carried down into the lowest Part of the Belly, by its own Weight, and consequently release it self out of that crooked *Sinus* of the *Os Coccygis* ; which, that it may be done the sooner, and more commodiously, the Midwife having put her Hand or Fingers into the Neck of the Womb behind, betwixt the streight Gut and the Head of the Infant, she may press down the Womb, till the Mouth of the Womb is so far forced back, that there is room enough to hold it up, lest it fall down again ; and also, that there may be room for the Head of the Infant to be depressed into the Mouth of the Womb, and to open it ; by which at the last, a great Part is bare, yet it is not to be suffered, that the Mouth of the Womb should again fall into the *Sinus* of the *Os Coccygis*. The Womb and the Infant being at the last so far forced back, the Midwife or Surgeon may perfect the Birth of the Infant by the Method
which

which we have above shewn to Midwives, which to save Time, we shall not repeat here.

But though the Birth of the Infant may be thus managed, and sometimes perfected by a skilful Surgeon, if the Woman is as yet supply'd with sufficient Strength and Pains; yet they may try another Method, if it be feared, that the Woman may want Strength and Pains to finish a prosperous Birth. Therefore the Woman being placed as before, let the Midwife further, as we said, depress the Womb as much as she can, till the Mouth of the Womb being reduced further up into the larger Space of the *Pelvis*, may more commodiously be opened by the Hand, so that it may be passed in; by which the Head of the Infant being put aside, the Feet are to be sought for; nor are you to leave off till they are found; and the Infant being turned, they are brought into the Passage, the Toes, as well as you can, being turned downwards towards the Mother's Strait Gut. The Feet being now brought into the Passage, there is no need the Woman should lie longer with her Head and the rest of her Body prone, or with the Face downwards, but being turned, and lying with her Face upwards, let her prepare to press down strongly, when Occasion requires. In the mean while, the Midwife with her Hand within the Body, always holding the Feet of the Infant, now ought to draw them outwards, till the Buttocks and Belly are excluded; then the Infant being taken fast hold of, the one Hand being placed under the Belly, and the other upon the Back, let her order the Woman in Labour, if she feels no Pain, to behave her self as if the Pains were upon her; that is, let her press down with all her Strength, as if she was to bring forth the Child; whilst she does this, the Midwife ought to draw it towards her continually, yet gently, that thus the Head along with the Arms may be excluded

It being known now, how the Woman may be helped, when her Womb hangs too much forwards, and whose Infant tends directly into the Passage, that is, with the Head foremost; we shall further see, how the Womb thus hanging forwards, is to be treated when the Infant is ill seated in it: For as there may be an ill Version of the Infant in any Posture of the Womb, so consequently in this; so that the Hand, Foot, Elbow, Umbilical Vein, the Chin, or the Face, Buttocks, or another Member may sometimes offer it self first; wherefore it is necessary, that young Midwives should know, by what Signs those ill Situations of Infants may be known; moreover, what is to be done to clear those Infants which are obliquely and ill seated.

But lest I should be too prolix in this Matter, I shall say in a few Words, that those various Situations of Infants may be known by the Touch, as we have elsewhere shewn; for the Situation of Infants is known the same Way in an oblique as in a direct Womb. Nor is there need to be long doubtful in this Posture of the Womb, what Part appears more precisely in the Passage first; it is sufficient if the Midwife have observed, that the Head does not offer it self, that she may know, that the Infant is to be drawn out by the Feet, and for that Reason, the Time is not to be spent idly, if she thinks herself fit to undertake the Work; otherwise an expert Surgeon, that practises Midwifery, is to be called to her Assistance, who may perform this Work, whilst the Mother's Strength, and the Infant's are vigorous, the Membrane being not yet broke, and the Womb being as yet suspended in the upper Part of the *Pelvis*. The Woman therefore being placed in a perforated Chair, so that she may sit upright in the Fore-part of the Seat, which is most open before, then he is to put his

his Hand into the *Vagina* of the Womb, and dispose the Mouth of it so, that it may be fit to open, which is now more commodiously opened, than if the Head of the Infant came first; which being done, let him put first one or two Fingers, then three, and all of them successively into the Mouth of the Womb, and having enlarged that, let him penetrate into the Womb; then let him break the Membrane, or if he thinks it better, let him stay till it is broke of its own Accord; then having sought the Feet, let him bring them into the Passage, taking Care that the Toes be turned towards the Mothers *Intestinum Rectum* or Strait Gut; and so at the last, let him draw out the Infant after the manner above-mentioned, in this oblique Posture of the Womb.

But perhaps some may ask, Why in this oblique Posture of the Womb, I should presently advise, rather to draw the Infants out by the Feet? And why I should not presently draw Infants out by the Feet, that offer themselves Head foremost? Since the Exclusion of such Infants in such an ill seated Womb, is so difficult and dangerous? To which I answer; That in this ill Posture of the Womb and Infant, the Turning of the Infant more easily succeeds, than if the Head were foremost; and that the Infant finds the most commodious Passage, whether the Head or Feet offer themselves: Moreover, though (according to these new Demonstrations of mine, of an oblique Position of the Womb) it be infallibly true, and that it is more safe and easie, presently in the beginning of Labour to draw the Infant out by the Feet, when it is turned, (though the Head offers it self first) than to suffer it to come with the Head first; yet I have proposed above, that an Infant coming with the Head foremost, may be allowed to pass, that we may not presently pass from one Extreme to the other;

or as it were at one Stroke overthrow the whole Structure of the Ancients; especially when this oblique Situation of the Womb is the most commodious of all the four most inconvenient Postures, and the Infant may be brought forth alive with the Assistance of faithful Help, though a great many perish for want of Help.

But that I may plainly and openly profess the State of this Case, as it becomes me to speak the Truth ingenuously, though what I shall say, be contrary to my own Practise, I shall freely speak my Thoughts, *viz.* That in any oblique Posture of the Womb, I think it the safest, readiest, and least painful Way, to hasten the Birth, by drawing the Infants out with the Feet foremost, and that presently in the beginning of Labour, before, or presently after the Waters are come away, as soon as you are certain, that the Woman hath the genuine Pains of Birth upon her. And if this Method should be followed, as I believe at last it will, certainly a Multitude of Women and Children may be saved, who would otherwise perish. Lastly, I shall add, that this oblique Position of the Womb will admit of a more commodious Exclusion of the Infant, the Head coming foremost, than the following, when the the Womb is seated on either Side, or is pressed against the Loins.

C H A P. XLVII.

Of a difficult Birth, when the Womb is pressed too much against the Back-bone.

I Have learnt by Experience, and all Practisers of Midwifery, who love the Truth, may be taught by the same Mistress, that the Womb being
out

out of its natural Place, may be often too much re-supined, or tend with its Bottom backwards, being forced towards the Back-bone ; so that its Mouth or Passage is not only raised too high into the Belly, but is so obliquely seated, that it no longer answers the Neck of the Womb in a right Line ; but on the contrary, the upper Part of the *Vagina* is so bent and crooked, that it is rather like the Figure of a three-corner'd Rule, than a direct Line, varying more or less, as the Womb is more or less pressed against the Back-bone, and the Loins of the Woman are more or less sinuous.

This ill Position of the Womb consequently occasions a præternatural and difficult Birth, except the Woman and the Infant are restored to their right Position presently in the Beginning by a ready and skilful Hand ; therefore the Midwife ought to observe by the first Touch with the utmost Diligence and Attention, whether she perceives this ill Position of the Womb, that she may help the Mother and the Infant presently upon the first Pang of Labour ; nor let her delay longer, as a great many imprudent Midwives do, whose Mistakes, being ignorant of these Inconveniencies, the Mother and Infant both suffer by.

I would have young Midwives know this, that from the Posture of the Womb before described, it necessarily follows, that the Head of an Infant never so well turned, falls upon the *Ossa Pubis* : For, whilst the Infant labours to get forth, as well by its own Endeavours, as by violent pressing Pains ; in this Condition it is violently forced against the *Os Pubis*, where its soft Head sticking, is in some measure squeezed, and gradually crushed ; so that not being able to fall down into the Cavity of the *Pelvis*, the Mother can by no means bring forth the Infant, except the Head being first removed, is brought into the Cavity of the *Pelvis*.

Sometimes it happens, that the Woman is two or three, perhaps four Days in Labour, yet cannot bring forth her Infant; and what is more, sometimes the two first Days the Pains are most violent; so that being tired with fruitless Labour, the Child dies unknown to her; the Fault of which is the Midwife's Ignorance. At the last the dead Infant is brought forth of its own Accord, with little or no Force of Pains, but it happens through the singular Providence of God, to the saving of the Mother's Life, who otherwise dies also; and when she is just a dying, brings forth her dead Infant.

But that young Midwives may know the Cause of this, and how to prevent it, it must be more diligently explained. Unskilful Midwives trying a Woman in Labour by the Touch, when the Head of the Infant is fixed upon the *Ossa Pubis*, they do not perceive it, and are wont to say to the Woman and her Friends that are present, that the Infant is yet too high, and that it cannot be reached by the Touch, and that it must fall down lower; and thus they wait for the Descent of the Infant, which cannot fall down; or trying the Situation of the Infant by the Touch, if through the Womb, which lies betwixt, they feel a kind of Roundness and Hardness, which they mistake for the Head, they say, the Infant is well turned; then they only wait for strong Pains to drive the Infant forwards, but their Hopes are frustrated, being ignorant that the Infant's Head sticks upon the *Os Pubis*; so that they neither help the Mother nor the Infant, and often through that Ignorance both die. This Ignorance chiefly is owing to this, that they cannot clearly distinguish the Womb and the *Vagina* by the Touch; nor can they truly distinguish the Mouth of the Womb from the Parts of the Infant that offer themselves first for Birth, or from the Membrane that contains the Humours; when yet it is the Midwife's Duty to be able to distinguish every Part; and

and then she could not be ignorant of the Infant's Situation, and consequently might readily and without delay give her Assistance.

In this ill Situation of the Womb, of which we now speak, a Midwife that is very skilful, either cannot touch the Mouth of the Womb at all, or very little, except it lies open wide enough, and then she may touch at least some part of the Circle; for the Infant's Head is fast upon the *Os Pubis* above; therefore the whole upper Part of the Borders of the Mouth of the Womb cannot be touched with the Fingers, since they can only come at the lower Part of the Mouth that is open; and then they are cautiously and prudently to be thrust in betwixt the Neck of the Bladder, and the Mouth of the Womb; for the Midwife thrusting them in behind towards the *Intestinum Rectum* or Strait Gut, meets with nothing but a little close Bag, and pressing a little harder, through Ignorance easily persuades herself, that she feels the Infant's Head, not understanding that it is still covered with the Womb, nor that she waits for the Descent in vain. A discerning Midwife, when Things are so near the Neck of the Bladder, will feel a sort of circular Border, which is that of the Mouth of the Womb, which if she penetrates with her Fingers, she will also feel the hard Part of the Head, that is globular, smooth, or the opening of the Crown of the Head; whence she may be certain, that the Infant, as well as the Womb, is too close to the Backbone; when therefore she is certain, that the more the Infant is pressed and bound up to these Bones by the Pains, the harder it is to remove it from thence; nay, that the Brain may be broke into, so as to occasion sudden Death, without delay she must assist the Infant in the following manner.

First, As soon as the Midwife hath observed this ill Situation, let her hinder the Woman from Labouring strongly with her Pains, but advise her rather to bear them and put them by, till the Situation of the Infant is corrected, and the Midwife again puts her upon labouring.

Secondly, Let the Midwife order the Woman presently to make Water, if she can, to empty the Bladder, that there may be no Danger of hurting it by Pressure, (whether that Pressure be made by the Infant's Head, or the Midwife's Hand, whilst it is busie in clearing the Infant's Head) and if yet fewer and less violent Pains press the Woman in Labour, and the Membrane is not yet broke, you may move her to Stool with a gentle Clyster; that first all Hindrances, as much as is possible, may be removed.

Thirdly, The Midwife should put the Woman in a convenient Posture, that she may help her commodiously, *viz.* Let her first be laid upon her Back in a perforated Chair, that is, in the Beginning, if the Infant is not as yet fixed fast upon the *Ossa Pubis*; otherwise it would be more proper to place the upper Part of the Body lower, than the Inferiour Parts, that the Infant, and the Womb may more easily give back.

Fourthly, The Midwife taking hold of the Border of the Mouth of the Womb cautiously with the Fingers of either Hand, (*viz.* that which will be most ready for the Work) let her press and draw it backwards towards the *Intestinum Rectum*; yet let her not set about this before she hath placed the other Hand upon the *Abdomen*, a little above the *Os Pubis*, and then the Work will succeed better, when both Hands are employed; *viz.* first let her thrust back the Infant's Head a little with the Hand on the outside, and presently let her press it down; but with the Hand within, let her draw back the Mouth

Mouth of the Womb towards the Strait Gut, and withal downwards. When she hath now felt the Head of the Infant and the Womb a little moved and slipped down, let her advise the Woman to raise the upper Part of her Body, but so as not to stir the lower, that is, let her bend her self as much as she can forwards, and sit as if she would go to Stool. In the mean time, let the Midwife take Care, that she holds her Hands fast in the manner aforesaid, being ready (whilst the Woman by the bending of her Body, raises the Infant and the Womb behind, and drives it forwards) to press down the Head before, that it may fall down directly into the *Pelvis*.

Fifthly, The Head being cleared and freed from Hindrances, let the Midwife advise the Woman, that now minding her Pains, she labour with them as much as she can, to drive the Infant forwards, and quite bring it forth; wherefore let her labour with her Body for the most part in a sitting Posture or kneeling upon her Knees with her Arms conveniently supported.

Sixthly, But if the Infant already sticks fast upon the *Ossa Pubis*, before the Midwife came, or, if she finds the Woman and the Infant in this miserable Condition, having been both neglected through the Ignorance of some other Midwife, let her lay her quite down upon her Back, with her Head low, and her Body a little elevated, and let her try by the Method above-mentioned, to press down the Infant's Head; but she ought to take Care, not only to press down above, but she is first to thrust back, and then at the same time to depress; for the Bones of the *Pubis* sometimes makes an Impression, a Dent upon the Infant's Head, for which Reason it cannot be depressed without being hurt, except it be first thrust back a little.

Seventhly,

Seventhly, If by chance the Membrane is broke in this Posture, and the Infant's Head is much bared by the enlarging of the Mouth of the Womb, the Midwife letting the Border of the Womb alone, is to endeavour to thrust her Fingers betwixt the Head and the *Ossa Pubis*, and in some measure towards the upper Part of the Head, or to apply it higher to the upper Border of the Mouth of the Womb; and by this means to endeavour to draw the Head along with the Mouth of the Womb downwards.

Two Things here especially, and in every difficult Birth, are required, *viz.* A sound Judgment, and a convenient Method of handling Things gently and readily; where these are found, there the Blessing of God attends; for God compleats his Gifts: But those, who without the true Knowledge of Things, and without the doing what they ought, expect every Thing by the Blessing of God, neglecting what they ought to do; tempt God, and are wanting in their Duty. I confess, we are not able to cause a natural Birth; God affords both Pains, and Strength to go through them, to whom the Glory of every Thing is due; forasmuch as he supplies us both with Food and Cloathing, he produces and brings to Maturity both the Grapes and the Wine. But the Husbandman, or the Gardiner, who sleeping in Seed-Time neglects to sow and plant, hath no Opportunity afterwards for Harvest; and he who, when he hath sown or planted, does not harrow, crop or water, nor does whatever else is necessary, can have no Hopes of Comfort, or Divine Blessings. And so a Woman in Labour, without Pains, and humane Assistance sometimes, cannot bring forth; for that is the Effect of God's Curse; these Pains which Women have, being appointed by God for their Transgression; nor does this lessen the Divine Power, who can

can do all Things which he will, but will not do all which he can; and he who hath been pleased to enjoin us so troublesome a Work, to try the Patience of one, and the Industry and Charity of another, exercifes his Judgments upon some, that all these Things might tend to his Glory.

But if by Chance the Infant is too much compressed, and its Head is too big, that it cannot be brought into the Cavity of the *Pelvis* without a great deal of Trouble, and a tedious Piece of Butchery is to be expected, rather than the desired Birth, as in this Condition it happens, I would have Midwives endeavour (before Things come to the utmost Extremity) to find out the Feet; but that Work is more proper for Men than Women: Therefore except a Midwife hath good Judgment, and a ready and strong Hand, she ought to commit this Work to a skilful Practitioner in Midwifery, who thoroughly understands the internal Parts of Women, better than Women commonly do: I said I would have them endeavour; for in such a Position, the Infant is not brought forth without Labour, and that difficult and troublesome too, for these three Reasons.

First, Because in this Case, the Mouth of the Womb is commonly less open; and at the last to be opened by a gentle Force; for by too much haste the Woman is put to extream Pain; then the Hand is to be well anointed; and first one, then more Fingers are to be thrust into the Mouth of the Womb, and to be gradually stretched out and distended in like manner; and at last, the whole Hand is to be thrust in, up to the Wrist, and the Orifice of the Womb gradually dilated by opening and shutting of it, as you find it may be done most commodiously. The Infant's Head, as much as you can, is now and then to be thrust back and put on one Side, and then you are to penetrate further

ther into the Womb by degrees, taking Care lest you hurt the Infant or the Womb. You must also know, by feeling with your Fingers, whether your Hand lie betwixt the Membranes of the Secundine and the Womb; for if your Hand is moved betwixt the Secundine and the Womb, take care of moving it any further; but drawing it back again a little, put it up again betwixt the Membranes and the Infant, that is, when the Feet are to be sought in the bottom of the Womb. And you are diligently to take notice, that from the Mouth of the Womb, even to the Bottom of it, the Hand be put up next the Infant's Body, for so there is less danger of hurting the Womb, and a very convenient Opportunity is given to distinguish the Parts of the Infant, that you may find the Feet with more Certainty. And let not him that does the Duty of a Midwife, be afraid to break the Membrane in the Beginning of this Work (if it is not already broke, and though the true Pains are pressing) if it be seasonable. Indeed it is convenient the Waters should increase, till the Mouth of the Womb is perceived to be dilated by them; in the mean while, upon the pressing of every Pain, the Infant's Head, as well as it can, is to be moved; then presently, as soon as the Membrane is broke asunder, the Hand may be put up; but if it be perceived that the Humours cannot make an Impression to open the Mouth of the Womb, then it is to be opened with the Hand of him that officiates, and when it is sufficiently opened, by the breaking of the Membrane, Way is to be made for the Waters to flow out, and presently upon that, the Hand is to be put up next the Infant's Body, to seek the Feet, as we said before.

Secondly, As it is a Work that requires a great deal of Labour, to open the narrow Mouth of the Womb, which as yet is not wide enough; so it is not less troublesome to penetrate into the bottom
of

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you can only find and draw down one Foot, which is accordingly to be done, because then there is Hopes, as it commonly happens, of finding the other; but if it is hard to find it, the first Foot is to be made fast with a Linnen Cloth four Fingers broad, put upon it, which being twisted together, is to be held in the Hand without the Body; then again the Hand is to be put up along the Leg that you have found, observing well, whether it is the right or left Leg that was found out first; for by this means you will know whether the right Hand or the left will more commodiously draw forwards the other Foot; or how the Hand you search with, may be most conveniently directed. If you examine the Foot that is found, whether streight or crooked, by the Toes, you may easily know, whether the right is yet wanting, or the left; for that will necessarily close upon the Side of the great Toe, or the inward Part of the Foot; and therefore the Back or outward Part of the Hand made use of to find the other Foot, ought to be turned to the inward Part of the Foot, and thus it must ascend or be moved up to the Buttocks, or the Belly of the Infant, where you must needs find the beginning of the other Foot; from thence you must descend along the Thigh to the Leg, and at last to the Foot, which being found, it is to be brought down into the Passage after a manner most commodious to the Posture of the Infant; but nothing is to be done violently, but every Thing in a natural Way and cautiously.

