

A lecture introductory to the theory and practice of midwifery : including the history of that science; with a view of its several branches, and the proper means of attaining a perfect knowledge of the whole. Also animadversions on the qualification and deportment of an accoucheur: publicly delivered at his theatre, in Craven-Street, London / by John Leake

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A
L E C T U R E
INTRODUCTORY TO THE
THEORY and PRACTICE
O F
M I D W I F E R Y

A
LECTURE

INTRODUCTORY TO THE

THEORY AND PRACTICE

OF

MILDWIFEY

A
L E C T U R E
INTRODUCTORY TO THE
T H E O R Y and P R A C T I C E
O F
M I D W I F E R Y:

Including the History of that Science; with a View of its several Branches,
and the proper Means of attaining a perfect Knowledge of the Whole.
Also animadversions on the Qualification and Deportment of an
ACCOCHEUR:

Publicly delivered at his THEATRE, in Craven-Street, London.

B Y

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

Member of the Royal College of Physicians,
And Physician to the WESTMINSTER LYING-IN HOSPITAL.



BIBLIOTH.
COLL. REG.
MED. EDIN.

Parce precor gravidis, facilis Lucina, puellis,
Maturumque utero molliter aufer onus!

OVID.

FOURTH EDITION corrected, with ADDITIONS.

Printed for R. BALDWIN, in *Pater-noster Row*.

L O N D O N.

M,DCC,LXXXII.

Monſieur Monſieur *John Leake*, docteur en medecine, membre du Collège Royal des Mediciens de Londres, &c.

Maximâ cum voluptate et non ſine fructo, Vir illuſtriſſime et ornatiffime, tuum legi et relegi librum, cui titulus eſt: *Practical Observations on the Child-bed Fever, printed London 1772*. In illo enim reperi animadverſiones curioſas et plane novas de affectibus omenti, diſquiſitiones nitidas et ſagaces de curatione febris puerperium inſequentis, dubitationes quas dictarunt prudentia et moderatio contra ſyſtema noſtri Celeberrimi *Leuret*, cogitationes accuratas de hæmorrhagiis ante et poſt partum. Quid magis? in toto iudicium et ſcientia veri boni que medici refulget, his itaque perpennis, ſeu ægrorum ſalutem, ſeu artis medicæ incrementum proſpiciam, tuum librum cunctis gratiffimum duxi; qua propter ut melius innoſceſcat, hunc in idioma gallicum converto, jam ferme abſoluta eſt interpretatio; et paucos intra menſes, ſi tibi libet, prelo publico poterit in Franciâ committi.

Mihi familiaris et colendus amicus habet nunc ſub prelo tractatum idiomate Gallico ſcriptum de hæmorrhagiis uterinis. Plurimis abhinc menſibus auctori communicaveram verſionem tuæ ſectionis *Væ*. *Of the nature and cauſe of uterine hæmorrhages, and their treatment, &c.* in hoc novo tractatu mei amici, multa ſunt de te excerpta cum laude tui ingenii et tui operis.

Auctor novi tractatus, poſt expoſitionem variarum methodorum contra hæmorrhagias uteri, nil efficacius inveniit quam obturatio vaginæ cum Linteolis vel ſiccis, vel imbutis aceto, ſed profunde immiſſis. Hæc methodus olim vetuſtiſſimis nota, in oblivione quodam modo jacebat; ſed nunc reſurgit longâ et felici experi-entiâ ſtabilita; et enim introductio linteorum in vaginâ, dum ſanguinis fluxum, juvat quoque formationem coaguli; interim uterus novas acquirit vires; ſeſe conglomerat et conſtringit, contractionibusque propellet coagulatum ſanguinem et linteola immiſſa; ſed ut obturamentum vaginæ ſit ſemper ſauſtum, plurimæ ſunt adhibendæ cautiones: ſcilicet, mollis compreſſio uteri cum manu, applicatio ſupra pubem linteorum aquâ frigidâ, aut forſan melius aceto madidorum, uſus aeris frigidi, et, ut uno dicam verbo, quidquid poteſt juvare uteri contractiones et vaſorum ſanguinem fundentium clauſuram.

Celeberrimus *Hoffman*, *Cornelius Trioen*, multique alii jam indicarant obturamentum vaginæ contra hæmorrhagias uteri; hæc methodus tibi, Vir clariffime non erat ignota; attamen in praxi vix erat explorata. In curriculo menſis proximi, ut opinor, novus tractatus mei amici evulgabitur; et in illo videre poteris ferme omnia quæ ſcripſiſti *de opio, medicamentis aſtrigentibus, venæ ſectione, &c.*

Vale, Vir clariffime; et quanquam ſim extraneus, et nullo modo tibi notus, non dedigneris, quæſo, meam ſinceram admirationem.

FRANCISQUS CHAUSSIER,

Datum Divione die 21, 7bris. 1775.

Chirurgiæ magiſter in urbe Divionenſi apud Burgundos, acad. reg. chirurgiæ Pariſienſis correſpondens, &c.

