

**A course of lectures on the theory and practice of midwifry : in which, every thing essential to the true knowledge of that art will be fully explain'd and clearly demonstrated. ... The whole will be illustrated by such anatomical preparations and extraordinary cases as are applicable to each lecture, but particularly by real labours. / By John Leake, M D.**

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A  
C O U R S E  
O F  
L E C T U R E S

On the THEORY and PRACTICE of  
M I D W I F R Y:  
I N W H I C H,

Every Thing essential to the true Knowledge of that Art will be fully explain'd and clearly demonstrated.

The Osteology of the Female Pelvis.

Of the Organs of Generation,—the Theory of Conception,—and of the Nutrition and Situation of the Fœtus in Utero:—The several Parts will be shewn in their natural Situation, with Physiological Observations on their Structure and Use.

The Pathology or general Doctrine of the acute and chronical Diseases incident to Women and Children, including their Nature, Causes, Distinctions and Symptoms, as laid down by the best Writers; together with practical Observations and Remarks in their Treatment and Cure.

\* \* For the clearer Demonstration of Operative Midwifry (whether simply by the Hand or the Application of Instruments) the several Methods of assisting both in laborious and preternatural Labours, will not only be described according to the most approved modern Practice, but likewise distinctly shewn by an artificial Representation of each difficult Case upon Machines for that Purpose.

The Whole will be illustrated by such anatomical Preparations and extraordinary Cases as are applicable to each Lecture, but particularly by real Labours.

By J O H N L E A K E, M D.

Member of the Royal College of Physicians, LONDON,

and PHYSICIAN to the

WESTMINSTER NEW LYING-IN HOSPITAL,

At his House in Craven Street, in the Strand.

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L O N D O N, A. D. 1771.

# PROPOSALS.

The *Students* who attend these Lectures, for their more expeditious and effectual Improvement, and with a view to reduce the *Theory of this Art to real Practice*, will, when sufficiently qualified, viz. in the *second Course*, be admitted Pupils at the *Westminster New Lying-in Hospital*, where they will deliver the Patients in their Turn according to Seniority, and will afterwards also receive a *proper Certificate* of such their Qualification and Attendance.

THE Expence of attending the first Course,—4 Guineas—And  
For every Future Course, ———— 2 Guineas, each.

Ten Guinea Pupils. { Every Gentleman paying *ten Guineas* at the first Course, shall be entitled to attend every future Course for *one Year*; and shall also be admitted a *Pupil* at the *Hospital* for *six Months*, where he will have frequent Opportunities of *extensive Practice*, under Dr. *Leake's* Direction, and also the Advantage of seeing the *Treatment and Manner of prescribing for the various Disorders incident to Child-bearing Women and Infants*;—a Branch of Science essentially necessary to all those who intend to practise *Midwifery*;—*These Pupils* will also have the Liberty of taking down *such remarkable Cases* as occur during the Time of their Attendance.

Every Gentleman who is a *perpetual Pupil* to the Lectures, and is admitted to attend the *Hospital* for the Space of *one Year*—pays 20 Guineas;—he will also have the *additional Privilege* of being present at all *preternatural and laborious Cases* which happen during his Attendance.

House Pupils. { Dr. *Leake* will take *House Pupils* for any limited Time, not less than *three* or more than *six Months*, on the following Conditions:

For three Months, ——— 25 Guineas.

For four ——— 30 ——— And

For six Months, ——— 40 Guineas.

House Pupils, commencing either for *three, four or six Months*, will have the Privilege of attending the Lectures *one Year*, and will be permitted to attend the *Hospital* for the same Length of Time that they enter as *House Pupils*. Such Gentlemen are likewise allowed the *additional Advantage* of assisting at all *preternatural Labours* which happen within the Term of their Attendance, and also at every *laborious Case*, or wherever there is *Danger or Difficulty*; the other Terms (including *Board and Lodging*) being precisely the same as those of the *ten Guinea Pupils*.

Female Pupils. { *Women* will be privately instructed and soon duly qualified for their *own Practice*, by being allowed to reside in the *Hospital*, towards their more complete Knowledge of every Thing relative to the Office of a *Midwife*.

Before the Establishment of *this Hospital*, which is large enough to contain *seventy Beds*, and where (tho' yet in its infancy) near ~~600~~ women have already been delivered, it was extremely disagreeable to seek after Labours at a great Distance, among the very *lowest Class of People*, in Alleys and remote Parts of the Town, where a Number of the Pupils were obliged to attend together on the same Patient;—From the indecency of this Method, which made it very unwelcome to me, the Gentlemen were often exposed to *Insults*, and for all their Trouble, could acquire *very little practical Knowledge*; because, where so many were present at the same Labour, besides the Confusion it occasioned, only one of them could properly be said to deliver the Patient; and as they only touched her by Turns, not one of the whole Number could exactly know the natural Progress of the Labour from Beginning to End; on the contrary, *every Pupil* after his Introduction at *this Hospital*, is called *singly* to the Labours, and attends her with that *Order and Decency* which the Duty of his Office requires, and in the same Manner as if she was a *private Patient of his own*.

\* \* The Advantage of attending an *Hospital* is equally obvious whether it regards the *Student* or the *Publick*, for whatever so manifestly tends to the Improvement of a Science, upon the skilfull exercise of which so many Lives depend, must also necessarily contribute to the *Public Good*; yet, as it is a *Privilege unusual elsewhere* and not hitherto universally known, I have thought it necessary to mention Particulars, that every one intending to Study *Midwifry* may judge for himself without being influenc'd by future Misrepresentation:—Besides, 'tis presumed, that a *Certificate of Attendance at a Publick Lying-in Hospital*, will carry with it much more Credit and Consequence, than that of being call'd to *casual Labours* only.