But if you find when both Feet are brought into the Passage, that they are ill situated, that is, with the Toes turned upwards, and the Heels downwards, you are then to think of turning the Child gently, which is done, whilst the Feet are gradually drawn out, viz. the one Hand being put under the Infant's Body, as high as possible, helps by twisting it to draw it out, till at the last the Infant's
Belly

Belly and the Toes tend downwards ; for then the Head of the Infant is not in so much danger to be hooked by the Chin upon the *Os Pubis*, but will rather pass the easier out. When the Infant's Feet and the Belly are come out as far as the Breast, there is no need, as other Writers say, to draw the Arms down one after another ; but let one Hand hold the Feet, whilst the other Hand is put under the Belly and the Breast, as far as possible ; or the Feet resting in the Midwife's Lap, with one Hand above and another below, take good hold of the Body, yet gently ; then the Woman is to be directed to do her best, with all her Strength to bring forth the Infant, whether she feels the Pains or not ; they are not now to be waited for ; but you must tell the Woman that this Minute the Infant may be brought forth by her Labour and Depression, encouraging her with Hopes, that the Birth will soon be perfected.

I have observed, that the Woman in Labour now uses her utmost Endeavours, and presses down upon the Infant ; and the Midwife is to draw it down continually, so that at the last a perfect Birth will follow. I have always taken this Method to perfect the Birth, and by that Means not so much as one Head hath stuck in the Mouth of the Womb, nor have I pulled the Head from the Neck of any one Infant, not when they have been dead and stunk ; but always by this Method I drew them out whole, whether alive or dead ; when on the contrary, other Writers (as they themselves confess) have often pulled the Body from the Head. But if by Chance the Matter succeeds more difficultly, than it commonly does, thrusting my Finger below, I dilate the Passage, or putting it into the Infant's Mouth, I gradually draw it down ; in like manner, if the Head presses with Difficulty, which seldom happens, you may draw down one Hand or the other, and thus clear the Head further ;

ther ; but both Arms are never to be drawn down, for that would do more Mischief than Good.

Do not wonder, Candid Reader, that the Head and both Arms may pass through the Mouth of the Womb at once ; this Method is less dangerous than the common one ; for the Arms being drawn down first along the Body, what is it, but to make a Stoppage in the Mouth of the Womb, that like a Halter or a Snare, it may be contracted about the Infant's Neck, and retain the Head compressed ? Which cannot be done, when the Arms are on both Sides the Infant's Head, nor do the Arms on both Sides the Infant's Head, add so much to the Thickness or Impediment, as is commonly thought ; for the Smoothness of the Temples affords them Room, and the Narrowness of the Mouth of the Womb, being a Part apt to extend, will admit to be a little farther relaxed. I think this Method best, but I give others their Liberty to chuse another ; and because I believe that Midwives scarce conceive the Danger of this Posture, except it be represented to their Eyes ; therefore they may form a clearer Idea or Conception of it, if they look into the 34th, 35th, and 36th Figures, which here successively follow.

An Explanation of the XXXIV, XXXV, and XXXVI Figures.

Figure XXXIV.

a a The two *Vertebrae*.

b b The Circumference shewing the Belly.

c c The Circumference of the Womb.

d d The Hip-Bones.

e e The *Offa Pubis*.

ff The Cavities, in which the Heads of the Thigh-Bones are turned.

g g The Seat-Bones.

h The

- b* The Infant in the Womb, lying flat upon the Mother's Back, with its own Back opposite to the Eyes of the Beholders, resting with its Head upon the *Ossa Pubis*.
i i The Umbilical Vein.
k The Secundine, or the Womb-Cake.

Figure XXXV.

- a a a* The *Vertebræ*.
b The Left Hip-Bone.
c c The *Ossa Pubis*.
d d The Seat-Bones.
e e The Part of the *Os Sacrum*, that stands out.
f f The Circle representing the Belly.
g g The Womb.
h The Infant, with its Shoulders lying upon the *Ossa Pubis*.
i The Infant's Shoulder.
k The After-birth.
l The Infant's Head, in the Cavity of the *Pelvis*.
m m The opening, or the Way of the *Pelvis*, through which the Head and the Body of the Infant ought to pass.
n The Cavity of the Hip-Bone, or *Os Coxendicis*.

Figure XXXVI.

- a a a* Three *Vertebræ*.
b The Left *Os Coxendicis*.
c c The *Ossa Pubis*.
d d The Seat-Bones.
e e The Back, or the hindmost standing out of the *Os Sacrum*.
ff The Circle of the Belly.
gg The Womb lying upon the *Vertebræ* of the Loins.
h The Infant inverted backwards, the Head being turned in the Cavity of the *Pelvis*, and the Shoulders fixed upon the *Ossa Pubis*.

- i The Infant's Shoulder.
- k The *Placenta* or After-birth.
- l The Head of the Infant, in the Cavity of the *Pelvis*, laid more bare than the Thing it self admits of, that its Posture may appear.
- m m The Way or Passage by which the Infant must pass betwixt the Bones.
- n The Cavities or *Acetabula* of the *Os Coxendicis*.
- o The Place of the Navel.
- p The Navel-string, or Umbilical Vein.

A further Explanation of the 34th, 35th and 36th Figures.

These three Figures are joined together in this Place, because we had not a mind, at first, that the two last should be graved; for the Engraver could not satisfy my Desire in expressing accurately the genuine Postures of those Infants: But afterwards most of the Figures being engraved, when I read over again the Description of the 34th Figure, to see if it was to be corrected; then, indeed, I perceived that this Figure would afford but little Light to the Reader, except I explained this by the other two, that he might see one and the same Figure on every Side; wherefore I added this double Figure.

The 34th Figure shews an Infant well turned in an oblique Womb; I say a well turned Infant, because it hangs over the Mouth of the Womb with the Crown of the Head; for in this Matter I agree with the common Opinion of Writers, if, with them, we suppose that there is no Need to turn and draw the Infant out; in which Opinion I shall persist, till the Truth of the Matter forces me to go from it. And though here the Infant is well turned in the Womb, yet an easy Birth is not to be expected, by reason of an oblique Womb; which truly, upon viewing this Figure, no Body will easily per-

perswade himself of; for the Eighth Figure shewing an Infant well turned in a Womb well placed, seems not at all to differ from this 34th, only that in this the Infant's Head is yet placed above the *Pelvis*, and in the other it is already slipped down into the Cavity of the *Pelvis*; so that it was convenient to express one and the same Posture of the Womb and Infant; wherefore the Matter required, that the same Posture should be more clearly expressed in another Figure.

The Womb, in this 34th Figure, lies length-wise upon the Woman's Back-bone, or the *Vertebræ* of the Loins, as far as the Reason of the Thing will admit, smooth and closely pressed to it; and, consequently, the Bottom of the Womb lies against the *Diaphragma* or Midriff, and is not turned towards the Navel: Which Posture of the Womb, is the Reason that the Head of the Infant must needs be placed a-cross the *Pelvis*, and the Crown of the Head is pressed upon the Bones of the *Pelvis*, which is more or less, as the Loins of the Woman in Labour are more or less sinuous; for the Bending of the *Os Sacrum* which hangs forwards, with the last Juncture, or the two last *Vertebræ* in Women that have Loins bent inward and sinuous, compose the Gibbous Part standing out, (as you may see in the Second Figure) which, in this Case, lifts up the Mouth of the Womb and the Infant's Head higher, so that the Mouth of the Womb and the Infant's Head is seated higher than the *Offa Pubis*, in the Beginning especially, before the Head is depressed, by the Pains, into the Cavity of the *Pelvis*; wherefore afterwards the Infant sliding into the *Pelvis*, must needs be very much bent and streightened: Which that it may appear more plainly, you may look into the 35th Figure, shewing the same Posture both of the Infant and the Womb; only in this the Head of the Infant is already fallen down into the Cavity of the *Pelvis*, which in the 34th Figure,

being yet fast upon the *Os Pubis*, could not fall into the *Pelvis*.

In this 35th Figure, the Infant is represented lying upon its left Side, whose Head is fallen into the *Pelvis*; but where the Head was fixed before, there the Shoulders stick now, and the Infant enjoying a commodious and free Situation (except only that the Head was pressed upon the *Os Pubis*) now it is most closely bound up, because the Neck is so bent that it must needs be strained almost beyond what it can bear; therefore almost all Infants which come this Way must die, for by this Compression the Nerves of the Neck being too much extended, and the Vessels too much closed up, the Course of the Humours is hindered and stopped, so that the Infant can live no longer.

Therefore if any one asks, *Why this Infant cannot pass?* I answer; For the following Reasons: First, Because the Head is detained and stopped in the narrow Cavity of the *Pelvis*, which no Head can pass through, (though it offers it self well) without a Compression in some measure violent; but because the Head in this Posture can neither be depressed by the Weight of the Infant's Body, nor by the Force of Pains, as long as the Shoulders stick fast upon the *Os Pubis*; therefore the Head remains immoveable upon the greatest Force of the Pains, and will not stir an Inch. Secondly, Because the Shoulders so fixed upon the *Ossa Pubis*, cannot fall down, until they are freed from that Hinderance by the Midwife's Hand, or the Force of the Pains.

It seldom happens that larger *Pelves*, small Heads and small Hands meet together, as the Case requires; wherefore here the Shoulders cannot easily be freed by the Hands; for if the *Pelvis* be small, and the Infant's Head great, none, nay not the least Woman's Hands, can pass on the Side of the Head, to free the Shoulders, and draw them down: But if the Woman in Labour hath a large *Pelvis*,
the

the Infant a little Head, and the Midwife small neat Hands, and she ingenious, then it may be done, but with a great deal of Pain.

The Pains pressing down an Infant so seated, can scarce carry it through, for this Reason, because the Strength of the Woman being spent by the first Pains (whilst they pressed down into the *Pelvis* from the *Os Pubis*) the Pains afterwards are often less'n'd, the Head being now fallen down into the *Pelvis*, and the Strength is now spent, which ought rather to be vigorous, to carry the Infant through, being so much bound up; and not only the Head, but the Shoulders detained; now I say, the diminished Strength ought to be augmented, and the Pains which now decrease and grow dull, should come on quicker and stronger, to expel and drive the Infant quite out; for now a greater Force of Pains, and a stronger Depression is wanting than before; that is, before the falling of the Head into the *Pelvis*, when the Waters not as yet come away, went before, and as it were shewed the Head the Way; or it might be, that the Waters dilating the Mouth of the Womb, might afford the Head an Opportunity of falling more easily into the *Pelvis*; besides, as long as the Waters distended the Womb, the Infant being yet alive, might without Dispute be easily moved, and in some measure bent and crookened, and thus be pressed into the *Pelvis*: for the Infant's Body pressed its Head, whilst the Body was pressed down by the Pains, and the Waters tending downwards, gave way, so that the Head might easily slip off the Bones; but the Waters being now come away, the Head being straitened in the *Pelvis*, and the Shoulders fixed upon the *Ossa Pubis*, how pray will the Pains work upon him? The Womb being cleared of its Waters, lies upon the Loins with its smooth Part; the Infant full upon its Belly in a smooth Womb, immoveable; the Pains strongly contract the Muscles of the Belly

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where the Membrane being stretched, upon any Pain coming on, and extenuated, is at last broke, and then the Waters flow down through that small Passage insensibly, which therefore are called by Midwives, *aqua furtiva* or stealing Waters, because they go off by stealth: That these Waters flow out thus privately, so that the Midwives perceive not when they encrease and break the Membrane, is occasioned by their Ignorance; there being few who have the true Knowledge of touching a Woman in Labour as they ought; they do not penetrate deep enough, to the Place where those Waters increase, therefore they are ignorant, how, or where they are formed. They sometimes sit whole Days by Women in Labour, being ignorant of the Situation of the Womb; nay they know not where the Mouth of the Womb is placed, or what offers it self first in it; a great many cannot distinguish Black from White; but one Thing they know and affirm, that the Infant is yet suspended or hanged too high, (that is for them) therefore they would have People wait with Patience, till it falls down; an infallible Argument, that they are but unskillfull in the Art of Midwifery, and utterly unfit to assist any Woman in Labour. The Waters being come away, the Infant's Head is much more firmly pressed against the *Ossa Pubis*, than before, and except it be cleared, may be so vehemently driven against it by the Pains, that the Head will retain the Mark of the Impression, like a Furrow, made by the sharp Spine of the *Ossa Pubis*, with which the Infant may easily die; the Reason of which is, that violent Pains here may as easily occasion Damage as yield Assistance.

By this a Physician, who makes Conscience of what he does, may know what Harm the Medicines may do which he prescribes to excite Pains; if without the previous Knowledge of the Situation of the Womb and the Infant, he pre-

scribes those Things never so exactly at the Desire of a Midwife, who cannot touch the Mouth of the Womb, being ignorant how and where it is placed.

Having seen the dangerous Position of the Womb and Infant, represented in the 35th Figure, we shall now attentively take a view of the Position expressed in the 36th Figure, and we shall see, that this is subject to no less, but rather more Danger than the former. This 36 Figure represents the same Position of the Womb, lying flat upon the Loins of the Woman long-ways, the Mouth of the Womb being opposite to the *Os Pubis*. The Posture of the Infant also is the same, only this in this Figure is supine, and its Head fallen into the *Pelvis* bent backwards. It may be easily understood, that the Head of this Infant, before it fell into the *Pelvis*, pressed upon the *Ossa Pubis*, and had there undergone the same Danger as the other Infant's Head; wherefore in this Posture is to be considered, whatever was observed in the former, with this Addition, *viz.* That this Posture threatens more Danger both to the Mother and Infant, than the first, and is more difficultly remedied, for all the Infant's Members are more commodiously bent forwards than backwards. In the Beginning, the Mouth of the Womb and the Infant's Head being fixed upon the *Ossa Pubis* above, and the Mouth of the Womb being as yet not sufficiently open, it is difficult to know this Posture by the Touch, and a Woman that is endowed with Use and Practice and a sharp Wit may sometimes be deceived.

It may be asked therefore; If one perceives the Infant and the Mouth of the Womb thus situated by the Touch, as this 36 Figure represents, (whether the Head is yet fixed upon the *Ossa Pubis* above, or whether it be already fallen into the *Pelvis*) what is to be done? I answer; The Head yet
lying

lying upon the *Ossa Pubis*, if we have a Mind, may be brought into the *Pelvis* the same Way, as it was in the 35th Figure. But I would not have such a Thing attempted, for if the Head should fall into the *Pelvis*, what then? How will it be got further? That Situation then would be less fit for passing through, and the Mother and the Infant both are exposed to the Danger of Death; for who durst presently handle the Infant as if it were dead, by pulling it out with Instruments, when all Things which use to be Signs and Tokens of Life, yet remain? And though the Infant fallen down is now so miserably compressed, as it is shewn in the 36th Figure, yet it may live a long Time still: Can any Body in this Position bring it away, except he handle it as Dead?

But perhaps some may ask, if this Posture is so much worse than the first, why have you there asserted, that the Head is to be brought into the *Pelvis*? Whereas, when it is fallen down there, it is straightened in the same narrow *Sinus*, with this difference only, that the one Infant is Prone, and the other Supine. Infants are soft and tender; where one penetrates, another passes; Why then do you pretend so much Difficulty? I answer; That this Posture is really worse than the other, and thence proceed the Reasons, why I propose another Method than before: And though in the first Posture I delivered the Method, by which the Head of the Infant might be brought into the *Pelvis*; yet I would by no means intimate by that, that it seem'd more commodious and adviseable to me; Indeed I don't deny, if that be done carefully in the beginning (supposing the Infant is to be excluded with the Head first) that then it may afford the Mother and Infant a great deal of Help, the *Fœtus* may be brought forth, if stronger Pains come on, and the Midwives are ready in their Duty and Work; In like manner, this Way at the first Sight may seem
very

very natural, and very agreeable with that Method, in which the Ancient and Modern Authors advise Infants to be brought away, whose Heads were opposite to the *Ossa Pubis*, though they seemed ignorant of the true Reason of that Situation. I was not willing presently to propose a new Method, or to vary from the common Way, lest my Proposal should seem singular, and therefore to be rejected; but I chose rather to wait for a better Opportunity, where the Thing it self might plainly speak; wherefore now I shall open the Matter more clearly, and shew what I think of that ill Position both of the Womb and Infant, whether prone or supinely situated, as they are represented in these three last Figures.

That I may therefore ingenuously explain my Opinion, agreeable to my Reason and Experience; this is it: If Infants offer themselves prone or supine, as they are represented to us in these three Figures, then it is best both for the Mother and Infant, who have each need of Help, and for the Person too, that practises Midwifery, if it be never permitted, much less endeavoured, that the Head may fall into the *Pelvis*; that is, if they that officiate in Midwifery, are seasonably present to prevent it; for though I have above allowed, that an Infant so seated is well turned; that was only according to the general Opinion; and upon Supposition, that the Infant is to be brought forth with the Head first, as all Authors that I know of, before me have asserted, the oblique Position of the Womb and its Consequences being not observed. But according to this Method of mine, and the true Knowledge of an oblique Womb, I cannot but assert, that this Situation of the Infant is not only difficult, but so difficult also, that a more Difficult cannot be thought of; therefore I positively affirm, that in such a Posture it is never to be permitted,
that

that the Head should in any wise fall down first, because nothing can be thought of more dangerous than to suffer, that an Infant so seated should fall down with its Head foremost ; if all, though never so many, both Ancient and Modern Writers persuade the doing of it, for me every one may use his own Liberty ; I despise no Bodies Person or Merits ; but as it was free for them to offer their Opinion and Experiments, so it is as free for me to publish mine. I allow it is much better to remove the Head from the *Os Pubis*, and to bring it down into the *Pelvis*, than to leave it fixed upon those Bones, supposing only, that the Infant is naturally (as they say, that is, with the Head foremost) to be excluded ; but if I look upon the great Danger, in which both the Mother and Infant are in, by deferring the Birth after that manner in this Posture, though they are crowded with all Sorts of little Helps, which our Writers dictate, I cannot be of their Mind altogether ; I am so far from commending this Method as the best, that I should tremble so much as to think of it.

If any one should ask me, how the Matter is to be handled more safely ? I answer, That a great deal of Care is to be taken, lest the Head fall down into the *Pelvis*, and all Endeavours must be used, that the Infant be brought forth as soon as possible ; if it be asked, how ? I answer, By the Method I have already delivered in this Chapter, *viz.* by turning the Infant, and drawing it out by the Feet ; if it be further asked, whether it be dangerous ? I answer, By no means, there is not the tenth Part of the Danger, if the Infant be turned, and drawn out by the Feet, as there is, if the Head is permitted to fall down first, whatever way the Infant offers it self, whether supine upon the Back, or prone upon the Belly, Alive or Dead, provided the Birth be seasonably and cautiously per-

perfected; then by this Operation, neither the Mother nor the Infant are in danger of their Lives.

But perhaps some may further ask, whether by this Operation it may be certainly promised, that the Mother and the Infant shall escape alive? To this Question, I answer by another; Whether any Body can certainly promise, that a Woman, who naturally, that is, the easiest Way she can, brings forth, shall escape alive with her Infant? It is enough, if it can be truly said, that in this Operation or Version, and Extraction of Infants, nothing is mortal considered by it self, and if it be cautiously and skilfully managed, that neither the Mother nor the Infant are exposed to the Danger of Death, though a difficulter Position does not happen in an oblique Womb than that, in which the Infants come with the Head foremost; so that not two other ill Postures are so difficult to turn, as one of this kind. I wish that seasonable Version and Extraction of Infants, in all such kind of ill Postures of the Womb, prudently enough managed, might prevail; truly an incredible Number of Infants and Women might be saved, who die for want of this. What I pray should be mortal in this Method? This Operation will not be so fatal to the Mother; for it being made use of presently in the beginning of Labour, so occasions much less Pain than the other, as you attempt it in time, before the Humours are come away, and the Infant by Reason of dryness is shut up compressed in the Womb, and the Head is straightened in the *Pelvis*; for then the Woman in Labour hath three times more Pain, than if the turning of the Infant be tried presently in the Beginning: But they dare turn an Infant already dead, when the Woman in Labour is just a dying; why then dare they not do it sooner, when there is less Danger, *viz.* in the beginning of Labour, when the Woman and the Infant are yet vigorous? In-

Some indeed will easily allow, that this mature Version of Infants, may be performed in a Woman in Labour, without hazard of her Life, but the Infant will seem to be perhaps in greater Danger; and it will seem more adviseable, to follow the ancient Custom, by which the Infant is not drawn out, except in extream Danger: That is, if it be certain that the Infant is dead, and that the Woman being tired wants Strength; so that without this last Help, no Hopes appear of bringing forth the Infant; for Women Midwives, when they send for a Man, and are asked how long the Patient hath been in Travel, answer, so long, and add, *it is certain, that the Infant is dead; therefore* (they will say) *it is Time to draw it out*; and that depends upon these Conclusions, that they think the Infant, if it is not already dead, will presently die if it is drawn out; which Opinion hath taken its Original from the Custom of unskilful Surgeons, who are used with Instruments, to cut them in pieces, and draw them asunder, and (to speak in a Word) to handle them so, that if they are not already dead, they must of necessity die quickly: A Method of excluding very detestable, and by no means to be approved of! A Hand that is taught by long Use and Experience, and well versed in those genital Parts, knows how to open the Mouth cautiously, and to penetrate aside of the Infant's Head and its Body, and to find out the Feet, and then at the Time, or presently after the Waters flow out, that there is Room enough to turn the Infant safely, to draw it down and bring it forth.

In this Exclusion, the whole Matter depends on these two Things; First, That from the beginning you know how to put aside the Infant's Head, that you may put in your Hand aside of it; in this moveing of the Head, there is need of the greatest Attention, that you may do it gently, and gently open the Mouth of the Womb, and at the same
time

Time move the Head on one Side ; if the Hand is gone past the Head, there will be no Danger in coming at the Feet, to draw them down, and bring them out. Last of all, The greatest Care is to be taken, that the Head and Arms pass together, which may be done commodiously and without danger of Life after the manner above-mentioned : From hence therefore I conclude ; That in this Posture a more secure, safe, and less dangerous Method cannot be made use of, than if the Infant be turned without any delay, and be drawn out by the Feet ; that by this Means, and God's Blessing, the Mother's and Infant's Life may be saved.

C H A P. XLVIII.

Of a difficult Birth, from the Womb's lying too much oblique on either Side.

A Difficult Birth proceeding from the Womb of a Woman in Labour too much re-supined or hanging forwards, being sufficiently illustrated in the foregoing Chapters, we shall now in this Chapter consider a difficult Birth, proceeding from a Womb too much obliquated on either Side. But lest the Chapters should be multiplied, we shall contract these two different Postures into one, that we may avoid Confusion from the different Situation of the Womb, viz. the one being too much obliquated towards the Right, and the other towards the left Side. First, we shall treat of the Situation of the Womb too much obliquated towards the right Hand ; and then an intelligent Reader will easily apply whatever is said of this Posture, to the Situation of the Womb too much obliquated towards the left Hand. We suppose an Infant to be rightly placed in the Womb, it's Head hanging
over

over the Mouth of it ; and that we may consider this Posture more accurately, let us look into some Signs, by which the Midwife may distinguish this Posture. First, The Woman in Labour may be asked, in what Place she feels the Infant move most, and what Part of the Belly is most pointed and hardest ; and that this may be the better known to the Midwife, she may feel the Belly on the outside.

(N. B. We now speak of a Womb, whose Bottom is placed deeper in the right Side, tending more to the Back than the Fore-part ; viz. it is placed deeper in the Side towards the Loins, which I think the most difficult Posture ; for the Womb, being suspended something higher, makes not the Birth so difficult as this.)

But besides these Signs, the Midwife may be more certain of this Posture of the Womb by the Touch, by which, if she tries the Woman in the beginning of her Labour, before the pressing Pains have moved the Womb out of its Place, she will find, that

1. The Mouth of the Womb is suspended higher.
2. Whence it cannot be touched without Difficulty.
3. She will find it applied to the Spine of the left Os Pubis, or Coxendicis.
4. She cannot touch the whole Mouth of the Womb, but only in its lower Border.
5. She cannot come at the lower Part of the Infant's Head, or very little, by the Touch, except by chance (the Mouth of the Womb being not yet pressed strongly against the Spine of the said Bones) there remains Room, for one or more Fingers to penetrate betwixt them, and to touch the Vertex of the Infant.

6. The

6. The Midwife may feel the Infant's Head through the Womb and *Vagina*, but not bare, laid across the *Pelvis*; which Signs being taken together, may satisfy a Midwife that the bottom of the Womb is seated in the right Side of a Woman, and she must take Pains enough, if she will correct this ill Posture, and ripen a happy Birth.

Midwives need not wonder, if I say, that they have taken Pains enough, if they will correct this ill Posture, and hasten a happy Birth; for this Posture occasions no small Inconvenience; and that Midwives may know what ill Accidents follow from thence, I shall briefly take notice of them here.

First, From this Posture it necessarily follows, that the Infant's Head, as soon as it makes but the least opening of the Mouth of the Womb, is fastened upon the Spine of the left *Os Pubis*, or *Coxendicis*; so that the Woman, except she is assisted, labours a long Time without Success; for the Head being fixed upon those Bones, cannot go forwards, because those Bones cannot give Way; whence proceeds a long and a fruitless Labour.

Secondly, Thence arises a lurking unseasonable Distillation of the Waters, because the Mouth of the Womb along with the Infant's Head is shut up by the said Bones; therefore the Infant's Head or the Humours cannot open the Mouth, neither right in the Middle, nor in the upper Part, but can only open a little of it on the lower Side, or find it open; so that the Head gives way upwards, and the Waters by pressing the Membranes downwards, break through them where they are acuminate, and most commonly before it is observed by the Midwife; this they call the *aqua furtiva*, flowing of the Waters by stealth.

Thirdly,

Thirdly, It often happens by this Posture, that the Infant's Right Arm is excluded, if for Example, as we just now said, the Humours press the Membranes downwards in an acute Form; then by the same Humours, the Head at the same time is forced upwards, whence that in some measure is thrust upon the Border of the said Bones, by which means the right Hand (if it hangs over the Passage) may be brought down into the Passage, by the Waters flowing down, and in time, it falls down even to the Shoulder, the Infant being left dry.

Fourthly, The Arm being thrust forwards thus into the Passage, the Infant's Head is more and more forced back upwards; so that the Neck is so bent, that (as they use to say) it may easily be broke; that is, the Neck is bent more than the Infant can bear, upon which it dies.

Fifthly, The Crown of the Head by this means falling against the Spine of the *Os Pubis* or *Coxendicis*, is so pressed upon that Spine by the violent depressing Pains, that the Brain is broke, and the Infant dies before the Birth.

Sixthly, Among all these ill Accidents, the greatest of all, it is to be feared, is, that after a great many Pains and Labours endured in vain, the Mother her self dies without bringing forth her Young; for suffering all, which I have above-mentioned, and being tormented with them very often four, five, or six Days *without any Help*, the miserable Woman nevertheless hath not made an Inch breadth progress towards Birth. Let no Body wonder, that I say, *without Help*, for the Help of Midwives, who are ignorant of the various Postures of the Womb, and the Way of correcting them, and who only make use of one or two Fingers at the most in the Touch, (as they boast) and who place all their Hopes in Nature; I say, the Help of such Midwives in this Posture, I account

as none ; their Labour is rather a Neglect, and the true Cause why the miserable Patient does not seek for one that can assist her, being by this means destitute of sufficient Help.

All these Evils we have mentioned, as the Consequences of this oblique Posture of the Womb, a prudent Midwife ought to know how to prevent or remedy ; truly an accurate Attention to Things, and an unwearied Industry is required, if you would prepare every Thing for a happy Birth ; but if any one hath undertaken the Office, they ought to satisfy the Person as well as their own Conscience, except they will fatally err in Things that are so difficult, and where the Life of the Mother and Infant depends on the faithful Assistance, which a skilful Practitioner in Midwifery, or a Man Midwife ought to afford to both, as far as Reason and Experience enable them.

Supposing then, that an Infant was to be brought forth with the Head foremost ; if you would decently assist such a Woman in Labour, the Matter must be handled thus. The Woman being placed upon a perforated Chair, with the upper Part of her Body a little elevated, the Midwife may try by the Touch, whether the Mouth of the Womb be vehemently pressed upon the left *Os Pubis* or *Cœx-endicis* or not : If it be but moderately pressed upon it, the Woman is to be laid down full upon the right Side, a little obliquely, that the Womb may go back again by its own Weight, and not fall against those Bones. Then the Midwife is to endeavour to put her right Hand Fingers into the Womb, or within the Borders of it ; but it would be yet better, if she could reach with her Fingers above the upper Border of the Mouth of the Womb, and by this means try to remove the Mouth of the Womb a little, and to bring it down nearer to the Cavity of the *Pelvis*. And that this may succeed the better, let her desire some of the Women,
a little

a little to raise the right Side of the Woman, that the Womb it self may be raised by this means; and thus by raising and letting it down gradually, it may be moved forwards into the *Pelvis*.

But the Midwife must take care here, lest the Womb with the Infant's Head should slip down too much; for though it is not so dangerous, when the Head and the sharp Part of the Womb slip together into the crooked *Sinus* of the *Os Sacrum*, for it to stick there, as it is for the Womb being situated in a Belly hanging too much forward; yet it is of much Concern, whether the Head by itself falls into that *Sinus*, or together with the sharp Point of the Womb, and the Head alone may be much more easily drawn through, than joyn'tly with the Point of the Womb; therefore the Midwife, that she may retain the Mouth of the Womb time enough, and high enough, before it descends too much, ought to apply all her Care and Pains, that the Head may be sufficiently bared before it comes downward, (as we shew'd in the foregoing Chapter) which being done, the Descent may be allowed to the whole Birth with less danger. And what is to be observed of the Head of the Infant, the same is to be observed of the Humours as yet to be reduced to a certain Form, before the Membrane is broke; but when it is broke, the Head is to be treated as we said before. But as for the further Exclusion of the Infant and After-birth, and the purging and contraction of the Womb, those are to be done as we have directed in the foregoing Chapter. And though the Head of the Infant in this Posture offers it self in some measure bent to the Side, because the Womb is somewhat distorted, there is no need to keep it so, but it is to be disposed into a right Posture, and to be afterwards treated as if it had offered it self directly. Besides, the Midwife ought to take Care, that the Head of the Infant being directed into the *Pelvis*, the Wo-

man's Body be in some measure bent with the upper Part of the Body towards the left Side, that the Infant may the better be carried down into the *Pelvis* by its own Weight.

But perhaps some will ask, why I perswade the Woman's Body to be so bent, that the Infant may the easier fall down into the *Pelvis*, and that the Womb also will more readily fall down; when I but just now said, that the Womb was to be kept up by the Midwife, lest it should fall down too much. I answer, That it is necessary, the Womb with the Infant should be strongly pressed down by its own Weight and the Force of urging Pains, so that it may fall down into the *Pelvis*; yet nevertheless the Midwife is to use her best Endeavours to hinder the Descent of the Mouth of the Womb; for whilst urging Pains depress the Womb and the Infant, and the Midwife keeps up the Mouth of the Womb, way is made for the Humours, or the Infant's Head (which first offers) to pass through, and open the Mouth of the Womb, which otherwise, without that depression or retention, would either not at all, or not so commodiously be done; and so I think it appears sufficiently, that these two Rules, which seem to contradict one another, agree very well, and consist together.

But if the Surgeon, or Midwife, when the Woman is tired and broken with continual and frustrated Labour, is sent for at last, I would advise, that without delay, as much as lies in their Power, they would endeavour to turn the Infant, and draw it out by the Feet; for he who is tedious in directing the Infant into the *Pelvis*, and bringing it through with the Head first (which cannot succeed without vehement Pains) exposes both the Mother and Infant to extreme Danger, and according to the Proverb, *throws them from Charybdis upon Scylla*; (that is, out of one Danger into another)

ther) therefore the Birth is to be hastened as soon as possible, by turning the Infant and drawing it out. But if besides this ill Posture of the Womb, the Infant also is ill turned; I advise the Midwife, if she hath observed it seasonably by the Touch, forthwith to bring away the Infant by opening the Womb, breaking the Membranes, turning the Infant, and drawing it forth.

Perhaps some may ask; If the Head being a little Way from the Passage, may easily be brought into it, is it not better to bring the Head first into the Passage, (which commonly Writers advise in any ill Posture) than to draw the Infant out by the Feet? I say not, For in this Posture of the Womb, nothing is safer and less dangerous, than to turn the Infant presently, and draw it out by the Feet. Whatever others say, they are not acquainted with this Posture of the Womb; but supposing the Womb was always rightly seated, and that Infants were only ill turned in the Womb, they always judged it agreeable, that Infants should be brought with their Head first into the Passage; but they did not know, that where an Infant ill turned in such an ill Position of the Womb, as this is, is brought with the Head foremost into the Passage, and drawn out by this Method, that then the Mother and the Infant are exposed to much more danger of dying before the Birth, than if the Infant be brought forth by the Feet: For if they had understood this well, without doubt they would have judged otherwise. Therefore let others act as they please, as long as I know better, I should deal treacherously should I not advise, according to these solid Foundations, that all Infants ill turned, in a Womb ill placed, should be turned and drawn out by the Feet. But let my Meaning be rightly understood; I speak of such a Womb which is very ill seated; I should be so far from perswading, that an ill turned Infant in a Womb ill seated should

be turned so, that its Head should come first, that on the contrary, I do not know a more difficult Situation of an Infant in an Womb that is oblique, than if the Head offers it self first; and I think all other Postures of Infants whatsoever more commodious, than those which come with their Head first, as I have already said before, because the Infant then cannot be turned without the greatest Difficulty.

Whoever allow these oblique Positions of the Womb, as well as my self, it will not seem strange to them, that I advise all Infants in an oblique Womb who are ill turned, to be turned, and drawn out by the Feet; but on the contrary, considering all the Dangers and Inconveniencies, which are consequent upon a Birth in this Posture, though Infants are well turned, they may easily comprehend, that it is less dangerous, if Infants rightly turned, are turned otherwise in the beginning of Labour, and drawn out by the Feet, than if the Head be brought out first; and this any one will the more easily allow, who well conceives in his Mind, what I noted before, *viz.* that the Womb being thus obliquely situated on either Side, is also most commonly a little distorted; and that it may more plainly appear, what I would have understood by that distorted Situation of an obliquated Womb, I shall explain it more diligently.

It is found by all Anatomists, that the Womb is not round like a Pear, but before towards the Bladder, and behind towards the *Intestinum Rectum*, or Sraight Gut, it is plain or flat, and therefore not unlike a flat Purse stuffed; nor are the Ligaments fixed to the flat Parts of the Womb, but the Sides; and I have observed, that the Womb of Women with Child always, in some Measure, retains this Form, and therefore is commonly more inclined to fall forwards or backwards than on one Side; besides, the Ligaments holding the Womb on both Sides,

Sides, as fast as they can, hinder it from being obliquated on either Side; so that it is often first bent backwards, and then by degrees slides to one Side or the other; and if it happens that the Womb (as it sometimes does) slides more than ordinary on one Side, then it must needs be distorted; for by reason of its flat Form, it always tends of its own accord towards its flat Side, which if it happens when the Womb of a Woman in Labour is seated in the Side, in respect of its natural Situation, it is distorted.

Every one that hath a sound Judgment, may now consider the Consequences of this Situation; and it will easily appear, that an Infant (if it comes with the Head foremost) must needs fall down into the *Pelvis* with its Head obliquely; and though a discerning Midwife observing this, should bring the Head directly into the *Pelvis*, yet the Shoulders following it, must needs fall upon the *Pelvis* across, in that Part where it is narrower; so that they cannot pass into it without some Obstruction, and consequently the Infant will be distorted in the Passage, all which require the Force of violent Pains. He who thoroughly considers this Position, will easily perceive that the Pains, however violent, will signify but little to force the Infant forwards so fixed upon the Bones, and therefore (if the Pains are few and slow, and the Woman weak and enervated) the Mother and the Infant must be in danger of their Lives, and consequently it must be much safer when the Womb is so seated, to open it in the beginning of the Labour, to break the Membrane, to turn the Infant and draw it out by the Feet, rather than suffer it to come with the Head foremost, and the Mother and Infant to die in that Condition. In the mean time, I have delivered the Method of bringing the Mouth of the Womb and the Infant's Head into the *Pelvis*, and also of helping and promoting the Infant's Birth;
because

because I would not be wanting, either to Women in Labour or Midwives, who can scarce forsake their Antient Customs, in advising them to take the best way; by which their Antient Customs, they may possibly obtain their desired Ends, if the Work proceeds well. But if any one will judge of the Work only by the Rule of Reason and Truth, I again affirm to him, that in this Position of the Womb, in what manner soever the Infant offers it self, it is the best way, presently to deliver the Woman of her Child, by turning the Infant, and drawing it out by the Feet.

An Explanation of the XXXVII, and XXXVIII, Figures.

Figure XXXVII.

- a a a* Three of the *Vertebrae*.
- b* The Left *Os Ilium*, which only appears here, because the Right is covered with the Womb and the Infant.
- c c* The *Ossa Pubis*.
- d d* The Seat-Bones.
- e e* The Cavities, in which the Heads of the Thigh-Bones are turned.
- f f* The Circumference representing the Belly.
- g g* The Circumference of the Womb, whose bottom is seated in the right Side, but the Mouth of it lies against the left *Os Ilium* and *Pubis*.
- h* The Infant prone in the Womb, its Head being fixed upon the *Os Ilium* and *Pubis*.
- i i* The Umbilical Vein or Navel-string.
- k* The After-birth.