NOTE, The *Pupils* are desired to apply *a few Days* before the Beginning of each Course, the first of which, for the Winter Season, will commence the *first Monday in October* at *five* in the Evening and regularly continue for *three Weeks*, from Time to Time throughout the Year, as advertised in the *Publick Papers*.

The *Apparatus* may be seen at the Doctor's House, where a *Syllabus* of the Lectures with *Proposals* may be had, and further Particulars known;—or at the *New Lying in Hospital*, near *Westminster Bridge*.

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### Of the Intent and real Advantage of an *Apparatus* in teaching the *Practice of Midwifry*.

IT is not, in this Place, unnecessary to say something on the Design of *Machinery* or that Kind of *Apparatus* which is intended as an *artificial Substitute* for the real Bodies of *Women and Children*, on which to teach the Art of *Midwifry*.

In the *practical Part of Midwifry*, there is a Kind of *Dexterity* required which can never be taught by Description—nothing but *Practice* itself.

can render it attainable or adapt the Hand of the *Pupil* to the easy and judicious Performance of the several Operations of this Art, which, like those of *Surgery* ought first to be confined to the dead Body.

'Tis true, that before any one can be deemed a Proficient in *Midwifry*, he must have frequent Opportunities of *real Practice*; but it is also true that living Bodies are very improper Subjects for initiating Pupils in the operative Part of this Art:—How then shall they begin to practise?—Not on real Subjects, to the manifest Danger of the Patient and the Injury of their own Reputation, but upon *artificial Bodies* so *mechanically* and *naturally constructed* as nearly to correspond with the several Parts concerned in *Paturition*; but it ought to be remarked, that *Machines badly constructed*, are so far from being useful, that they do much *real Harm*, by misinforming the Judgment of the *Student* and giving him a false Idea of Nature, both in the *Touch*, *Figure* and *Disposition* of the several Parts.

This induced me to bestow no small *Labour* and *Expence* on that *Apparatus* upon which I propose artificially to demonstrate the *several difficult Operations* in the *Practice* of *Midwifry*, having executed all the principal Parts of it with my own Hands, and having also, for several Years past been constantly making *Alterations* and *Improvements* in it, from Time to Time, as upon *Trial* I discovered its Defects, in order to render it as compleat and useful as possible, being thoroughly convinced, that what is commonly called *Machinery* (made and sold by *Mechanics*, as it generally is) would prove totally unserviceable.

By the use of *this Apparatus*, each difficult Case will be reduced to a *Demonstration*, which will afford the *Student* such solid introductory Knowledge as will not easily be forgot;—For Instance, he will become acquainted with the *Position* most conducive to a speedy Delivery, and will acquire a certain Degree of Dexterity and Skill in the Application of the different Sorts of *Instruments* used in *difficult Labours*; but particularly, in *preternatural Cases*, he will learn the Method of *turning the Child*, with more Ease to himself and Safety to the Mother, by Means of an *artificial Uterus* of a new Construction, which Contracts uniformly on the *Body* of the *Infant*, from the *Fundus* to the *Cervix Uteri*, and acts on the *Hand* of the *Operator* with a greater or less Degree of Force as the Case requires, so as to give him the same Ideas of Difficulty as really present themselves in *Nature*, where the Child is to be turned.

Note, The Method of *Touching* will be shewn on real Subjects, and also that of passing the *Catheter*.

\* \* Such Gentlemen as have attended Lectures elsewhere, and are desirous of further Improvement in the *practical Part* of *Midwifry* (on producing a *Certificate*) will be allowed to attend the *Hospital* at the End of the *first Course*.

A

## S Y L L A B U S

O F T H E

## L E C T U R E S.

## Introductory Lecture.

**A**N Historical View of the Rise, Progress and present State of Midwifry, together with the Theory and Practice of the best antient Writers.

A general Account of the Doctrine, Writings and Improvements of the most eminent Modern Professors of Midwifry, particularly, those who now give public Lectures on that Science in different Parts of Europe.

Of the Means most conducive to a perfect Knowledge of the Theory and Practice of Midwifry.

—The Qualification and Office of an Accoucheur.

Of the Method proposed in the Course of the following Lectures.

## LECTURE II.

The Anatomy of the Female Pelvis, with a Description of the Form, Situation and Connexion of the several Bones of which it is made up, viz. the Os Sacrum, Coccyx and Offa innominata, with their Ligaments, Cartilages and surrounding Muscles.

The Division of the Offa innominata into their several Bones, viz.

Ilium,  
Ischium &  
Pubis.

The Dimensions of a well formed Pelvis at its Brim and Bottom,—its Extent from Side to Side, and from the Back to the Fore-part; with its posterior, anterior and lateral Depth.

The Figure of its Cavity, and the Difference between a well-formed and a distorted Pelvis;—also of the Marks which distinguish the Male from the Female Pelvis.

The Causes of a distorted or narrow Pelvis, and its dangerous Consequence to Child-bearing Women.

Of the Shape, Structure and different Diameters of the Fœtal Cranium; with the Advantage of knowing the relative Proportion of the Infant's Head to the Pelvis, as it passes through its Cavity in different Directions.

Remarks on the Membranous Connexion of the Bones which compose the Infant's Skull:—different from that of the Adult,—and how corresponding with the Intention of Nature in facilitating the Birth of the Child.

## LECTURE III.

Of the Female Organs of Generation, viz.

Externally the { Pudenda,  
Meatus Urinarius,  
Clitoris  
& Nymphæ

Internally the { Hymen,  
Vagina,  
Os internum  
& Uterus ;  
Fallopian Tubes,  
Ovaria and Ligaments.