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to the Bones, and it is yet doubtful, whether its Head will slide above or below the *Os Ilium*. As long as the Infant continues in this Posture, the Humours and the Head cannot make an effectual Pressure upon the Mouth of the Womb, because their Force is spent upon that Bone, whilst the Infant's Head continues fixed upon the Bone; but if the Head tends a little upwards, then it passes by the inward Border of the *Os Ilium* or *Pubis*; so that it is oblique, and cannot come into the Entrance or the Mouth of the Womb; but rather the Shoulder, the Hand, or Elbow, offers it self in the Passage, as you may see in the 21st Figure. The 18th Figure shews us a Posture of the Womb like this 38th, with this difference, that there the Infant is placed Supine, with its Face lying against the Mouth of the Womb, and consequently against the *Os Coxendicis*, which Posture of the Womb and Infant may be reckoned amongst the most dangerous which can be thought of. In the 22d Figure, we also see the Posture of the Womb obliquated towards the right Side, in which the Infant lies bent inwards; nor do any of its Members offer themselves in the Passage; and therefore nothing besides the Waters can open the Mouth of the Womb suspended so high; that the Midwife cannot easily touch it, and the Infant seldom falls down, but sticks in this Posture above the *Pelvis*, even to the Death of the Woman in Labour; for the Humours being come away, it is closely tied up there. The 25th Figure also represents a much like Posture of the Womb obliquated towards the right Side, and very much fallen down, in which the Infant is placed transverse, nor can any thing but the Waters be perceived in the Passage by the Touch.

The oblique Positions of the Womb, are either not at all, or seldom known to Midwives,
 nay,

nay, they have not the least Knowledge how or where the Mouth of the Womb is placed, or what offers it self in it first; further, they are often ignorant whether the Membranes are broke, which they did not perceive to swell, much less to be broke; therefore being ignorant what to do, they sit or lie down with the Women in Labour; and though they are pressed with Successive Pains, yet the Midwives neglect them, and can be three, or four, or more Days with them, without affording any more Help than one that is unborn; the Reason of which is, because they can perceive nothing by the Touch; and therefore they can do nothing, and they are ashamed to ask Assistance, though they know never so well, and are convinced in their Conscience, that they cannot assist the Woman; nay they hinder them from sending for a faithful Assistant, under pretence, that nothing can be done, and that they must wait with Patience, and that the Birth is only to be expected from God Almighty; and upon this Account they make Delays, till both the Mother and Infant expire. But if the Woman's Husband, or the Women that stand by, knew better the Danger of this Posture of the Womb and Infant, they would not quietly bear it so long, that the miserable Woman should be so deserted, and be destitute of all Help, nor would deferr seeking for it to the last Extremity; but would rather seek for Assistance, after the Method we have laid down in the foregoing Chapters; for in all oblique Postures of the Womb, whether the Infants are turned well or ill in them, Time is not to be spent idly, but the Birth of the Child is to be hastened without Delay, as we shall demonstrate in the following Discourse; where, in a peculiar Chapter, we shall give Information to all Husbands, and those that are near Women in Labour, which will be a Warning, not only to them, but all

all Physicians sent for to such Women, that they may know how to conform themselves to that, as to a certain Rule, and faithfully discharge their Conscience in assisting the Woman and Infant. I doubt not, but by this means I shall provoke the Hatred and Contempt of a great many, (especially of that Sort of People who are ignorant and supercilious) who do not thoroughly understand the Art, and therefore refuse to give an Account of their Actions, rather talking craftily to their Neighbours than speak the Truth, or confessing their Ignorance. But I am resolved, that by this Writing, I will not fawn upon any Body for their good Will, nor shall I fear their Hatred or Railery, but shall place my Confidence in God and the Truth, informing Men as much as I can; that it may appear to every one, to whom God hath given a sound Judgment, what is required in the Art of Midwifery. He who knows how to do his Business, will not be afraid to do it before the Face of all Men; but he who does not well understand it, always endeavours to conceal what he does; therefore in the following Chapter, as briefly as I can, I shall describe, how a prudent Midwife ought to treat a Woman in Labour, and how those that are near and stand by, may know, whether a Midwife understands her Business well, and does her Duty; so that they may altogether depend upon her Actions; but before we put an End to this Chapter, we shall briefly treat of the various Postures of the Womb, by which one is more obliquated than another, of which we have spoken in the foregoing.

Of the Womb variously obliquated.

Hitherto we have considered the Womb in its most oblique Posture, *viz.* prone or supine, inclined

ned to the right Hand or the left ; which four-fold Situation, if we compare to the four Cardinal Winds, the *East, South, West, and North*, then we may compare the rest of the oblique Postures to the other Points of the Compass ; for the Womb may be ill turned every Way, and like a Magnetick Needle run quite round.

Now although the Womb being less oblique, does not occasion so difficult a Birth, as when it is more obliquated ; yet it is a great impediment, especially to those Women, whose Midwives have no Knowledge of an oblique Womb, by which they may know how to restore it into its true Situation. And if such, at the last, by a lucky Chance bring forth the Infant, either alive or dead, it is only by Chance, and not by their Ingenuity ; they make trials to perform the Matter several Ways, putting the Woman first in one Posture, then in another ; and if all their Art proves at last in vain, their last Remedy and Refuge is, to wait with Patience. Last of all, If Things happen well, the Woman brings forth, after she hath been in a great deal of Torture many Days and Nights ; and then the Midwife is just as wise, or rather continues as dull as before ; not knowing what was the Cause of such long Labour, or what at the last was the Reason of the good Success ; in the mean time she perswades herself, that she hath done her Work notably ; yet with all the Art she hath learnt, or Pains she hath taken, what Good or Harm it did, she does not know ; wherefore she always proceeds the same way. But how miserable is the Condition of those Women, who are in the Hands of such sort of Persons ?

I desire again and again, that no Midwife would think I direct what I say, to her in particular, or take it amiss ; I profess, it is by no means my Design to bring any one of them particularly
into

into ill Will, or Suspicion; I only lay open those Faults which have been too frequent, shewing, what Mischiefs they occasion; that what they have done amiss, may be mended for the future, having learnt better; nor do I despise or hate any Body, I rather desire to inform the Ignorant and young Beginners, either by Words or Writing; though before they think or speak Ill of me, I only wish one Thing, that all good Persons, who did amiss whilst ignorant, may know by what I write, how to mend their Faults; and that all considerate People would look to themselves, their Neighbours, or dearest Relations, least wanting Help in the greatest Danger, they undergo most violent Pains, because they did not send for prudent Midwives.

But perhaps some will say or think, that I write this only for that End, that I may sell what I write; but I think I can truly say, that I had no such Thought; I thank God that he hath given me Knowledge enough of Arts and Sciences, to provide for my self and Family, what is sufficient for Food and Clothing, that I have no occasion to seek the Means of living by practising Midwifery; I do not desire others should be pressed with such Miseries, as to stand in need of my Help; in these Matters I covet no Bodies Thanks, nor desire their Commendations; I should thank God, if so many Women would be informed and made fit for their Business by what I write, that no Body might want Help. In the mean time, I think my self obliged to be serviceable to the Good and Safety of my Neighbour, with the Gifts that God hath granted me, especially when Life is concerned; I ingenuously confess, if I find People so far improved by these Instructions, as by following my Method of practising Midwifery, to preserve a great many Women's and their Infants Lives, as I believe

lieve they may, then I shall not repent of my Pains or Time ; but should rather give God Thanks, that he hath given me leave to dispose of my Talent for the Good of my Neighbour. But let us return to what we propos'd, and see by what Signs a Midwife may know the Nature of a Womb less obliquated, and how to correct any Situation of such a Womb.

All Postures of the Womb whatever, less oblique, (whether it be more or less prone, or re-supine, or more or less tending to one Side) are well tried by the Touch ; for the Mouth of the Womb always shews a Sign of its Posture to a prudent and experienced Midwife ; but, as we have already said, there is need of previous Experience and Judgment ; so that a Midwife cannot altogether make a true Judgment by the Touch, who does not know the whole Shape of a Woman's *Pelvis*, as also the Situation of the Bladder, the *Intestinum Rectum*, the *Vagina* or Neck, and of the Womb itself, before and about the Time of Impregnation ; also, how the Secret Parts of Woman answer the *Pelvis*, &c. For one that is unskilful in these Things, can neither distinguish what is sublime, depressed, direct or oblique, prone, or supine, but labours under a perpetual Confusion of Thought ; for though they conceive Things rightly in their Minds, because they have before often looked into the Frame of a Woman's Body, yet without Experience they may err, and be deceived by doubtful Judgment, till at the last, Use and Experience have confirmed a certain Judgment to discern.

The Mouth of the Womb is always placed opposite to the Bottom ; if therefore a Midwife knows exactly the Situation of the Mouth of the Womb rightly placed, she may also know, how much that differs in an oblique Womb from a direct Situation ;

Situation, and whether it is oblique more or less; whence she will easily judge in what Place the bottom of the Womb is seated. When the Place of the bottom of the Womb and its Mouth is known, she consequently knows the Disposition of the rest of it.

An understanding Midwife may easily find out the Reason or Manner of restoring any Womb that is less oblique, if she minds well, how a Womb most oblique is restored; so that one follows from the other; therefore I think it superfluous, to insist any more upon that, especially since my Design is not to swell the Bulk of this Book.

But here perhaps some may ask, If Infants offer themselves ill turned in a Womb less oblique, what is then most fit to be done? To this I answer; That in any oblique Posture of the Womb which is something considerable, it is most advisable to turn Infants that are ill turned, and to draw them out by the Feet. But Infants offering themselves rightly turned in a Womb that is but a little oblique, need not be turned nor drawn out by the Feet; but then the Midwife is to study to restore the Womb into its right Posture, and to quicken the Passage of the Infant; for in this Case it is less dangerous, if you suffer Infants to come with their Head foremost, than if the Womb was oblique to the highest Degree; therefore an Infant offering his Head first in a Womb that is but a little oblique, is by no means to be stopped; but the Midwife is to take all Care and Pains, that it may pass easily.

C H A P. XLIX.

The Midwives Shield and Index, or a Recapitulation.

SINCE I have writ this Book with an earnest Desire, that it might not only be serviceable in instructing Men as well as Women that practise Midwifery, how they may exercise their Art according to the solid Foundations of true Knowledge; but also that it might be a clear Evidence, that the Art of Midwifery does not depend on a slight and weak Foundation, or if it hath been infamous hitherto amongst some under this Character, it may not seem so for the future to any Practitioner who handles the Matter according to these new Foundations of Truth: I perswade my self, that I have demonstrated the Causes of an easy and difficult Birth so evidently and clearly to an impartial Judge, that they cannot be obscure to any one, who is instructed with any clear Knowledge of the Genital Parts, as they are represented in this Book; on the contrary, every Man or Woman that comprehends these Demonstrations well, will be able to judge by strong Arguments, whether the seasonable Time is come of bringing forth an Infant by the Art of Midwifery or not; whence it consequently follows, First, That a Midwife (the State of Things being made known to the Woman in Labour, or those that are near her) may administer Help with the greatest Tranquillity of Mind, leaving off when 'tis proper, or working when her Work is requisite. Secondly, The Relations may with the greatest Satisfaction, expect

and wait, whilst the Midwife treats the Woman in Labour, doing whatever is necessary to be done.

Nothing can ever be more grievous to a Midwife, than to be instructed and murmur'd at, and suspected; so that if the Labour succeeds prosperously, it is chiefly ascribed to Fortune; but if it hath an Event contrary to Expectation, she that works is blamed, though she not only took all the Pains she could; but managed with Care and Prudence; the beginning of this Mistrust and Suspicion chiefly arises from hence, *viz.* that she that officiates endeavours to conceal her Art and Science, chiefly, that under this Pretence, she may hide her Ignorance; which is the Cause, that, whilst others take Notice of it, whatever she says, is suspected, especially if she answers doubtfully to those that ask her Questions; so that they cannot clearly conceive in their Minds a true Idea of Things, perceiving, that the Person officiating is confused in her Words and Thoughts, and is doubtful of what she does, trying first one Thing and then another, and often makes Mistakes; hence, I say, arises a Suspicion and Mistrust, either that the Woman does not sufficiently understand her Business, or wants Use and Practise to enable her to perform it: But if any one tells her plainly how the Matter is, and explains the true State of it, that those that are concern'd may understand when to be quiet, and when to act; then the one may quietly wait, and suffer the other to perform the Work sedately; this is the End, to which I heartily wish the Matter at last may be brought. Therefore I beg one Thing of the giver of all good Things, that he would so govern my Mind and Understanding, that what I write may promote this
Practise

Practise every Day, to the great Good of the Common-wealth.

But that this mutual Confidence may take place betwixt the Person who gives Assistance, and the other who is assisted, it is requisite that both should have a distinct Apprehension of the Matter, knowing what Things promote or hinder the Birth, and consequently what is to be done or omitted ; which Knowledge may easily be acquired by often reading this Book, by one who hath a sound Judgment, and is attentive ; especially if he hath often viewed a human Skeleton with accurate Attention, that by this means, according to our Figures, he may form in his Mind a perfect Conception of the *Pelvis* and its Bones, which is the readiest way to understand the rest distinctly and clearly ; then every one may make use of his own Eyes and Judgment, to know what the Midwife ought to do, and what ought to be omitted.

I know that few Midwives will approve of what I say ; but I know that no Body but those that are ignorant, will slight or reject it ; being sure, that if People would follow this Counsel, they must give an Account of their Actions ; and since they know, that they have nothing to say to the Matter, therefore they are baffled and exposed to the Ridicule of other People ; so that they not only loose their good Name, but they are employed by no Body for the future, as not knowing how to perform their Duty. But what do I advise ? It is better, that a Midwife should be exposed in her Reputation, than that the Mother and Infant should be exposed to the Danger of their Lives, or perish through her Ignorance. I am in hopes, that this Advice will oblige most Midwives, whether they will or no, to a closer

Study of this Art, out of fear lest their Ignorance should appear to the Vulgar, and bring them into Contempt; but prudent and sensible Midwives, following my Advice, will find that they will go about and perform their Work with a great deal more Dexterity and Commendation.

Therefore I advise Persons of every Degree and Sex, by frequent Reading, to obtain a solid Knowledge of the true Causes (the most General and Principal) of a difficult Birth, that by the means of that Knowledge they may examine Midwives when they are sent for, whether the Birth will be easy and difficult; that it may be considered presently in the Beginning, whether the Woman in Labour is to be delivered by Nature, or the Help of Art; and I advise all prudent Midwives, who make a Conscience of what they do, that presently in the beginning, as soon as they have tried the Woman by the Touch, they would explain how Things are, to the Woman her self, or to those that are about her, without Circumlocution or Equivocation, and without Deceit or Flattery; that at the last it may appear by the Event, that they have done their Business prudently and faithfully; and truly I am perswaded, that those that do their Office after this manner, will be regarded both by God and Man, though they cannot escape the Envy of ill People.

Therefore first of all, the Midwife, after a short Examination, ought to try the Woman by the Touch immediately, as we have often said in this Book. If the Midwife neglects this, it is intolerable, and the most certain sign of Ignorance or Infidelity, commonly proceeding from Sloth and Pride, as if though she had never tried it, she knew the Matter well enough, when at
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the same time she is ignorant of every Thing, as if she did not at all know, or did not fear the Dangers of an obliquated Womb.

The Woman being tried by the Touch, the Midwife is to gain her Knowledge by that Means, of the Situation of the Womb, and what may follow thence; therefore if any one asks an Account of her, she ought to tell them the Place of the Mouth of the Womb; whether it be situated above the Middle of the *Pelvis*, or before the *Ossa Pubis*, or backwards towards the *Vertebræ* or *Os Sacrum*, or in the right or left Side.

If the Midwife asserts, that the Mouth of the Womb is seated over the Middle of the *Pelvis* open, she may also shew, how much it is open, and what offers its self first in the Passage, whether the Head or any other Parts, or whether the Waters are protuberant.

If the Crown of the Infant's Head is seated in the Passage of the Mouth of the Womb, and the Mouth of the Womb is above or in the *Pelvis*, there is no need of working, but she is only to wait, till Nature, by the Force of Pains excites the Woman to Labour; there is no danger now in staying, all Things will go well till the Pains come on, which, till they cease, or are dull, there is no need for the Woman to be tired with Labour, but she may securely expect the Force of Pains.

If the Mouth of the Womb be placed above the Middle of the *Pelvis*, the Midwife also will shew, whether it is seated higher or lower; if higher, it is an Argument of a great Head, or a small *Pelvis*; on the Contrary, if it is sunk lower, it is a Sign of a small Head or a large *Pelvis*,

and the Latter promises an easier Birth than the Former.

If the Mouth of the Womb is placed in the Middle of the *Pelvis*, and the Crown of the Head is not felt in it : On the Contrary, if the Head offers it self obliquely, or with the Face first, or the Navel-string, or a Foot comes aside of the Head, you may be sure that the Midwife cannot sit down idle without helping the Woman in Labour ; which if she is ignorant, of what is to be done in this Case, then she is not Mistress of her Business ; for then she ought not to be idle, till all other Members and Parts being removed, the Head only turns in the Passage. It would be better if only the Crown of the Head were in the Passage ; yet if the Face only breaks forcibly into it, it is better to let it come into the Passage, than to move it away violently ; violently, I say, otherwise if it may be moved gently, and without danger of rubbing or hurting it, and that the Crown of the Head may be brought forwards, then a considerable Step is made.

If the Midwife, who before had told, that this or that Part offer'd it self near or before the Head in the Passage, soon after, without much Loss of Time says, that she hath brought the Head only forwards, or (if she cannot do otherwise) with the Face foremost into the Passage, then she hath done well, and behaved herself prudently ; but if she makes long Delays, and it is observed, that the Member offering it self along with the Head (whether the Hand, or the Foot, or the Umbilical Vein, &c.) comes forwards ; and that the Midwife cannot put it back, nor prevent its falling further forwards, then she does not understand her Business, except she be
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hindered by the Force of continual Pains, that Time is not allowed her to thrust the Part back that comes along with it; and when the Pains are so quick, there is not so much Danger; if upon the Waters suddenly flowing out, and the Membranes being broke, she can presently put Things in order after the Waters are come away; but if when the Pains be slow and faint, she does not know as yet, how to put back the Part that offers it self behind the Head, she is unskilful, and it is to be feared, how she will go on with her Business; therefore her Management is not to be confided in, or trusted to.

When the Mouth of the Womb is directed into the *Pelvis*, if the Midwife says, that she can neither feel the Head nor the Buttocks by the Touch, and that nothing offers it self in the Passage besides the Waters, which begin to press forth; those are Signs of a difficult Birth; therefore if you are not fearful of trusting to your Midwife's Dexterity, it is well; otherwise one more able is to be sought for, or a skilful Surgeon that practises Midwifery is to be made use of; for the Infant comes across, wherefore the Head is to be brought into the Passage, presently after the Waters flow out; or the Infant is to be drawn out by the Feet, except you will hazard both the Mother's or the Infant's Life.

If the Mouth of the Womb tends directly towards the Middle of the *Pelvis*, but instead of the Head, only one Hand, a Foot, a Knee, an Elbow, the Navel-string, or a Hand and Feet offer themselves, you must expect as dangerous Work, as I just now warned you of. Therefore you must consider, whether you can entirely depend on the Midwife there present. If you can,

you may be easie ; if not, you must send with all Speed for some Body else, except you will hazard the Lives both of the Mother and Child, who may be preserved, if duly assisted immediately after the Waters are come away.

If the Mouth of the Womb being conveniently seated over the Middle of the *Pelvis*, the Infant's Breech offers it self first, then there is less Danger, since with stronger Pains it may be brought forth complicated or folded together ; but if the Midwife understands her Business well, she may easily change the Situation of the Infant when the Waters are ready to come away, and bring the Feet into the Passage, which will make the Birth easier.

If the Mouth of the Womb being conveniently seated above the Middle of the *Pelvis*, only one, or both Feet offer themselves, then there is little Danger, if the Midwife is dexterous ; since she may easily join the other Foot to that which offered it self ; which if she cannot tell how to do presently after the Waters come away, then she does not understand her Business, and puts the Mother in Danger and the Infant much more ; for this, though at last it come away alive, yet it may easily be hurt, or have its Loins broke or dislocated, except it is bent cautiously, whilst it is brought into the Passage ; for the Hip-bone of Infants coming forth this way, is easily dislocated, except they are conveniently handled, whence afterwards they always are lame on one Side.

If the Midwife, after the Touch, says, the Infant is seated too high yet ; and cannot tell how or in what Place the Mouth of the Womb is placed, or what offers it self first, saying it is too soon yet, we must wait till the Womb and
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the Infant fall down lower, before these Things can be known ; in the mean time if it is observ'd, that the Woman is stirr'd up to Labour by her Pains, then they ought not to be easie under that Delay ; for by that the Midwife endeavours to hide her Ignorance, hoping that afterwards all Things may by chance have a happy Issue, but perhaps they may happen ill ; therefore a skilful Midwife, or a Surgeon that practises Midwifery, is to be sought ; for 'tis an Argument, that the Mouth of the Womb is suspended high, *viz.* because the Womb is seated obliquely, or the Infant offers it self ill turned in the Womb : Both may be most commodiously corrected presently in the Beginning ; but Delays expose both the Mother and Infant to the danger of Death ; therefore she must be watchful.

If the Midwife says, the Mouth of the Womb is not seated over the Middle of the *Pelvis*, but forwards to the *Os Pubis*, or backwards towards the *Os Sacrum*, or is turned too much towards the *Ossa Coxendicis* in the Side, then Danger is at hand ; therefore it is asked, whether the Mouth of the Womb only tends a little towards those Bones, or whether it declines much that way, and lies higher against them ? If it tends but a little that way, then there is less Danger ; and if the Midwife is well experienced, she will do the Business, and without delay will finish the Matter ; but if she talks of making Delays, committing the Matter wholly to Nature, then she is unskilful or slothful, and is not to be trusted ; but a more skilful Midwife, or a Surgeon is to be sought in time ; for delaying is dangerous.

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If the Midwife says, that the Mouth of the Womb is placed against this or that Bone, high and very fast, then do not hope for the Birth from Nature; for that is most dangerous both to the Mother and the Child. If your Midwife be skilful and accustomed to Practise, so that she knows how to hasten the Birth by Art, according to the Method laid down in this Book, then she will without delay use all her Care and Endeavours towards it; yet let her dispatch the Business advisedly, cautiously, and readily; delaying can do no Good, but a great deal of Harm. But if the present Midwife is thought not sufficient for so difficult and hard a Work, then a more skilful one is to be sought for, or a skilful Surgeon that practises Midwifery is to made use of. For such a Posture of the Womb is commonly Mortal to the Infant, and sometimes to the Woman, and seldom can the Life of both be saved, if the Business is only left to Nature, or only common Helps are made use of; when on the Contrary, if such a Woman be assisted by an experienced Hand, both the Birth is hastened by Art, and the Mother and the Infant may be saved.

Whether the Womb is rightly placed or more or less obliquated, if when the Membrane is broke, any Member (either the Hand, or Foot, &c.) is excluded, that shews, that the Infant is presently to be brought forth without delay, according to the Method delivered in this Book; which if the Midwife does not know how to do, believing that it is to be done by the Force of Pains, then presently one more skilful is to be sent for, or an expert Surgeon is to perform the Work. Why should you delay? The Danger grows greater, the Work the more difficult, and the Woman's
Pains

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C H A P. L.

Of a difficult Birth occasioned by the want of Pains, or by ill, or shifting Pains, (called by the Author, Tergiverſantes, that is, (turning their Backs, or going off.)

THE Birth is not always delayed or made more ſevere by the ill Poſture of the Womb, or by Infants being ill turned; but other Symptoms alſo may defer the Birth, of which we ſhall treat briefly in this Chapter. To make a Birth happy and eaſy, natural Pains are alſo required, coming on in due Time and Manner, like a Shower of Rain. By theſe natural Pains we mean ſuch Motions ariſing of their own accord, by which the Muſcles of the Belly and Inteſtines being contracted, make ſuch an Impreſſion and Force upon the Womb, as if it were to be forced out of the Body; and by the Force of theſe Pains the Womb is opened, and the *Fœtus* forced out into the Paſſage, and brought through; and by this means the Woman is happily delivered. Therefore if thoſe natural Motions (not unlike the Motions, which every one feels when going to Stool, yet differing in this, that thoſe rather force upon the *Inteſtinum Reſtūm*, and theſe upon the Womb) are altogether wanting, or are inſufficient, or falſe, the Birth is hindered or delayed.

As there is an ill and fruitleſs Endeavour of going to Stool, ſo there are falſe and fruitleſs Pains, which they call, or may call, wild and wandring Pains: Women ſeized with wandring
Pains,

Pains, seem to be taken with vehement Endeavours to press down, which come on like sudden Showers ; but before they have penetrated, or made a true Depression, those Motions cease and are changed into Cholick, or a Cramp, and an Impotency of Labour ; the means to change these shifting Pains into genuine Child-Bed Pains, we have described in the XVIIIth Chapter, to which we shall add, that in these wandering Pains forcing Medicines are not to be used, because that makes the Pains more violent ; but on the Contrary, Lenitives and Anodynes are to be taken, and you will find that the Pains will come on of their own accord.

But sometimes it happens, that the Pains, which seemed to encrease sufficiently in the beginning, are afterwards much diminished, or altogether cease ; which most commonly happens for want of sufficient Help. Very often the Infant's Head or Shoulders sticking some where, are the Cause, that the Birth succeeds so indifferently ; so that Nature languishes against her Will, as we have elsewhere taken Notice ; and therefore in this Place we shall not longer insist on explaining this Matter. But if, as it may happen, the Pains diminish, or cease, and the Infant is well seated for Birth, and there is no Danger in delay, then I advise that you would suffer the Woman to rest, till the Pains return of their own accord ; or, if the Infant hath proceeded further, so that it cannot be left in that Condition, then you are to try, whether by giving a Clyster, as we have above directed, the Pains may be excited ; which if likewise it be in vain, a prudent Physician is to be advised with ; but first you are to consider well, whether the Work of your Hands may contribute any thing to excite Pains, and drive the
 Infant

Infant out ; for very often an expert Practitioner in Midwifery, or a Midwife may do more good in stirring up the Pains with an experienced Hand, than an expert Physician by Medicines prescribed.

I know indeed, that Medicines are of much force to stir up Pains ; but a great many Observations have taught me, that very strong forcing Medicines have done a great deal of Harm to Women in Labour ; so that I believe, if laying aside Medicines which they call dolorifick, or excitors of Pain ; the operation of the Hands had been prudently made use of, most Women would be now alive, who using such sort of Medicines without any respect to their Infirmary, have died. I thank God, I am free from that abuse of giving Medicines profusely, having found, that the Birth in all Women may be readily and securely furthered and promoted by the apt and convenient Work of the Hands, if the Woman hath but Strength sufficient to bear her Labour a little, that she can admit of what is necessary. I dare freely challenge all, about whom I have officiated or ministred to these ten or twelve Years, (for I place the Time before, with the Times of my Ignorance, having then used the Art of Midwifery according to the common Method) and I can ingenuously assert, that in all that Time, I was not with one Woman that I know of, (except one who was in fault her self) but that in a little time I compleated the Birth happily, without giving her any forcing Medicine, or using any Instrument ; not one Infant being lamed, or its Limbs broken ; (except that sometimes, though seldom, the Mother being like to die ; to preserve her Life, I opened the Infant's Head, which before stuck fast in the *Pelvis*) nor did I ever, that I
know

know of, tear or hurt a Woman in Labour ; so that any Inconveniency happened afterwards ; nay none of them, that I remember, was troubled with an incontinency of Urine ; so that it came drop by drop, nor with a falling down of the Womb, nor any other considerable Damage ; so that I again thank God for it ; and I advise all circumspect Midwives, that they diligently remove all Hindrances which delay the Birth, and then they will find, that they have Reason, as well as I, to give God thanks, and in like manner they will be able to give more effectual and present Help to Women in Labour, with less vexation of Mind ; nor will they so often be puzzled as before they have been. Thus having prayed for all People who desire the Divine Assistance, I shall put an end to this Treatise, hoping that my Labour will not be in vain ; but be both an Assistance and Comfort to a great many miserable Women in Labour, and those that are concerned about them ; and that it will remain as a sweet Savour even after my Death, through him who is Life and Immortality it self ; and it is a Satisfaction to my Mind, that I have undertaken to describe this needful Science so faithfully and clearly, for the Advantage of my Neighbour.



T H E



THE APPENDIX.

Of the Birth of Monsters, and such Sort of Infants, who being well turned in a Womb oblique to the highest Degree, but falling down into the Cavity of the Pelvis with their Head amiss (through the Midwife's Neglect, or some other Cause) are therein so straightened, that they cannot move.



HAVING delivered and demonstrated, throughout this whole Book, how the Birth of Women with Child may be readily performed without any Mortal Danger to the Mother or Infant, without any Instrument, only by the Work of Experienced Hands; I think it not unuseful to take notice, where, and why the Use of some small Instruments may sometimes take Place, by which

which a well practised Surgeon upon any Occasion may exert himself; I say a practised Surgeon, since I believe no Woman ought to make use of any Instruments; for it is most certain, that an expert Surgeon, who by Custom is skilful in Chirurgical Operations, can behave himself with more dexterity than a Midwife, in making use of Instruments, when Occasion requires it; who though she may have Judgment enough, yet is not so ready in handling of Instruments; yet if Necessity obliges a Midwife in the Country, where a skilful Surgeon cannot be sent for, she may perform the Work as well as she can, and taking her own Advice for once, let her comply with Necessity.

That therefore I may lay down my Opinion of the Use of Instruments, I think there are only two Cases, where Instruments are of Use, *viz.* If Infants, by reason of the Monstrous Bigness of their whole Body, or any Part, cannot pass through the *Pelvis* whole, it being proportionably too small; or if by reason of the Neglect or Ignorance of the Midwife, the Head of a well turned Infant, in a Womb oblique to the highest degree, falls down into the narrow Cavity of the *Pelvis*, and is there so straightened along with the Shoulders, that the least Descent is not perceived upon the Force of the strongest Pains, and all Remedies have been tried in vain; for the safety of the Mother, the Infant is to be handled and drawn out as a dead one.

As for Monsters, they may be so large, that they cannot pass through the narrowness of the *Pelvis*; wherefore in this Case the Business can be performed no other way, but by disjointing and drawing out the Infant by Pieces. I deny not, but that such a Case may happen; but I confess,
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I have not met with it: whatever Infants I have met with, I could draw them out by the Feet, nor had I ever the Misfortune, that the Head, how big soever, stuck in the Mother's Body, or did I pull the Head from the Body; nevertheless, if the Belly, or the Breast, or the Head cannot pass, by reason of its monstrous Bigness, in such a Case it is to be opened and emboweled, or the Humours (with which dropfical Heads commonly swell) are wholly, or in part to be discharged, that the Infant may be drawn out.

This kind of dropfical Head, or *Ascites*, is commodiously opened with an Instrument much like that with which they open the Bellies of Hydropick Persons, or the *Scrotum* in watry Ruptures; only this we speak of must be larger, as that is less, viz. a round Tube, about a Foot or five Quarters of a Foot long, to whose Cavity a Blade is fitted exactly round, with a three cornered sharp Point; that Tube is first passed in, along with the Hand, to the Head or Belly which is to be perforated, and when it is well fixed, the Blade is to be thrust through it into the Cavity of the Belly or Head, by which means the Humour is let out.

This Instrument is the most fit and commodious; yet since such a Case hath seldom or never happened to a Surgeon Midwife in his Life, it will scarce be worth while to make such a one; therefore you may open the Head or Belly at any time with any Instrument that pricks, if not too sharp; I say, with an Instrument not too sharp, viz. neither with a Point nor Angles; for with an Instrument that is too sharp, any Body may easily hurt himself or the Woman; for let the Instrument be what it will, it ought to be

be pass'd in along with the Hand, or to be mov'd with the Hand in the Body, so that you may be certain, that it hurts no Part, but what is to be perforated ; to which Place if the Instrument be applied, the Belly may easily be perforated, and the Humour let out ; which if not effectual, the Belly is to be emboweled, that it may be fit to pass. But if the Head, though it is not Hydropical, yet be so big that it cannot pass, it is to be perforated, and the Brains to be taken out, that it may fall down, and be fit to pass through the narrowness of the *Pelvis*.

A Surgeon that is skilful in the Art of Midwifery, in this Case may easily know what to do, if he himself, and the Woman, and her Friends are willing the Child should be hurt, and its Bowels taken out. There is scarce any Part of an Infant, which may not be disjointed without cutting ; for example, the Arm or the Leg, if there be occasion, may be disjointed by turning and twisting it, and the same may be done with other Parts. *N. B.* I say, that may be done, if occasion requires it ; but I would advise no Body to do it, except obliged to take away a Leg or an Arm by great necessity, which then may be taken off safer by twisting than cutting.

But not to insist on Monsters any longer, nor to speak particularly of all of them, if one Body hath two Heads, or if two Heads and two Bodies grow together, or are any way ill formed ; so that for that Reason they cannot pass the narrowness of the *Pelvis*, then the Parts are to be taken off, which hinder the Passage most, and that by twisting rather than by cutting, because Cutting is more dangerous for the Woman in Labour. Any Member, as the Arm, which is

to be taken off, being taken hold of in a dry Cloth, the Cloth is to be twisted, always turning the same way, and you will find the Arm will be broke off near the Shoulder, and quite separated. I learn'd this piece of Work in the Time of my Ignorance, whilst I was but a Beginner, being yet not thoroughly skilled in the turning of Infants, not knowing how to draw out dead Infants whole, without mangling them : When the Arm was excluded up to the Shoulder, then sometimes I would pull away the Arm near the Shoulder by twisting it, that I might have the more Room ; but soon after studying how to correct my known Errors, I never since used that Method of twisting, but turned all Infants so situated, and drew them out whole and unhurt ; however I have learnt this Experiment by my Errors, that when there is urgent Necessity, the Parts must be thus taken off by twisting ; but the Case scarce ever requires it.

But let us see, how the Work is to be performed, if the Birth of the Infant is not hindered by its Monstrous Form and Bigness, but by the ill Position of the Womb ; what is then to be done, and in what Cases Instruments are to be made use of. First, I except all Infants who offer themselves ill turned in an oblique Womb, that is, who do not hang with the Head over the Mouth of the Womb ; all those may be turned securely, and drawn out by the Hands only, without an Instrument, without hurting or taking off any Member ; wherefore Instruments are of no use here. Secondly, I except all Infants, which offer themselves well turned in an oblique Womb, if being as yet seated above the *Pelvis*, they are not fallen down far into it, or straightened ; so that they may be thrust back, that you
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may pass by the Head to the Feet : As long as this may be done, there is no need of Instruments, but those Infants may be drawn out by the Feet, whole and unhurt.

But if by the Midwife's Inconsiderateness and Ignorance, the Infants are fallen down into the Cavity of the *Pelvis* with the Head first ; and the Waters flowing out, they are bound up in the winding Passage as in a Triangle, so that they cannot be moved either by the force of Pain, or the help of Art, upwards or downwards, then there is no other way to save the Mother's Life, than to handle the Infant, whether alive or dead, as if it were dead ; which never ought to be tried, but in this extremity of danger. I hate the ill Custom of some, who draw out Infants with Hooks ; as soon as the Pains cease, you will hear them say, the Infant is dead ; then the miserable Infants are drawn out with Hooks though yet alive ; and indeed they are drawn out alive to the Surgeon's Shame, and the Sorrow of the Parents, and those that stand by ; yet if the Infant, as I said, be compressed and sticks fast in a three cornered Angle, then there is no other way, but to handle it as if it were dead ; and then the Hooks can be of no use, because the Shoulders resist too strongly, so that the Head, though drawn with the greatest Force, cannot pass ; but if any had rather try Hooks, they have their Liberty ; but if this does not succeed, there is no other way to dispatch the Work securely, but by opening the Crown of the Head, and taking out the Brains, that the Hand being passed along by the Head, the Shoulders may be removed from the Bones, which they are pressed against ; otherwise there is danger of losing your Labour, and hurting the Woman by drawing it out violently ;

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I my self have happened, when the Head was brained, to draw violently with a strong Forceps without Success, because the Shoulders being pressed strongly against the Bones, are retained; but when the Head is brained, and the Shoulders are cleared from the Bones by passing the Hand along by the Head, they follow easily and with less Trouble; wherefore I recommend this Method as most convenient.

There is no need to make use of a particular Instrument to perforate the Infant's Head; a common Incision Knife, rowled about to the very Point, or a Punch, or a sharp *Spatula* is sufficient for this Work; then the Hole being enlarged with the Fingers, and the Brain loosened with them, it is to be drawn out; which being done, the Head is to be drawn out with the Hand or a Cloth, and thus you are to try whether the Body will follow; if it follows, go on to draw; but if it does not, then the Shoulders are to be freed from the Bones, as we said, and the whole Body to be drawn down. When I say, the Body is to be drawn down by a Cloth, I mean, that a broad Bandage strengthened with Threads across (or some other small strong Cloth) is to be passed beyond the Head, and to be fixed about the Neck, which being well twisted, the Infant is to be drawn out; which Method I most approve of.

Those that have such small Hands, that they can pass such a Bandage behind the Head, before it is perforated, have no need to open the Head, and therefore they have a good Advantage of dispatching this Work. Nothing ever is more agreeable to the Art of Midwifery, than slender Hands, long Fingers and quick feeling; but then the Shoulders ought to be cleared, that they may

may follow when drawn, otherwise it is in vain to draw.

Sometimes Infants offering themselves with the Head foremost, cannot pass through a narrow *Pelvis* for other Reasons; so that for that Cause they are to be drawn out after the afore-said manner as if dead; yet if the Matter be thought of, and considered beforehand, the Mother and the Infant may be saved, by turning the Infant and drawing him out by the Feet, as soon as the Woman begins to Labour. The Case we speak of, happens to some Women, whose *Os Sacrum* is bent much forwards, and whose *Os Coccygis* is hard and almost inflexible; so that the Parts about it cannot be pressed backwards without violence. But if you are with these Women in the beginning of their Labour, by promoting the Birth by Art, as we have said, both the Mother and the Infant may be saved; when otherwise all such Infants must certainly die, and sometimes the Mother dies without bringing forth the Infant.