Contiguous Parts { Vesica Urinaria,  
Rectum & Perinæum.

Of the Figure of the Uterus in the Virgin State and after Pregnancy, and also of the gradual Distention of the Fundus and Cervix Uteri at different Periods of Gestation.

## LECTURE IV.

Of the several Disorders incident to the Parts of Generation, and the Method of their Cure, viz.

Of the Prolapsus Vaginæ & Uteri, and the Method of treating those Disorders.

The different Pessaries invented and recommended for the Relief of the above Complaints, and the Manner of their Application.

Stone in the Bladder,——its bad Consequence to Women in Labour.

Of Ruptures in general, and of a particular Species of Hernia peculiar to Women.

—The imperforated Hymen and the Operation necessary for its Cure.

Of the Menstrua in their morbid State, viz. when obstructed or too large in Quantity.

—Hysterical Affections, Chlorosis, Furor Uterinus and Fluor Albus;—how to distinguish the last from a Gonorrhæa virulenta,—from the Menfes decolores, or from the discharge of an Ulcer in the Womb; with their several Causes and Method of Cure.

Of the Cancerous Womb and Dropsy of the Ovaria.

The Schirrous and Cancerous Breast, and of the Effect of the Cicuta and other Medicines in those Disorders.

—Sterility or Barrenness, with its several Causes, as relative to both Sexes, and of the Means most conducive to remedy such Defects.

## LECTURE V.

### Of Generation and the Menstrual Flux.

The antient and modern Doctrine of Conception, and the various Opinions advanced by different Authors on that Subject.

Of the Genitura of the Antients.

The Ovi-parous System of Harvey, Malpighius and De Graaf, —Animalcular System of Leeuwenhoek and Hartfoker, and the corpuscular, organical System of M. Buffon.

Of the impregnated Ovum, and its Descent into the Uterus by the Fallopian Tube; with the progressive Order in which the several Parts of the Embryo are supposed to be form'd, and the Manner how they gradually unfold themselves in Magnitude and Figure from Conception to the Time of Birth.

Vivi-parous and Ovi-parous Animals,—their Analogy considered in the Manner of their Production.

Æquivocal Generation,—exploded by the experiments of Redi.

Of Twins, Superfoetation, false Conceptions and Moles.

Extra-uterine Foetuses and the production of Monsters.

The Signs of Conception,—how distinguished from an Obstruction of the Catamenia, the encysted Dropsy or other equivocal Marks of Pregnancy.

The Term of a Woman's going with Child.

## LECTURE VI.

Of the Complaints which follow Conception, with their various Causes, and palliative Method of Cure, viz.

Nausea, Vomiting and Longing for unnatural Substances.

The Force of the Mother's Imagination in marking or mutilating the Child,—considered and refuted.

Of the Hæmorrhoids, Costiveness, Anasarcaous Swelling of the Legs, Cough and Difficulty of Breathing; and also of the several other Disorders which arise from the Distention of the Uterus and Compression of the Viscera, in the last Months of Pregnancy.

The Treatment and Cure of the Gonorrhæa Virulenta and Lues Venerea, during Pregnancy.

Diseases of the Foetus in Utero.

Of Abortion from a Fault of the Mother's Constitution—the Diseases of the Foetus, or the preternatural Conformation of the Uterus—from the inordinate Passions of the Mind—external Violence, or any Cause which will occasion a Separation of the Placenta from the Womb.

Abortion,—most frequent in the three first Months of Gestation,—and why.

Of the Remedies most effectual in preventing or relieving the Symptoms of Abortion.

Of Incontinence and Obstruction of Urine, at the latter End of Pregnancy.

Rules and Cautions for the Conduct and Regimen of Women during the several Stages of Pregnancy.

\* \* In this Lecture will be shewn a curious and uncommon Abortion of six Months, in which the human Foetus is beautifully seen thro' the transparent Membranes, swimming in its own Liquor.

## LECTURE VII.

Of the Foetus.

Of the Situation of the Foetus in Utero.

Of the Placenta and its Membranes, and of the Quantity, Quality and Use of the Liquor Amnii or contained Waters.

The Funis Umbilicalis or Navel-string, and the Course of its Vessels traced to their Origin, with their several Connexions and Dependencies respecting the Mother and Child.

Of the Nutrition and Circulation of the Blood in the Foetus, and of the Parts peculiar to it, viz. the Foramen Ovale, Canalis arteriosus and Ductus Venosus, &c.

Of the Allantois & Urachus.

The Difference between the Foetus and Adult, and of the Change produced in the first by the Effect of Respiration.

Experiment to discover, whether the Infant was still-born or destroyed after the Birth ; with necessary Cautions in Reports to a jury, or in Cases of Evidence against the accused.

## LECTURE VIII.

The Signs which precede or accompany true Labour.

Of the Nature, Cause and Effects of Labour Pains, and of the expulsive Force of the Uterus in the gravid State.

The Method of Touching in the first Months of Pregnancy, but particularly at the Time of Labour ; with the Information from thence arising, viz. Whether the Woman is with Child or not,—whether in danger of Miscarriage, also what Changes of the Os Uteri indicate Labour and distinguish the true Pains from those which are spurious,—how to promote the one and relieve the other.

The great advantage of being thoroughly conversant in the art of Touching, and of truly distinguishing the presenting Parts, with Cautions and Remarks in doubtful Cases.

Of the gradual Dilatation of the Os Uteri, by the Protrusion of the Membranes or the Pressure of the Child's Head.