Perhaps some may ask, If Womens Labours may be promoted, by the Method hitherto demonstrated in this Book, of what Use are so many Instruments, represented by Figures, and recommended by most Authors? To whom I answer, That all Arts and Sciences are improved by continual Exercise, and are more and more accommodated to make Practice expeditious; and this is the Case of Midwifery. I believe the Antients killed more Infants than they saved, with their *Spiculum Matricis*, Hooks, and other uncommon Instruments, with which if they have sometimes saved the Life of some Women in Labour, they have hurt and tormented a great many; whose Errors are like a Monument to us, that we
may

may follow better Measures. And now I have taken Pains to separate the Chaff from the Corn, I leave another to winnow what remains.

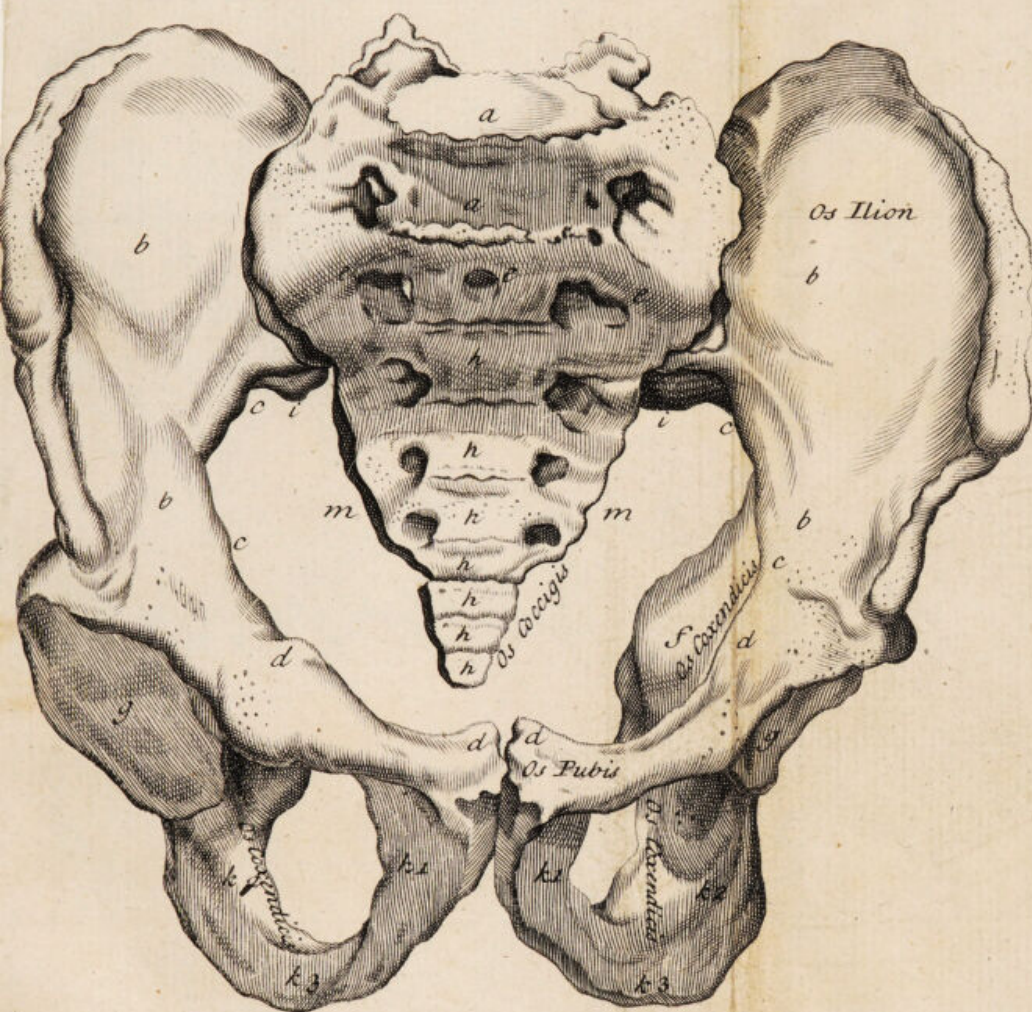
From what we have said, it may appear to any one, that Instruments are seldom or never of use, except when Infants are neglected for want of Care, or Monsters are to be brought forth. That therefore the Art of Midwifery may not hereafter be taken for a Thing that is inhuman, cruel, or what ought to be feared, but to be much esteemed by all considerate and well advised Persons, and every one obliged to make seasonable use of it, before the Woman in Labour, and the Infant are brought into the greatest Danger, by Ignorance and want of Care; God grant that the Fruit of my Labour may tend to the safety of a great many Women and Children, and the Glory of his most holy Name. *Amen.*

F I N I S.

Fig. 1.



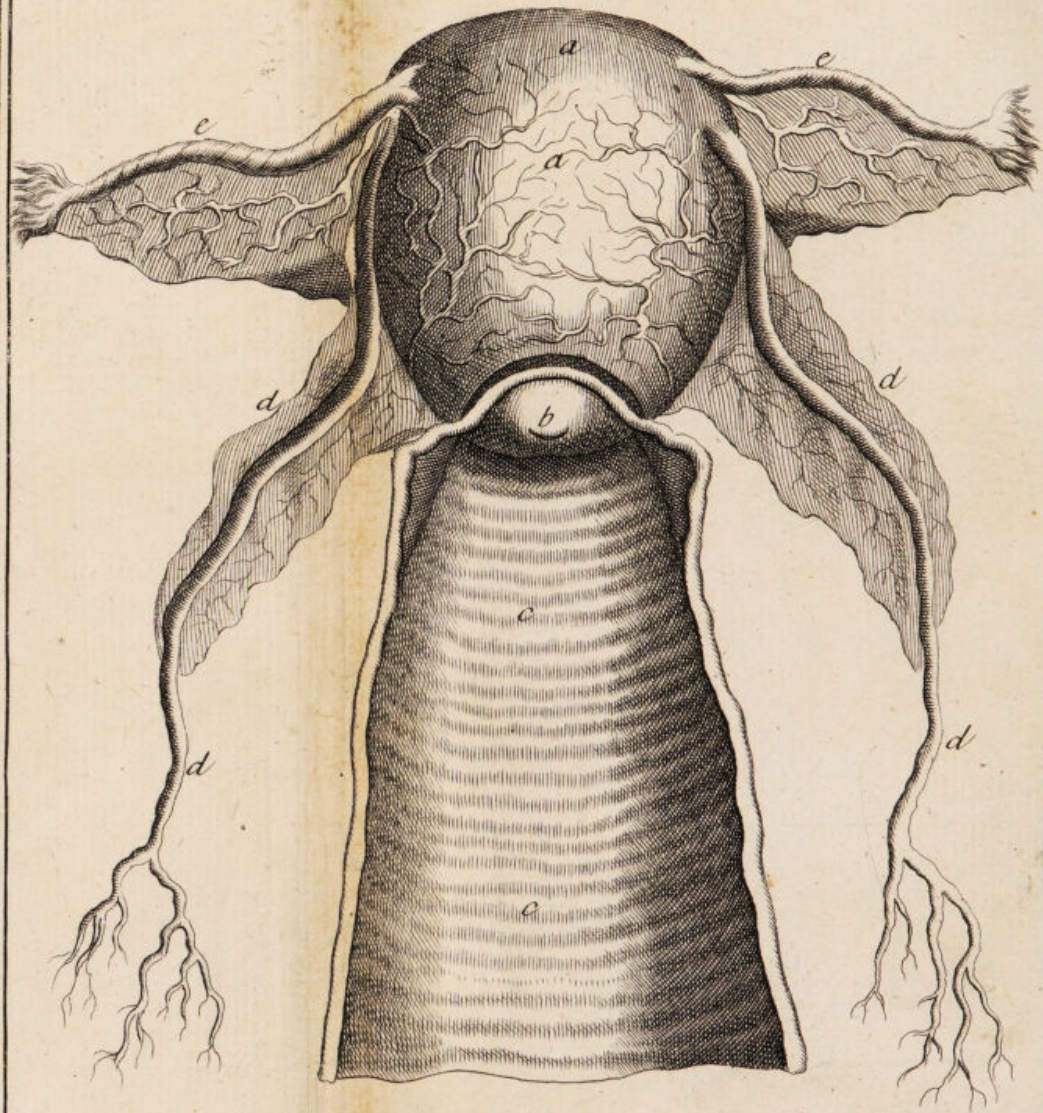
Fig. 1.



2.



Fig. 3.





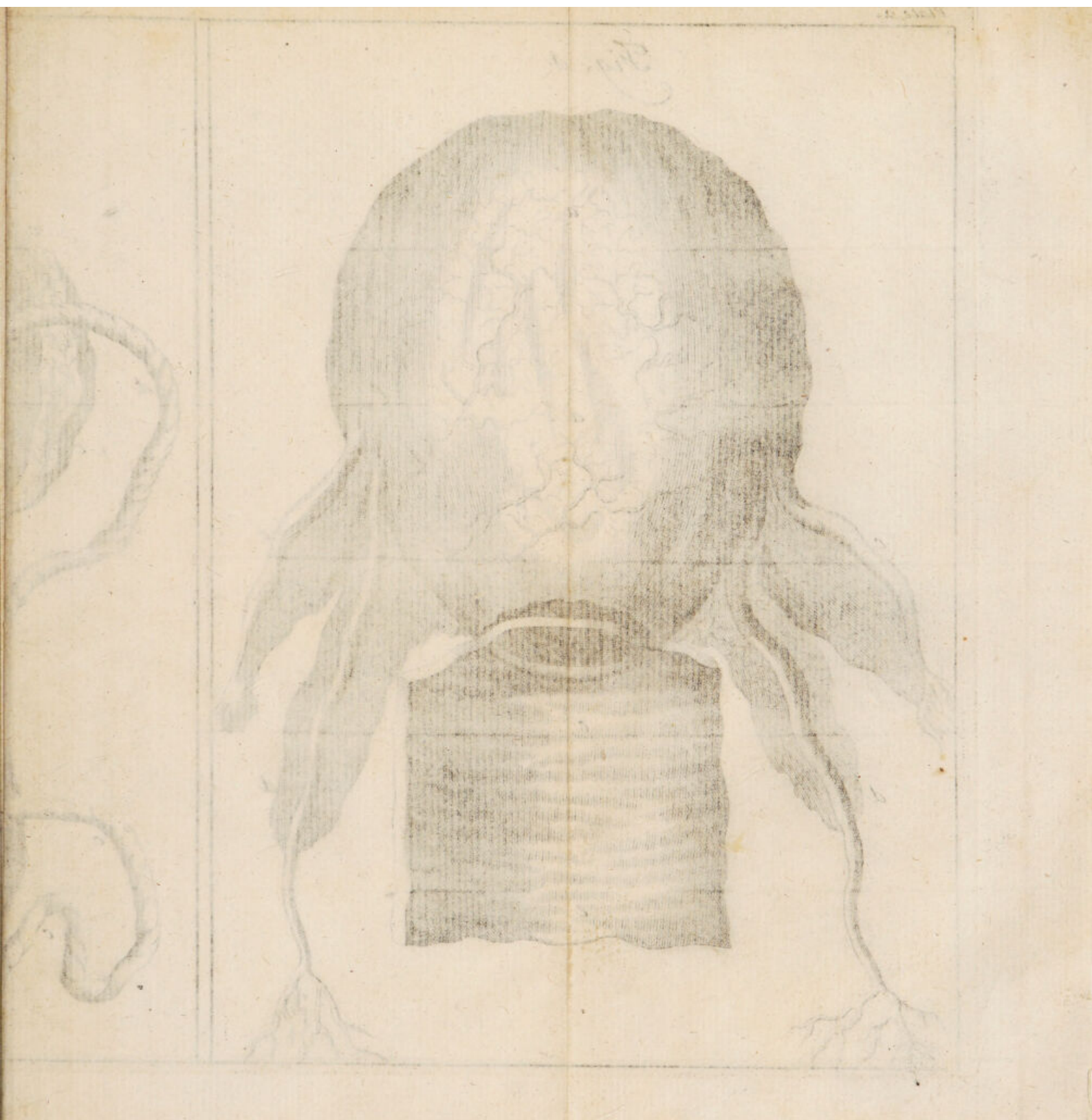


Fig. 4

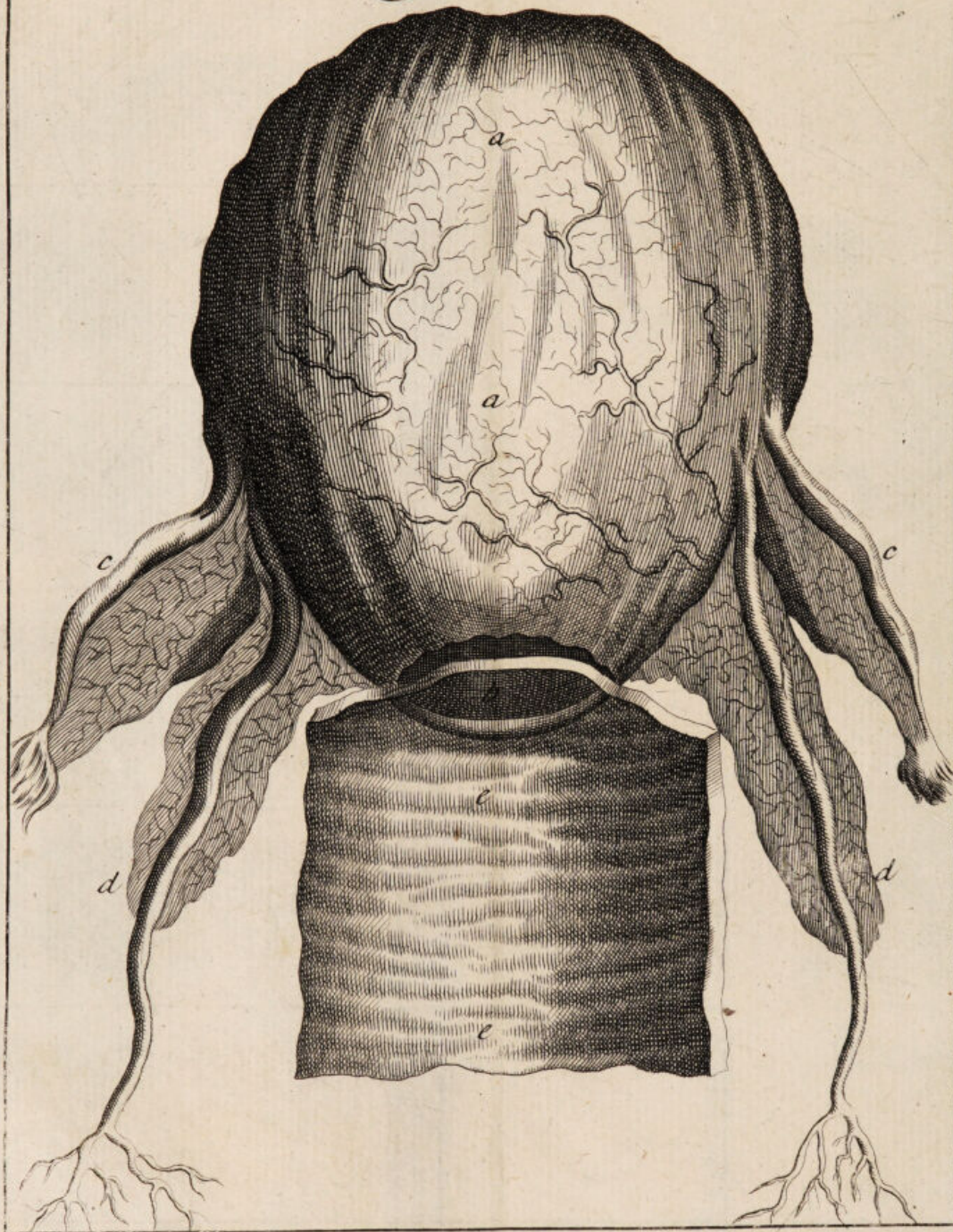


Fig. 5.