Of the too early Rupture of the Membranes and Discharge of the Waters.

—The preternatural Strength or Rigidity of the Membranes, and how the Progress of the Labour may be retarded in such Cases, with the Methods to remedy these Inconveniences.

The signs of a dead Child.

The bad Consequence of hastening Labour unseasonably in natural Cases, and the danger of Delays or of giving stimulating Medicines where the Child presents in a wrong Position.

## LECTURE IX.

The Division of Labours, viz. Natural, Difficult and Preternatural.

Of the Position most conducive to the speedy Delivery of the Woman in the several Kinds of Labour, and the Methods practised in different Countries on that Occasion.

\* \* A natural Labour artificially represented on Machinery (in a Manner not hitherto effected) distinctly shewing the gradual Dilatation of the Os Uteri and Protrusion of the Membranes, with their alternate Distention and Relaxation as the Pains come on and go off.

The Rupture of the Membranes and Evacuation of the Waters exactly imitated.

An artificial demonstration of the Womb's progressive Contraction as the Child advances in the Birth.

The Manner how the Child's Head presents to the Birth in natural Cases,—the Turns it makes in passing through the Pelvis,—and likewise of guarding the Perinæum from Laceration.

Ould's Observation respecting the Position of the Head in natural Cases.

The Force of Pressure on the Infant's Head exemplified by an artificial Fœtus, so constructed as to allow of the same Motion in the Bones of the Cranium as in that of the real Child.

Of Tying and Cutting the Funis, and extracting the Placenta; with Remarks on the Conduct of Animals in the Division of the Funis, and likewise on the Orbicularis Muscle in Fundo Uteri, as described by Ruysch.

Of the preternatural Adhesion of the Placenta to the Uterus where it cannot be separated without the Danger of a Flooding or Inflammation of the Uterus.

The Method of discovering whether there is a second Child or not.

## LECTURE X.

Of Difficult Labours, where extraordinary Assistance is required.

The various Causes of difficult or laborious Cases; particularly, the Weakness of the Patient and Absence of her Pains,—Anxiety of the Mind, Floodings or other profuse Evacuations,—A narrow or distorted Pelvis,—Rigidity or preternatural Constriction of the Passages,—Induration of the Os Uteri, or wrong Position of the Child's Head,—its being too large, over ossified or dropfical.

General Rules how to assist in the various Kinds of Laborious Cases.

Daventer's Sentiments on the Obliquities of the Womb considered.

The Method of Practice when the Birth is retarded by the twisting of the Funis round the Child's Neck.

Of the Use and Abuse of Instruments in general, with a comparative View of their several Advantages and Defects, resulting from their mechanical Structure, Action and Manner of application.

Of Palfyn's and Levret's long Forceps, and also of those in common Use recommended by Smellie, &c.

Of the Vectis or Lever invented and used by Roonhuyse.

\* \* \* The Description and Use of a new Pair of Forceps, which either may be applied separately or together with the Lever of Roonhuyse

## LECTURE XI.

Of the Vertex, or of the Fontanel presenting.

Of the Face or Ear presenting.

\* \* A Difficult Labour represented by an Artificial Woman and Child, shewing the Method of applying the Forceps and other Kinds of Instruments, in the several Positions of the Child's Head.

Practical Cautions in the Application of the Forceps, and the Extraction of the Head.

Of the Information requisite by the Touch before the Application of the Forceps.

Cases where the Forceps cannot be applied with Success, altho' the Head presents.

Of the particular Cases which require Instruments,—how long the Use of them may be delayed, and at what Time their Application becomes absolutely necessary for the Preservation of the Mother.

Crotchets and Perforators,—in what Cases their Application condemned by Crantz of Vienna:—Rœdererus professor of Midwifry at Gottingen,—censured by the above author for inculcating their frequent use.

Of the Symptoms which denote immediate Danger.

The Method of discovering by the Touch the Narrowness of the Pelvis or extraordinary Bulk of the Child's Head.

Of the Terebra Occulta, Long Scissars and Scalpel Ring; with the Manner of opening the Child's Head, when too large to pass, and the Life of the Mother is in Danger;—also how to extract it safely by the Forceps, Crotchet or Tire-tête of Mauriceau.

## LECTURE XII.

Of Preternatural Labours, where the Child is to be turned and brought by the Feet.

Of the Method of Turning the Child.

Mechanical Knowledge applied to the Operation of Turning the Child,—how useful.

The Use of the Noose, and the Manner of fixing it.

The dangerous Consequence of too much Violence or injudicious Assistance in the above Cases.

Practical Rules and Cautions in the various Kinds of preternatural Cases, where the Child is to be turned.

Remarks on the Insufficiency and Impropriety of a Glass Uterus, in demonstrating the Manner how the Child is to be turned, in Twin Cases, or otherwise.

\*\*\* The several Kinds of preternatural Labours will be artificially represented on Machinery.

## LECTURE XIII.

The Method of delivering when the Feet, Knees or Breech present.

How to assist with the Finger or Blunt Hook, where the Child presents with the Breech, and cannot be safely turned and brought by the Feet.

Of the Child lying across the Uterus, and presenting with its Back, Belly or Sides.

Of the Placenta presenting loose or adhering to the Os Uteri, and how to act in the above Cases for the Preservation of the Mother.

## LECTURE XIV.

Of the Funis presenting before the Child's Head, and the Danger of its Compression in the Passages.

The Method of delivering where the Arm or Shoulder presents, artificially demonstrated by the Apparatus.

Of the transverse Position of the Arms between the Hind-head and Pubes, where the Child is brought Footling.

Of the safest and most expeditious Methods of extracting the Head when detained by the Narrowness of the Pelvis, and of the Danger of Delays or much Violence on that Occasion.

The Manner of extracting the Child's Head when separated from the Body and left in the Uterus; with the Use of Amand's Net, the Terebra Occulta, Tire-tête and Forceps.

## LECTURE XV.

Of the Delivery of Twins or a Plurality of Children, and the Extraction of their Placentæ; with Remarks on cutting and tying the Funis of the first-born Infant.

Of the Birth of Monsters, and the Extraction of false Conceptions, Moles or Polypose Tumours of the Uterus.

The Method of passing the Catheter.

The Cæsarian Operation;—described by Roussietus.

## LECTURE XVI.

Of Uterine Hæmorrhages, Convulsions, or acute Fevers in the State of Pregnancy.

Of Floodings before Delivery, from external Violence,—Fevers,—the passions of the Mind, or any Cause that will preternaturally encrease the Momentum of the Blood.

Of Floodings after Delivery,—from the over hasty or violent Extraction of the Placenta,—the Distension of the Womb by a second Child, or the Want of its due Contraction after Delivery from a general Weakness of the Solids.

Lamotte,—his Observations recommended.

The Method of Practice laid down by Puzos.

Convulsions,—their various Causes.

The Methods necessary to be taken for the Preservation of the Patient, either in acute Fevers, Convulsions or profuse Floodings; particularly, in the last Months of Pregnancy, both with respect to Medicine and Manual Operation.

Practical Commentaries on such of the Aphorisms of Hippocrates, Mauriceau, &c. as relate to the Diseases most fatal to Women.

## LECTURE XVII.

The Treatment of Women after Delivery, and of the Regimen then necessary to be observed.

Of the Maladies sometimes consequent of Delivery, viz. After-pains, Inflammation, Contusion or Rupture of the Uterus, and Laceration of the Bladder or Perinæum;—also of the Medicines and Applications necessary in the Intention of Cure.

Obstruction of Urine,—Inversion of the Womb, and Prolapsion of the Rectum.

Of the Lochia, when obstructed, or too large in Quantity; and of the Effects of Opiates in the above Cases.

\* \* \* Animadversions on the Nature and Cause of the acute Fever peculiar to Women after Delivery, commonly called the Child-bed Fever;—with Clinical Observations and Remarks towards the most effectual Methods of Cure, deduced from a true History of the disease taken from the living Body, and from an Inspection of the several affected Parts after Death.

Of the milk Fever and Inflammation or Abscess of the Breasts.

Topical Applications for repelling Milk,—pernicious, and why.

Of the Miliary Eruption, Diarrhæa, or other Evacuations supervening the Milk Fever or Obstruction of the Lochia.

The Colostrum, or first Milk;—its Qualities and Effect on the sucking Infant.

Of the Nature and Secretion of the Milk, and how rendered medicinal to the Infant.

The Evacuations necessary at the End of the Month.

## LECTURE XVIII.

The Treatment and Regimen of a new born Infant.

Of the Disorders in general which attend the first State of Infancy and the most approved Methods of Cure.

Of Fractures and Dislocations, and of a Species of the imperfect Hydrocele peculiar to new-born Infants.

Of the { Mould-shot Head, Hydrocephalus and  
Spina Bifida.  
Hare-Lip,—Confinement of the Tongue and  
Obstruction of the natural Passages.

Of the { Hernia Congenita,  
Icterus Infantum,  
Dentition and  
Dysentery.

Of the { Tinea,—Apthæ and  
Cruſta Lactea.

Of the acute and chronical Diseases in general incident to the second State of Infancy ;—their Pathology and Method of Cure.

Of the { Small-Pox, and the Artificial Method of commu-  
nicating that Disease by Innoculation.  
Measles,  
Tuffis Convulſiva and  
Epilepſia Infantum.

Of the { Rickets, Atrophia and  
Disorders ariſing from Worms.  
Lues Venerea,  
Scrophula, and other hereditary diſeaſes.

Practical Cautions reſpecting the indifcriminate Uſe of Bleeding, Bliſters and Opiates, in the Diſeaſes of Children.

Directions for the Choice of a Wet-Nurſe,—the Indications to be taken from her Habit of Body and the Quantity and Quality of her Milk, with Rules for the Regulation of her Diet in Diſorders incident to the Child.

F I N I S.

# The Description and Use of a Pair of NEW FORCEPS:

By JOHN LEAKE, M. D.

THE *Forceps* used in Midwifry may be considered as an Instrument consisting of two Levers, which act in contrary Directions from one common Centre or Fulcrum, where their Blades unite and are sustained by each other, consequently, their Power on the Body to be moved will be in proportion to the Length of their *Levers* or Handles.

H. Crantz, Professor of Midwifry at *Vienna*, and Levret of *Paris*, both observe, that when the Child's Head is wedged within the Bones of the Pelvis, (*capite incuneato*) it can scarcely ever be extracted by the common *Forceps* recommended by Smellie, because of their *Shortness*; and as their Blades are only curved in one Direction, whenever it happens that the Hind-head is forced over the Symphysis of the Pubes, it cannot be got hold of within the Curve of the Blades, which being only applied along the Ears in a straight Direction, are therefore apt to slip downwards over the Face, and to foil the Operator in the Extraction of the Head; this will the rather happen, because they are made taper towards their Points, which will diminish their Contact on the Head and prevent them from taking a firm Hold;—so that they are the least serviceable in those very Cases where they are the most wanted,—that is, where the Pelvis is narrow; for it must be allowed, of all Difficulties, that which happens from the above Cause, is by far the most insurmountable Obstacle to the Birth, since it can only be overcome by very strong Pains, which compress the Head and force it to conform to the bony Passage.