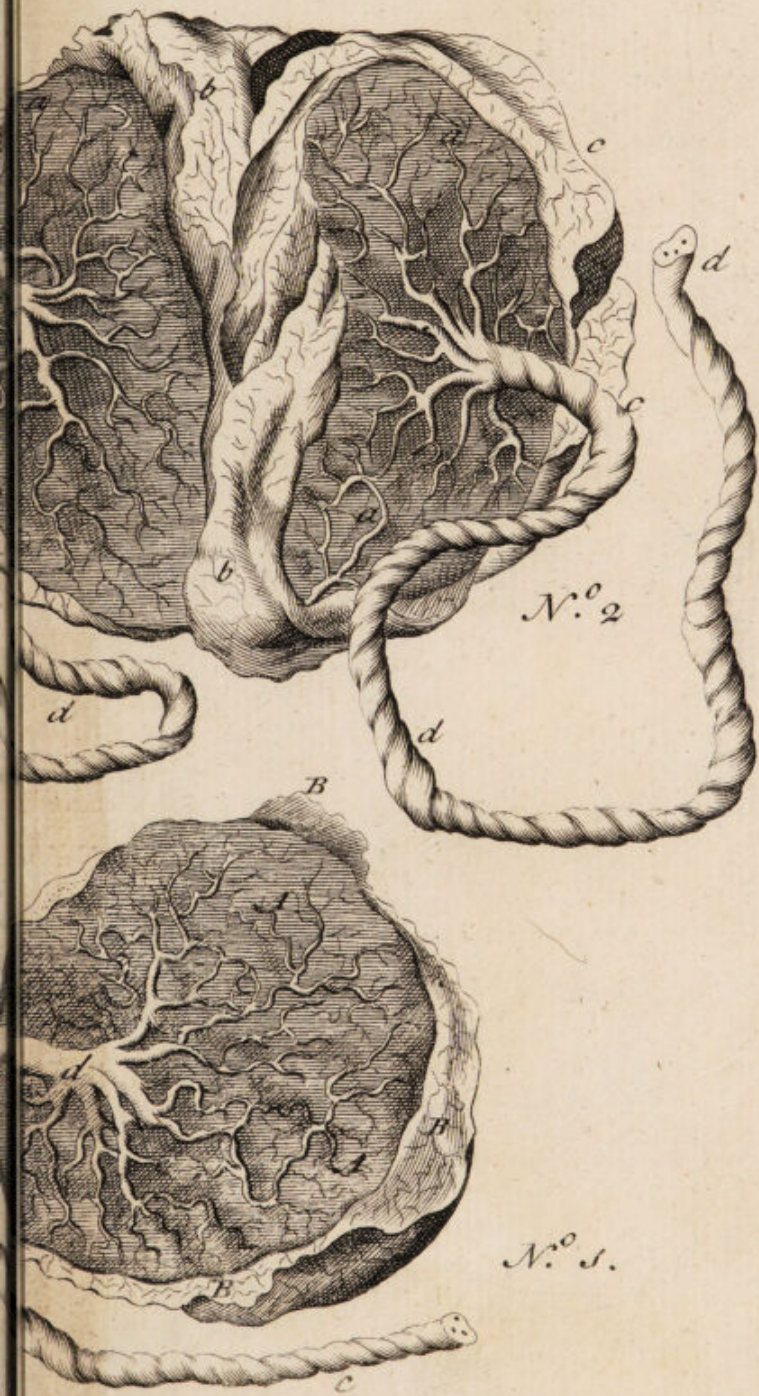
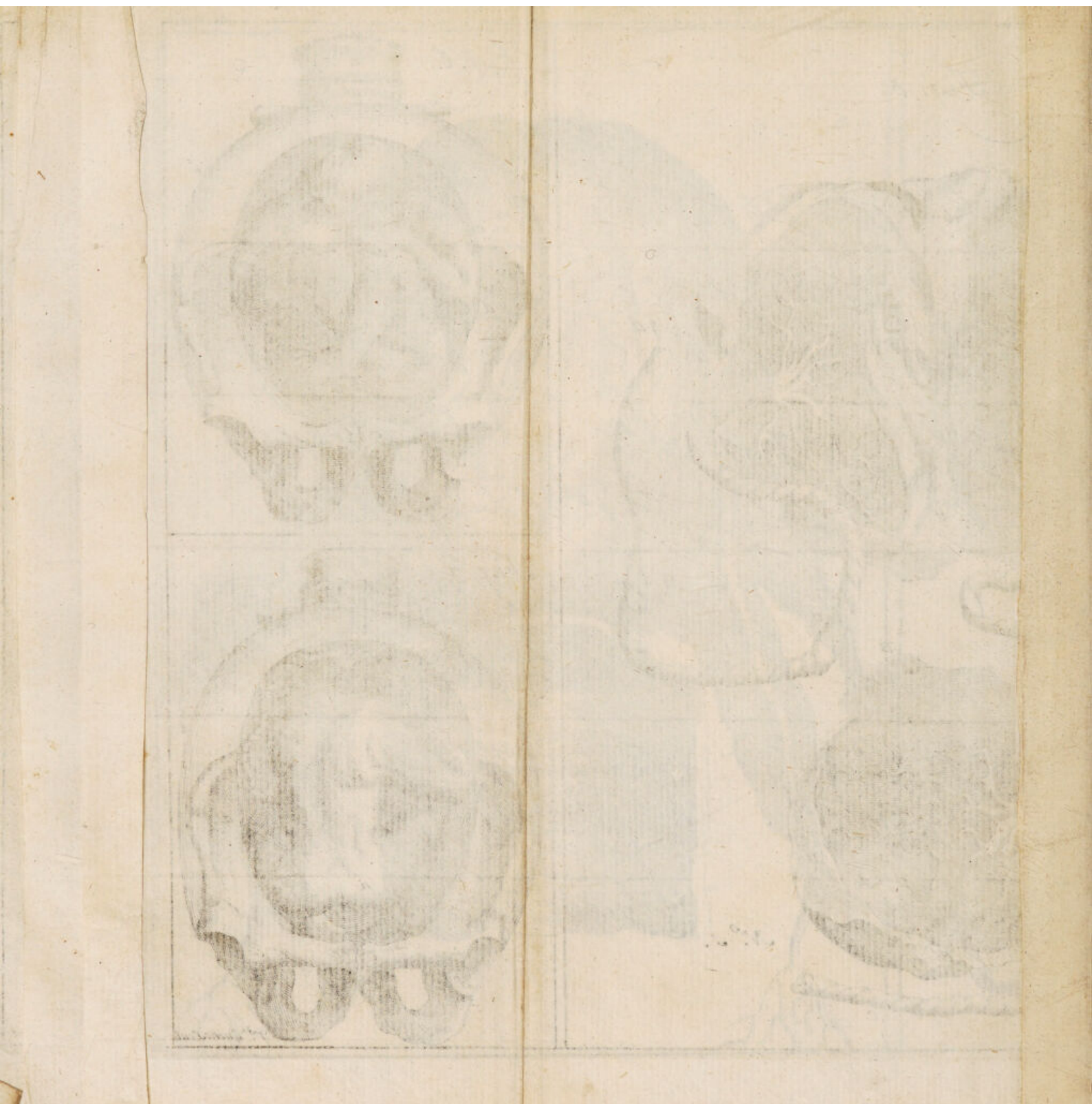


Fig. 6.



Fig. 7.





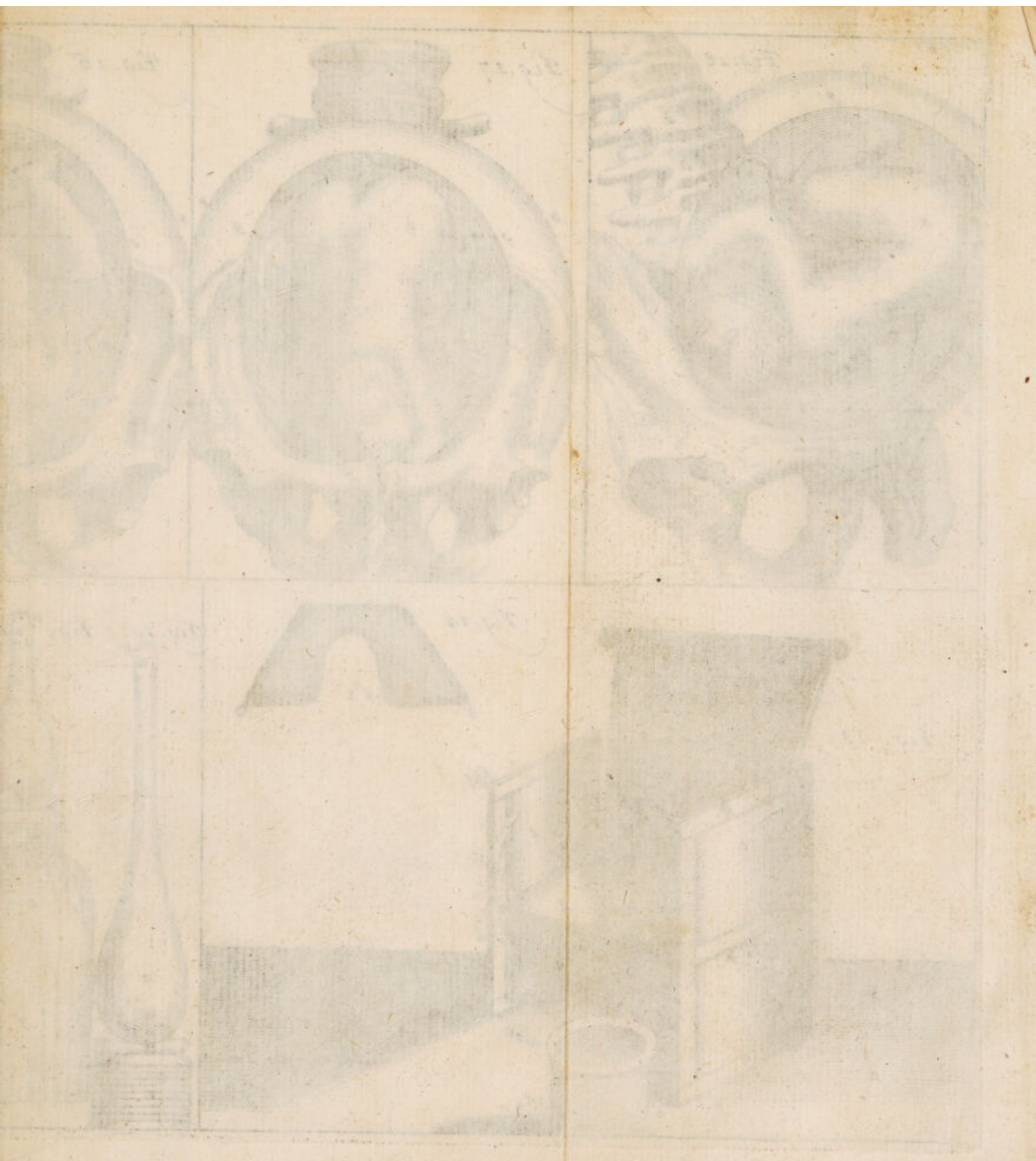


Plate 3.

Fig. 18



Fig. 17



Fig. 16



Fig. 14

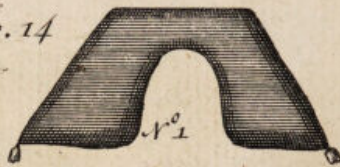


Fig. 13.

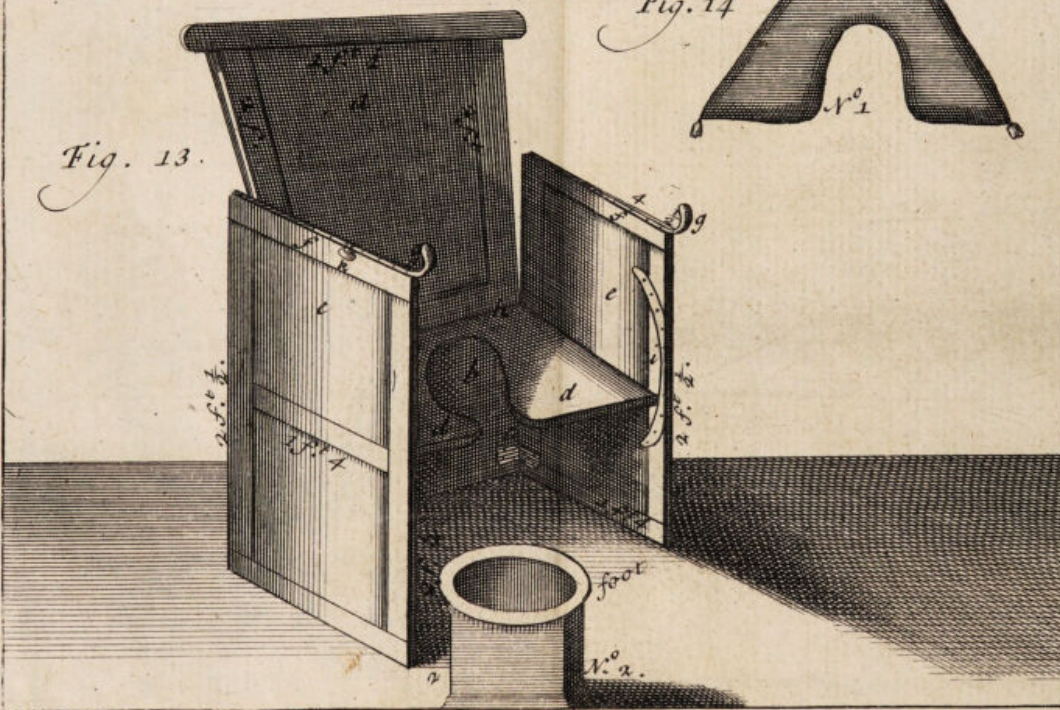


Fig. 10. Fig. 11.



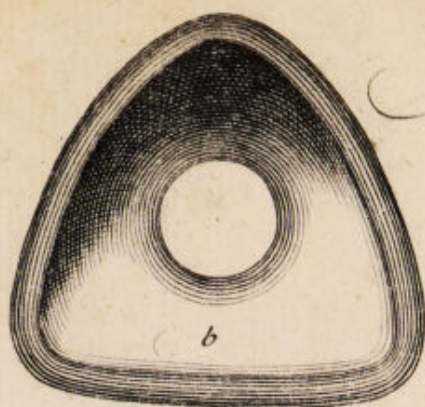
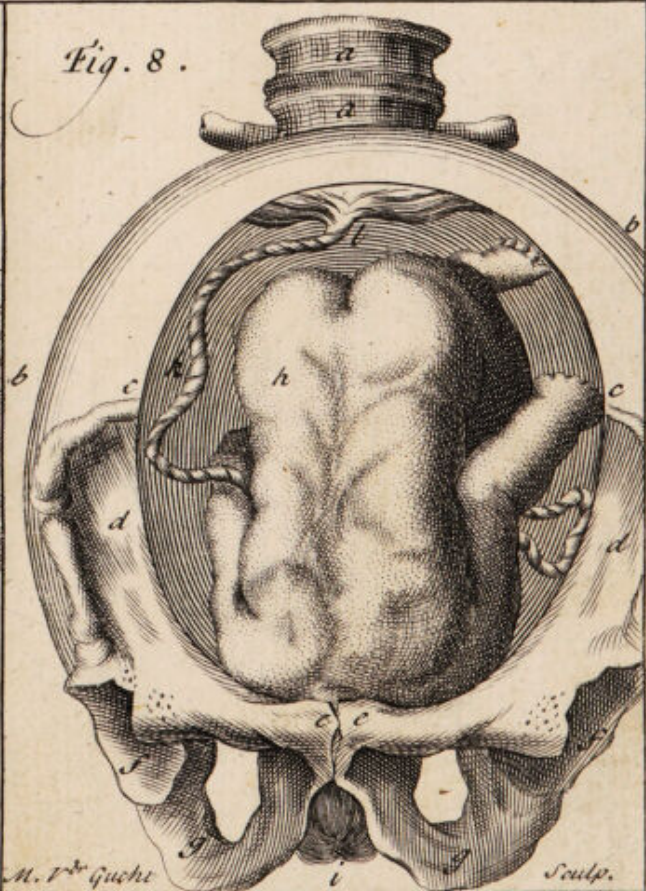
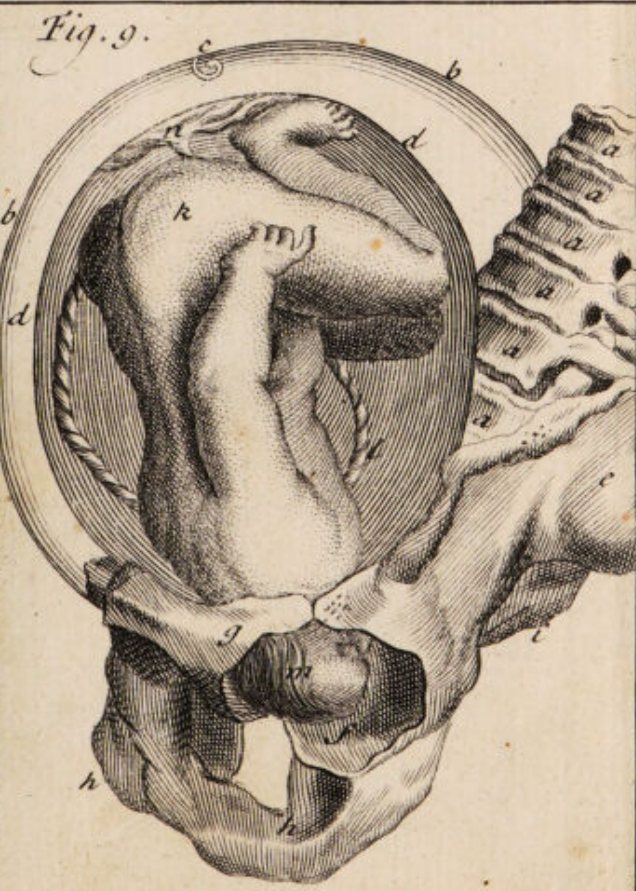
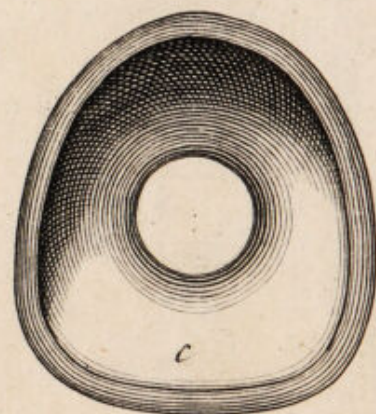
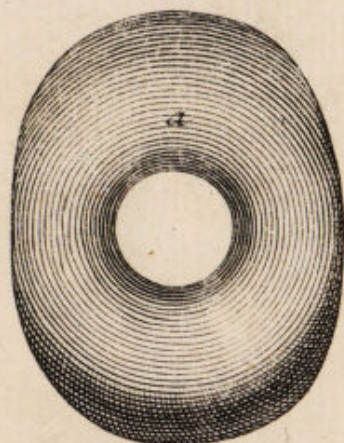
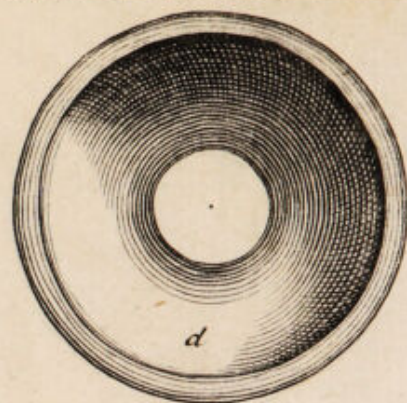


Fig. 15.



M. V. Gache

Sculp.





Fig. 28.



Fig. 27.



Fig. 26.



Fig. 23.

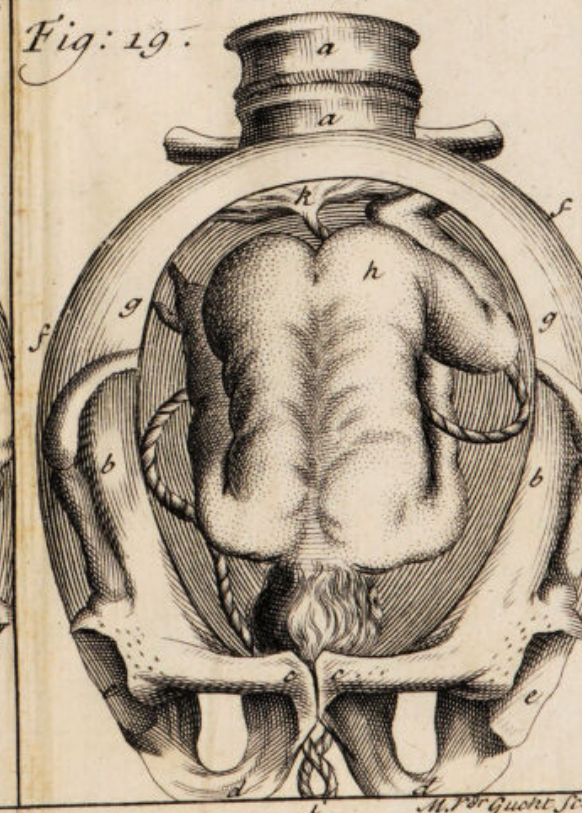
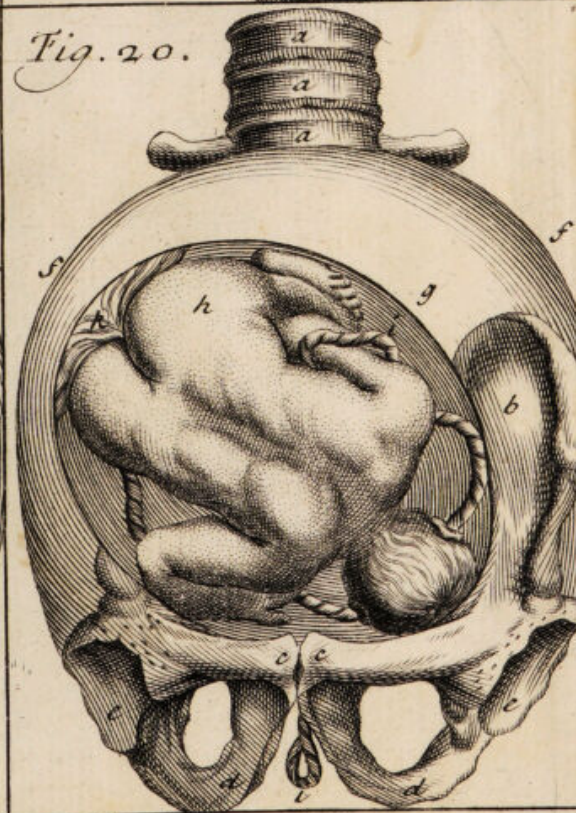


Fig. 22.