The short *Forceps* may indeed be effectually applied when the Child's Head is low in the Pelvis, but where that is the Case, artificial Assistance is seldom necessary, the principal Difficulty being then over, and if any should still remain, it will be removed by the Concurrence of two Causes, viz. the inferior Parts of the Pelvis will gradually dilate and give way to the Pressure of the Head, which, at the same Time, will be squeezed into a longitudinal Form, and therefore its transverse Diameter, in respect to the Passage, will become considerably less and less; both which Circumstances have a manifest Tendency to facilitate the Birth.

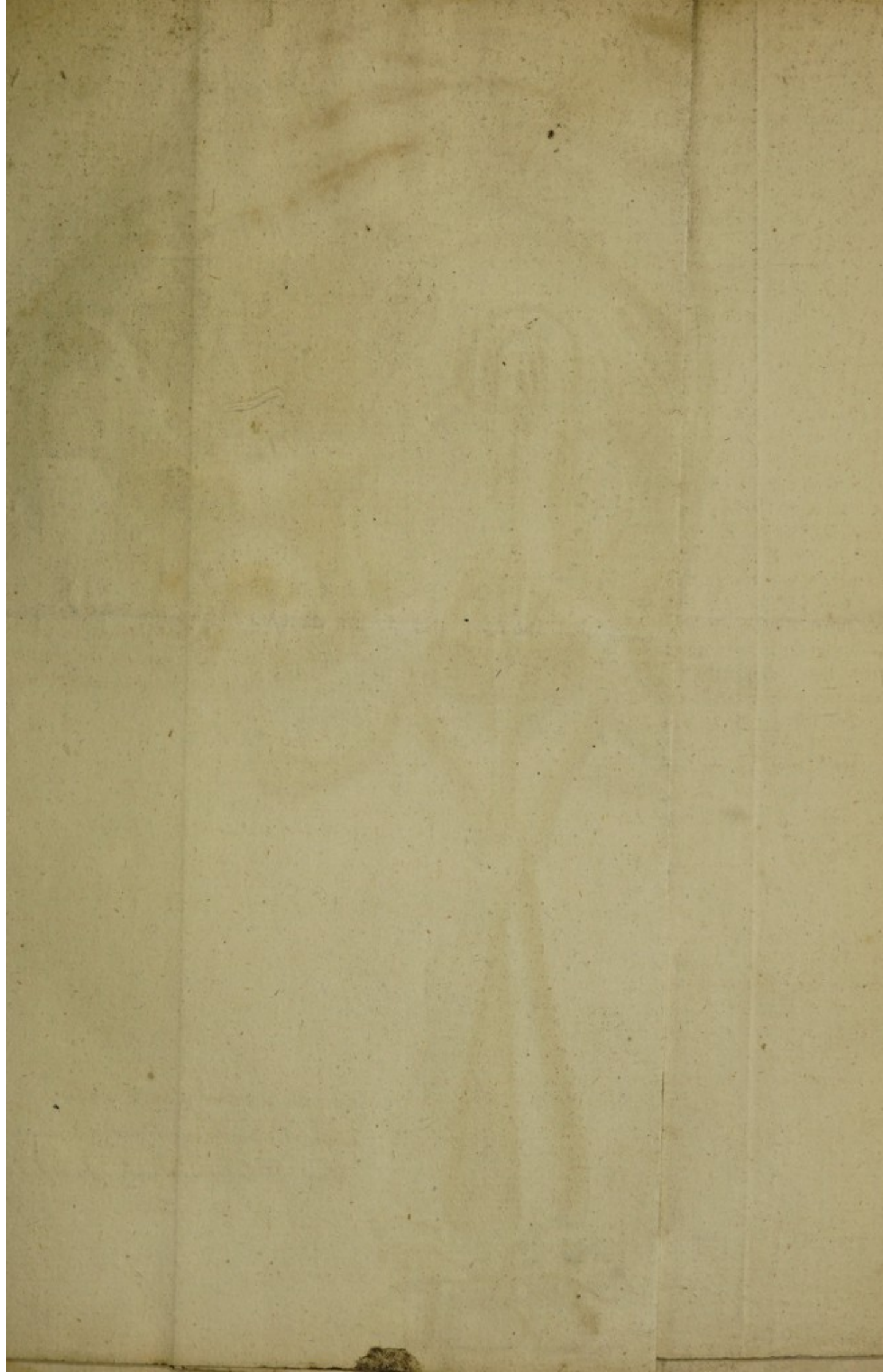
I know that the Application of the *Forceps* is objected to by some, till after the Head has got below the Brim of the Pelvis, on the Supposition that the Force applied to bring it down would prove injurious to the Mother;—but will not the violent and long continued Compression of the soft Parts, viz. the Vagina and Neck of the Bladder, &c. when

when squeezed between the Head and Bones of the Pelvis, as two solid Bodies, be much more liable to endanger the Patient?—Since Instances may be found where a *Mortification* has been the Consequence, and where the Child, which always suffers in Proportion, was also *born dead*.

In Cases, therefore, *extremely laborious*, when the *Head is large*,—the *Pelvis narrow*, or both,—where the Patient's Strength is exhausted by a *Flooding*,—where she is suddenly attacked with *Convulsions*, *Faintings*, or other alarming Symptoms, and consequently, where the *labour Pains are insufficient* to bring forth the Child, the *long double curved Forceps*, hereafter described, may be used with great safety and advantage, either with or without the *Lever* or *third Blade*, as occasion may require.—Every one who has had much Experience knows, that it is often *improper*, as well as *difficult* and *dangerous* to turn the Child, and sometimes even *impracticable* without bursting the Uterus or applying so much Violence as might be fatal to the Mother; and to open the Head of a *living Infant*, before the *long Forceps* and every other Expedient had been tried in vain, would surely be deemed rash and unnatural Practice.

When the Fore-head presents to the *Os Sacrum*, and the Hind-head is to the *Pubes*, the *long Axis of the Head* intersects the *short Axis of the Pelvis*, and therefore, these Parts may be considered as *two Ellipses* crossing each other,—a Position of the Head very unfavourable to the Birth of the Child; here the Blades of the Forceps are to be applied *along the Ears*, and we are directed to turn the Face to one Side, so that there may be a *perfect Coincidence* between the Shape of the Head and the Cavity of the Pelvis; but this cannot always be done without *much Violence*; besides, when it is *wedged within the Brim*, we cannot always be certain of its exact Position, and therefore, should it happen to be turn'd the wrong Way, the Difficulty will be increased, consequently, there will often be a Necessity of bringing it along as it first presented.—Whenever this is the Case, a very *capital Inconvenience*, even in the *long double curv'd Forceps* will occur, for when they are thus applied on the *Sides of the Head*, the more it is there compressed by the Action of the Blades, the more will the *Hind head be forced over the Pubes*, and the *Fore-head against the Sacrum*, which will still add to the Difficulty, and consequently it cannot be extracted in this manner, without great Violence both to the Mother and Child:—This Circumstance has happened to me in Practice several Times, particularly in *two laborious Cases*, where the repeated Application of the Blades at the Sides proved ineffectual, and dangerous Symptoms appearing, I was afraid of further Delay, and therefore, (the Patient being placed on her Side) I introduced them at the Sacrum and Pubes, that is, on the *Face and Occiput*, and extracted the Head with Ease at the first Effort.

As this Success was plainly owing to the *Compression of the longest Part of the Head*, it first suggested to me the Hint of applying a pair of *Forceps with three Blades*, one of which may be occasionally used as a *Lever*,

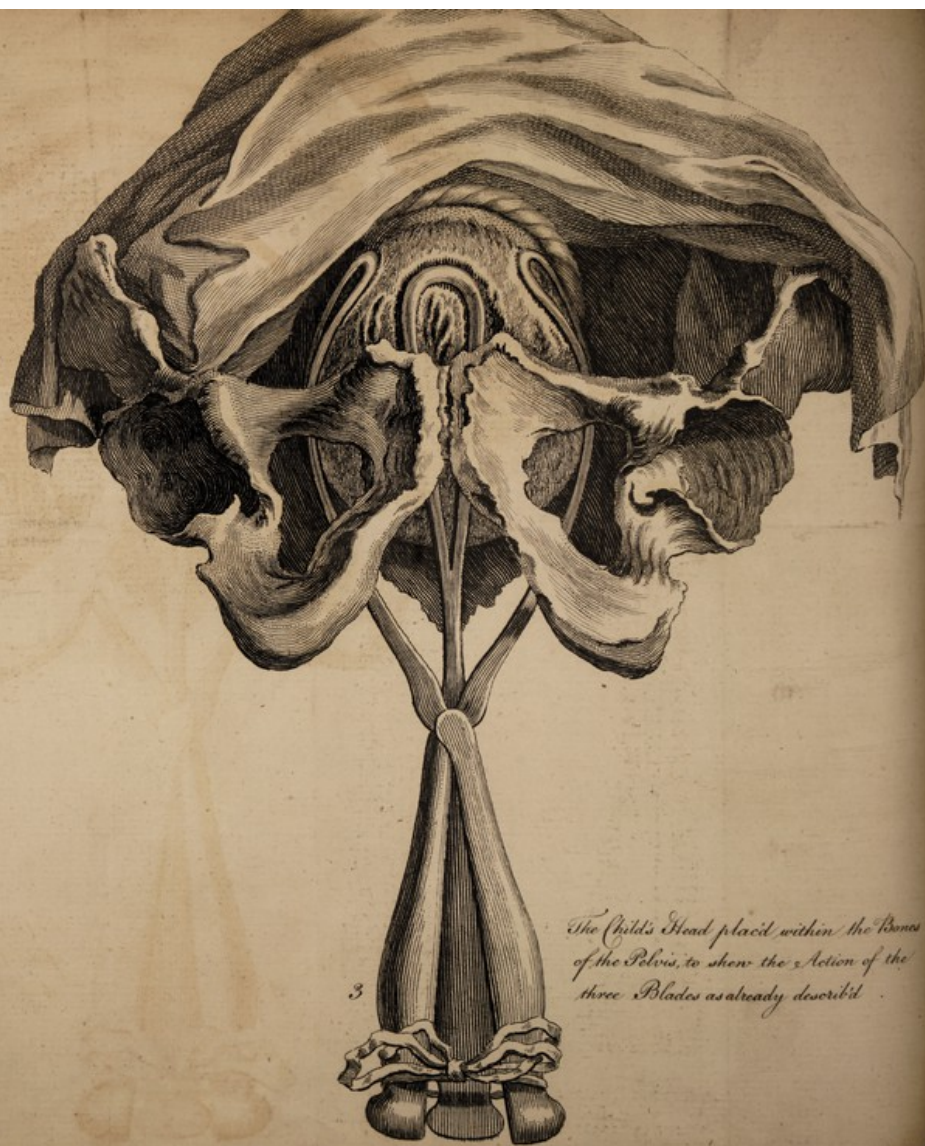




*The Blades of the  
Forceps join'd*



*The Lever or  
third Blade*



*The Child's Head plac'd within the Bones  
of the Pelvis, to shew the Action of the  
three Blades as already describ'd*