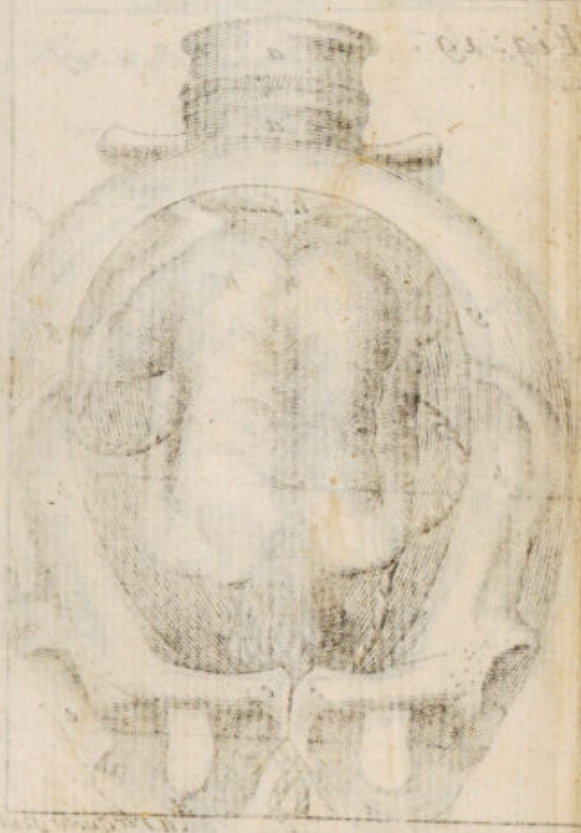


Fig. 21.





M. Porquett Scul.



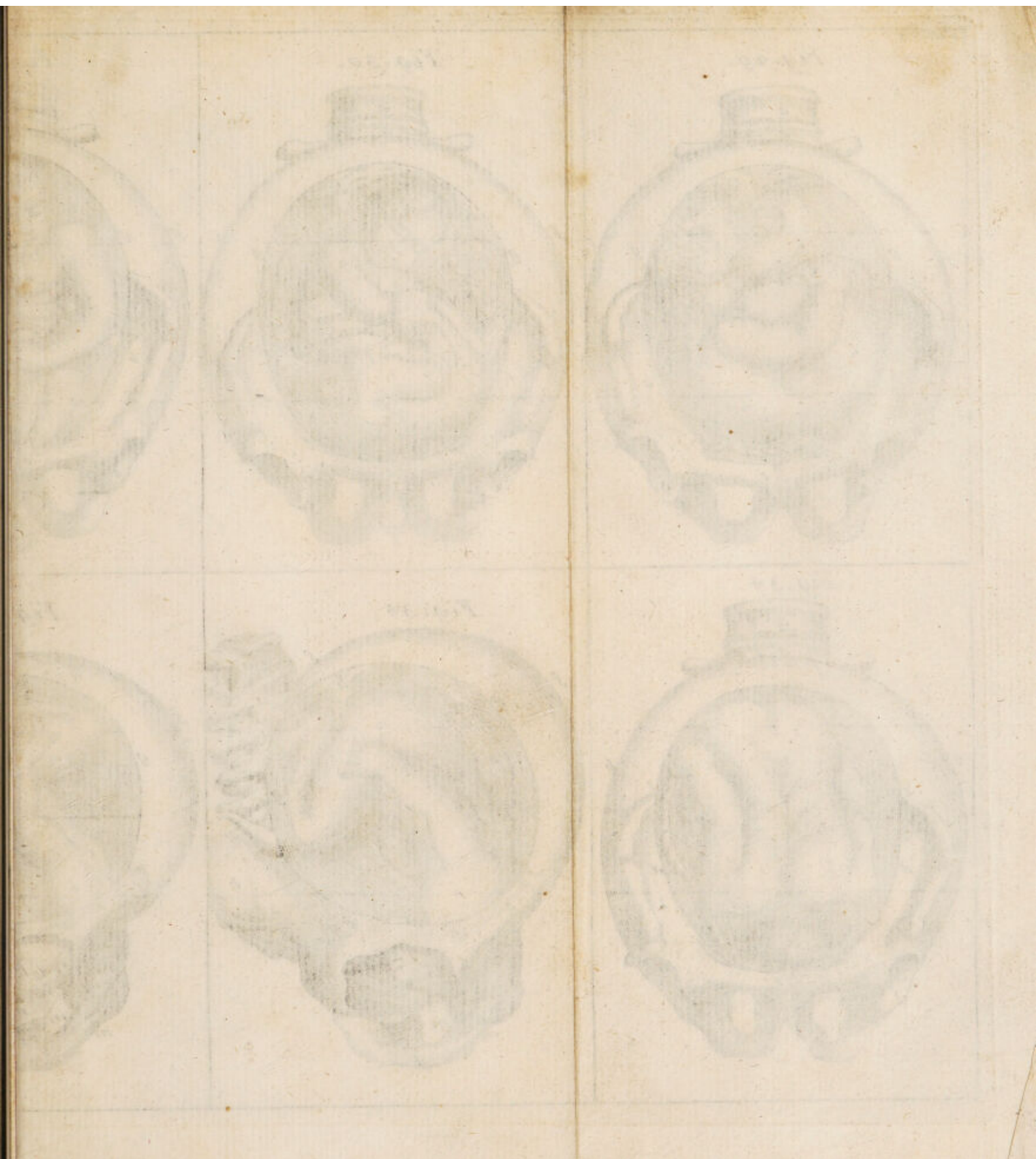


Fig. 29.



Fig. 30.



Fig.



Fig. 34

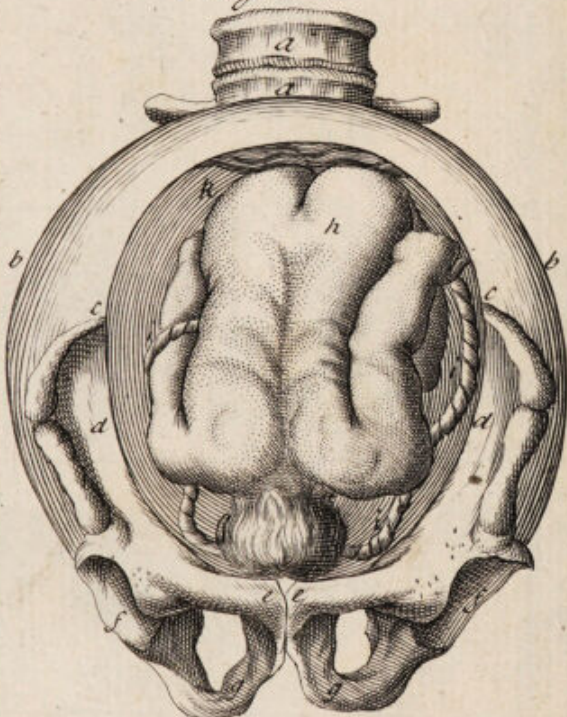


Fig. 35.

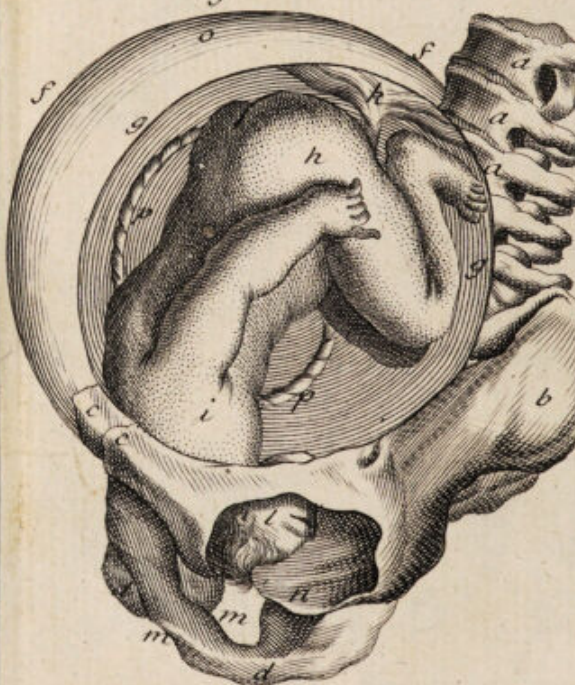


Fig.



Fig. 32



Fig. 33.



Fig. 37.

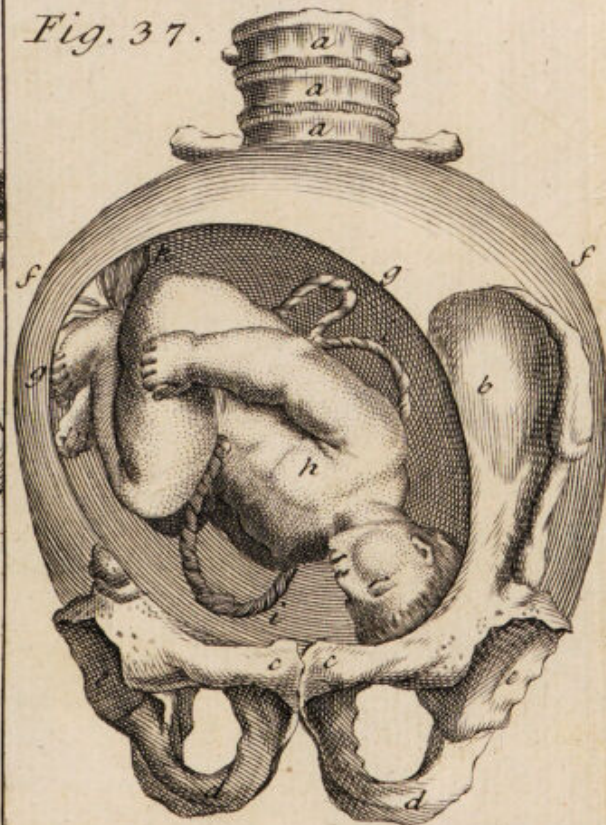
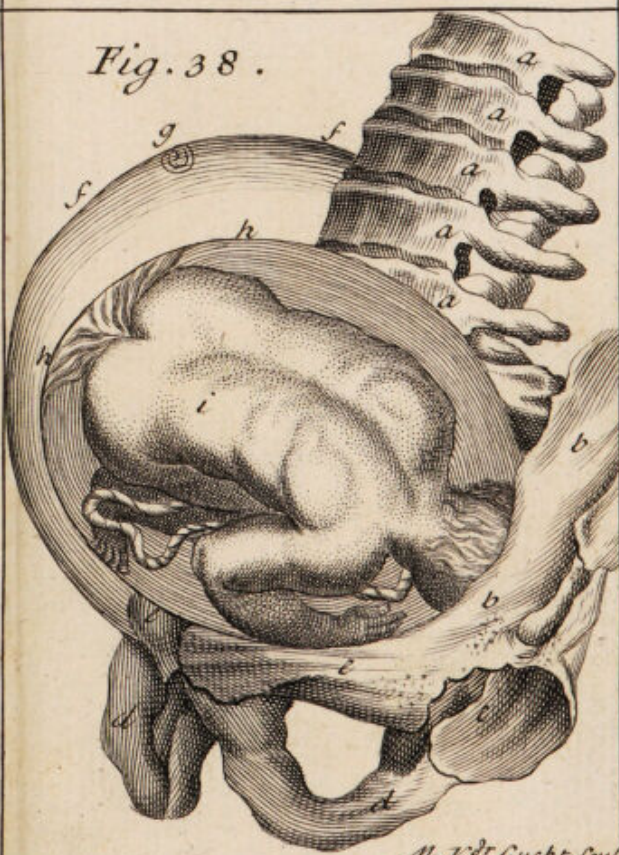
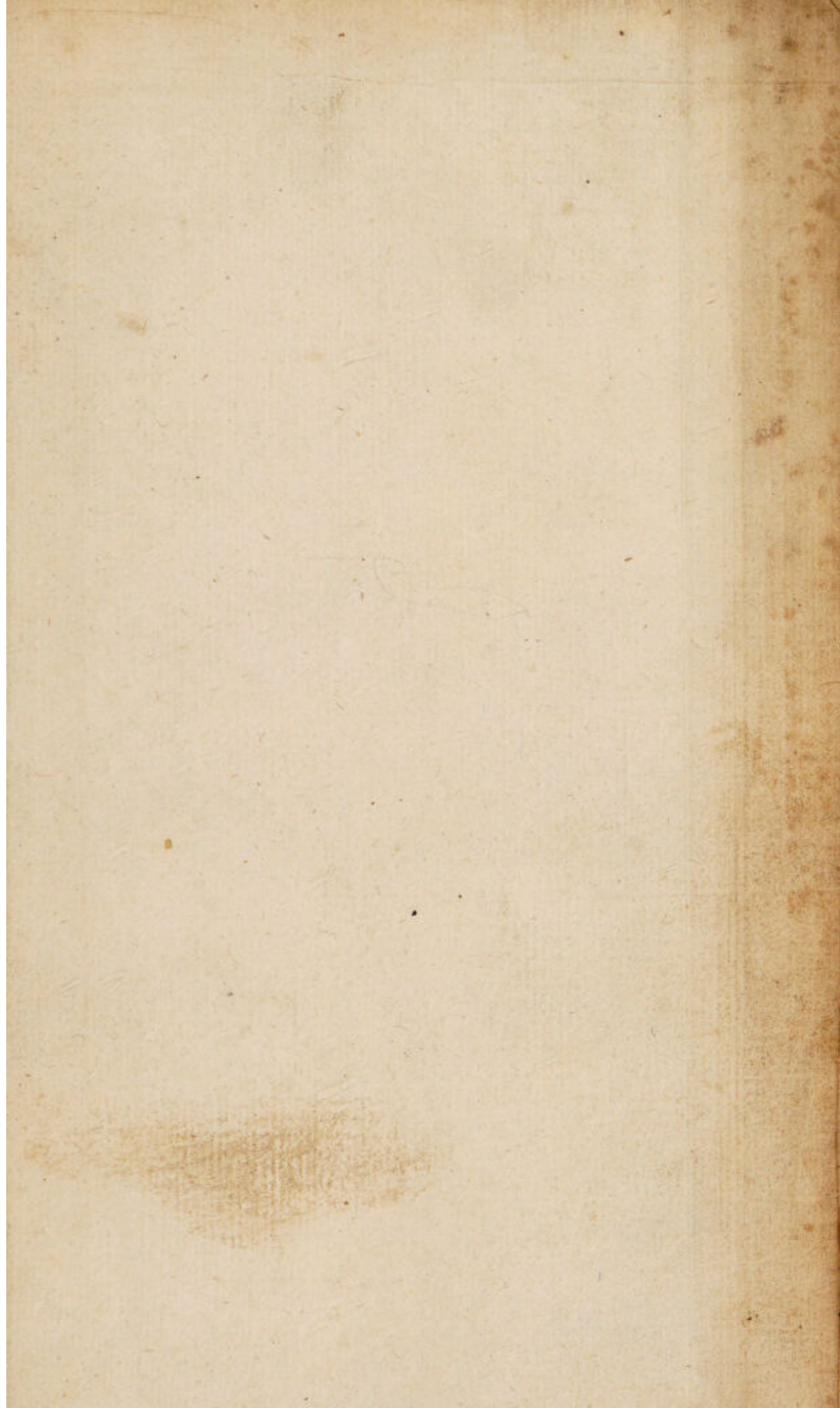


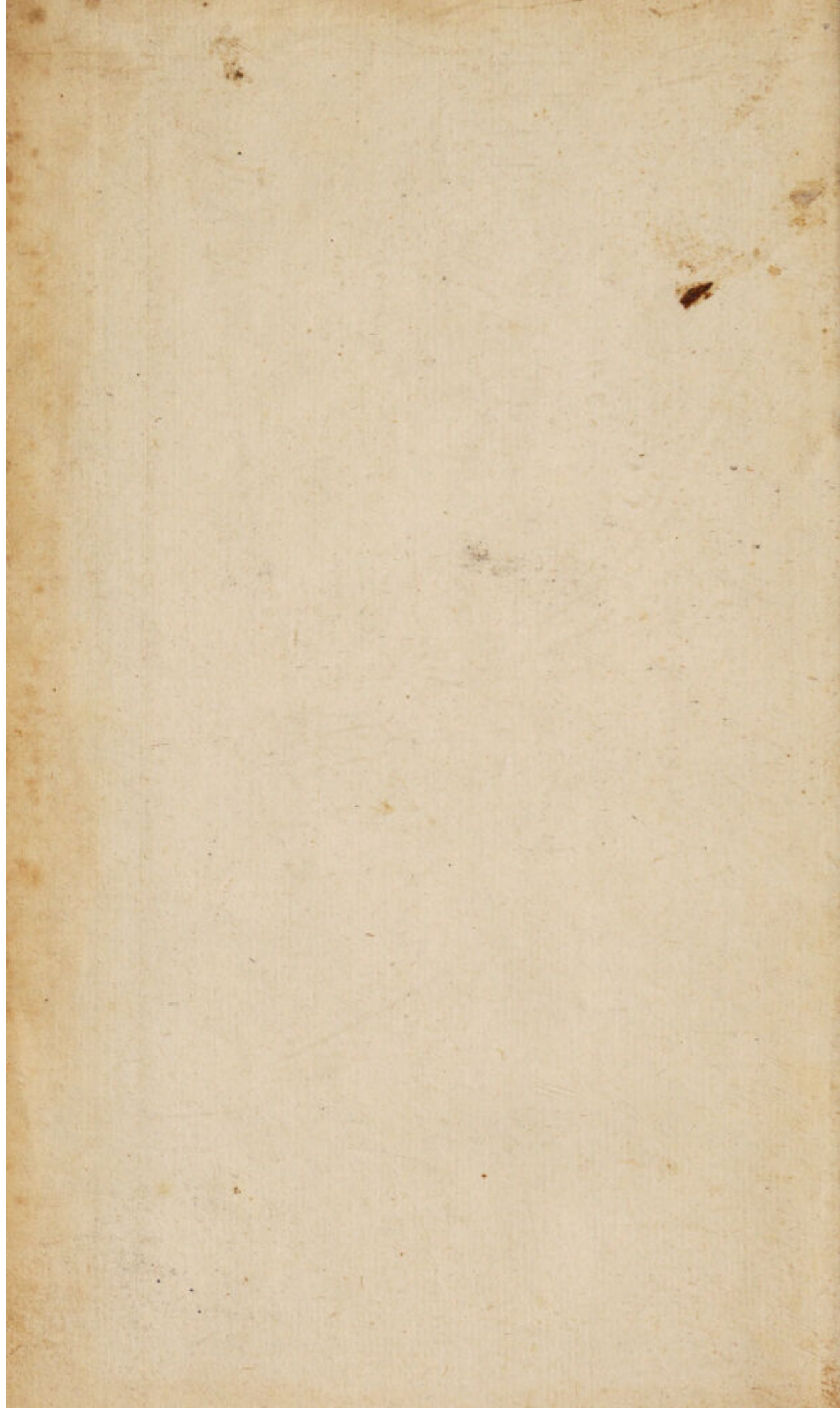
Fig. 38.



M. V^{dr} Gucht Saul







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