a *Lever*, which will act on the same Principle as that of *Roonbuijs*, and by means of which, he is said to have practis'd with so much Reputation and Success in Holland, that *De Vischer* and *Van de Paol*, (two Physicians of Amsterdam) purchas'd it as a Secret, for a considerable Sum of Money, and afterwards published it for the Good of Mankind;—'Tis only a *simple Lever*, made of tempered Steel, which, in *laborious Cases*, is directed to be passed up between the *Pubes* and *Hind head*, in order to bring down the last below the Brim of the Pelvis;—this it will often effectually do, and is an Instrument of considerable Use, particularly where the Difficulty arises from a *large Head* or *narrow Pelvis*; but notwithstanding its seeming Simplicity, it may be attended with the utmost Danger; for, as the *Symphysis of the Pubes is the Centre from which it acts*, and the *Point upon which the whole Stress is laid*, whenever much Force is applied to bring down the Head, (Action and Reaction being the same) the *Vagina*, *Neck of the Bladder*, and *nervous Parts*, may be so violently bruised, as to occasion a *Mortification*, or even the very *Symphysis of the Pubes* might happen to give way.

To remedy this Inconvenience, which is the *principal Objection* to the *Lever*, I have, for some years past, in the Course of my Lectures on Midwifry, recommended an *Instrument consisting of three Blades*, which, in fact, is nothing more than a pair of *long Forceps with a double Curve*, and the *Addition of a Lever*, which may be applied without the least Danger of hurting the Mother; for here the *Fulcrum* of the *Lever* is removed from the *Pubes* to the *Junction of the two Blades*, which not only act as a pair of *Forceps*, but, at the same time afford a *firm resting Point* for the third Blade, by means of a *small Pivot*, or central Pin, plac'd on the under Side of one of their Blades.

After the Introduction of the two Blades of these Forceps at the Sides of the Child's Head, *this Lever* is to be passed up between the *Occiput* and *Pubes*, and as the Pelvis there forms a kind of *Arch*, and is also *extremely shallow*, by inclining the Handle low towards the *Perinaeum*, it may be introduced without the least Degree of Violence.

This additional Blade or Lever applied immediately to the *resisting Point* or *Occiput*, where it rests at the *Pubes*, will not only effectually shorten the Head, and detach it from the Place of its Obstruction, but will also prevent the *Forceps* from slipping; for if they tend down towards the Face, the *Lever*, which is fixed at the *Hind-head*, and sustained at the *Junction of the Blades*, must be drawn down with them, and consequently the Head also will still be the more brought into the *Centre of the Pelvis*, and therefore more easily extracted; which may be better understood by referring to the *third Figure in the Copper plate*.

The Blades of these Forceps are broad at their Extremities where they grasp the Head, and being reflected towards the *Pubes* with a *curvilinear Sweep*, they not only correspond more aptly with the Direction of the Passage, than the *common short ones*; but also take a much more firm and extensive Hold of the *Hind-head*, where it rests at the *Brim*; besides; as their compressive Force on the Head is more uniform, there will

will be *less Danger of lacerating the Perinaeum*: They will also be less liable to hurt the Patient, as they lock at a greater Distance from the Os externum, neither will they keep this Part so violently on the Stretch, for their Blades, near the Junction, are much closer together than in the *common Forceps*;—the Distance in the *first* being only *two Inches* from Blade to Blade, but in the last, *three Inches and a Quarter*.

The Curve of the Blades from their Junction to their Extremities, is in Length *seven Inches and an Half*, and from thence to the Extremities of the Handles, *five Inches and an Half*, in the whole *thirteen Inches*; so that independent of the Lever, considering *their Length* and the Effect of their *double Curve*, they will in all Cases, be found preferable to the common straight Forceps; or to speak more properly, to those where the *Extremities of the Blades are in a straight Line with the part where they lock*.

Should it be supposed, that the Length of their Handles will give them a dangerous Power of Action, I think the Objection is easily answered, since this would not be the Fault of the *Instrument* but of the *Operator*, for no one who is prudent and skilful will ever apply a greater Degree of Force, than the natural Structure of the Parts will bear.

Of late the *common Forceps* have been made with a kind of *double Curve*, but *without any real Advantage*, such Forceps being much too short to reach the Head *when above the Brim of the Pelvis*, and where this additional Curve can only be proper or necessary; for when it is low, the short straight Forceps in common Use, as already observed, will do as well as any.

The Lever is about *twelve Inches and an Half in Length*, and in its Centre, which is made angular, to give it a greater Power of Action, are placed *two small Depressions*, for the Reception of the *Pivot* on the lower Blade of the Forceps, with a superficial Groove between these Depressions, so as to allow it to be passed *higher or lower* as Occasion may require.

In short, *these two mechanical Powers of the Forceps and Lever thus combined, will mutually assist each other*;—For, the Lever will not only *prevent the Forceps from slipping*, but will also *shorten the Head*, and bring it down below the Arch of the Pubes into the Centre of the Pelvis, by which means it may be the more easily extracted; on the other Hand, the Forceps will afford a resting Point to the Lever, from which it may effectually act *without any sort of Danger to the Patient*, so that we have the Advantages of both Instruments, without the Defects of either.

To those who have seen the *Instrument*, and the Manner of its Application, this Description would perhaps have been sufficiently plain and obvious; but least it should be imperfectly understood by others, I have been at the Expence of a *Drawing, and Copper-plate Print*, to represent it more clearly, being desirous of making it useful to the utmost of my Power.

London, Craven Street, Strand,  
25th May 1771.