P. S. Si valis mihi reſponſum dare, ſubjungo inſcriptionem epistolæ in idiomate gallico.

MONSIEUR,

JE vous prie d'accepter un exemplaire de l'ouvrage que je publie en faveur de l'operation nouvelle de la ſection de la Simphiſe que j'ai determiné, et à la quelle j'ai coopéré. J'y joins le recit de la Faculté de Medecine de Paris, et un théſe qui

d'être

d'être soutenue dans nos Ecoles, la quelle adopte mes principes et offre six exemples de succès. J'enseigne les accouchemens, &c. Je suis le premier medecin de notre faculté qui se soit aussi décidément livré à cette partie de la medecine qui est en France aux mains des chirurgiens. Je connois vos travaux sur les fievres à la suite des couches ; j'établis vos principes et je me plais à vanter vos talens. J'ai donné un Histoire des principaux Accoucheurs, Smellie et vous, Monsieur, y occupé un rang distingué. Recevez mon Opuscule comme un hommage que je me plais à rendre à votre célébrité. J'ai mandé à mon libraire de me faire parvenir tous vos ouvrages, je compte en faire bon usage pour un traité d'Accouchemens, que je vais publier et dans le quel j'aurai un grand nombre de fois occasion de publier avec quels sentimens d'estime respectueuse j'ai l'honneur d'être,

MONSIEUR,

Votre très humble et très obeissant serviteur,

ALPHONSE LE ROY,

Docteur Regent de la Faculté de Medecine de Paris, Professeur
d'Accouchemens et de Maladies des Femmes.

Mai le 15, 1778.

M. LEAKE, Professeur d'Accouchemens.

T R A N S L A T I O N .

S I R,

I INTREAT your acceptance of my publication on the *new operation* of cutting the symphysis of the *pubes*, which I have successfully performed. I likewise inclose a report of the Medical Faculty at *Paris*, and a Thesis, which has lately been discussed in our College, wherein my principles are adopted ; together with *six examples* of the success of this operation. I give lectures in midwifery, &c. and am the first in our faculty who has so devoted himself to this branch of physic, which in France belongs to surgery. I am acquainted with your *Practical Observations, &c. on the Child-bed Fever*. I adopt your principles, and take Pleasure in praising your Talents. I have given a History of the principal *Accoucheurs*, wherein *Smellie* and you, Sir, hold a distinguished rank. I present you with a sketch of my work, as a tribute which I owe to your eminent reputation, and have given orders to my bookseller, to send me all your works, of which I intend to make a proper use towards a Treatise I am going to publish on Midwifery, wherein I shall have frequent occasion to testify the respectful esteem with which,

S I R,

I have the honour to be,

Your most humble,

And most obedient Servant,

ALPHONSE LE ROY, M. D. &c.

May 15, 1778.

M. LEAKE, Professor of Midwifery, &c.

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By ALPHONSE LE ROY,
Doctor Regent of the Faculty of Physic in Paris, and Professor of Midwifery, &c.

Translated from the FRENCH,

By LEWIS POIGNAUD,
Of the Corporation of Surgeons, LONDON, and Surgeon to the WESTMINSTER
LYING IN HOSPITAL.

A
L E C T U R E
INTRODUCTORY TO THE
T H E O R Y and P R A C T I C E
O F
M I D W I F E R Y.

TH E subject of this LECTURE relates to a branch of medical science, in which all men are interested, particularly those who exercise the *obstetric art*, tending to the preservation of that amiable part of the creation, woman, from whom we derive our being, and greatest happiness.

Knowledge of the principles of a science, before we begin the study of it, is both satisfactory and necessary; what, therefore, gentlemen, I have to lay before you, on the present occasion, may be considered as introductory to a COURSE of LECTURES on the Theory and Practice of Midwifery, and Diseases of Women.

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The earliest accounts we are able to obtain, inform us, that Midwifery, like other sciences, originated from necessity; and therefore, is so extremely ancient, that it seems to have sprung up with the first race of mankind; for notwithstanding the human body, in its original state, came perfectly formed from the hand of the Creator, with all its parts wonderfully adapted to perform their several functions; and although its strength and vigor was then less impaired by intemperance or disease; yet, Nature in the production of our species, not being always able to support and maintain her own laws; the difficulties to women in travail were nearly the same in the first ages as at present, and consequently, stood in need of the like assistance.

That which principally ennobles any science, is the dignity of its object, and the public utility arising from it; so that if we may rate the value of Midwifery by the advantage it procures to the human race, it will be found superior to all others; inasmuch as most of them are only subservient to the conveniencies of life, but on the due exercise of this art, immediately depends the preservation of life itself, even in a double capacity. Hence the poetical invocation of the ancients:

“ Phœbe fave; laus magna tibi tribuetur, in uno

“ Corpore servato, restituisse duos.” TIBULL.

Midwifery indeed, has often been degraded by the ignorance and unworthiness of many who practised it; and some of the medical profession are to be found, who, with more vanity than solid sense, think it below their affected dignity to exercise a manual art, or save the life of their fellow creature, otherwise, than by directing medicines, or feeling the pulse; --- means often vague and ineffectual, without the interposition and assistance of nature herself. But it ought to be remembered, that among the ancients, the practice of physic and surgery were united, and that learned men in all ages have not only studied Midwifery themselves, but recommended it to the attention of others, as a *curious branch of natural philosophy*, which will afford the highest entertainment to contemplative minds, and as a thing of the utmost importance to the community. It is not, indeed, necessary that a physician should practise Midwifery; but if he is unacquainted with that science, he is less entitled to the name of physician, which implies a general and extensive knowledge of every branch in the healing art.

Among the ancients, that venerable parent of physic, *Hippocrates*, not less illustrious for social virtue than his profound knowledge of philosophy, wrote several books professedly on Midwifery, and the diseases incident to women; *Aristotle*, likewise, who was tutor to *Alexander the Great*,

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and by his order amply supplied with whatever the known world could afford relative to natural history and the generation of animals, did not disdain to write on the same subject; as did also *Avicenna*, who was a physician and an Arabian Prince.

Of the moderns, the celebrated *Harvey*, physician to king *Charles* the first, who discovered the circulation of the blood, discourses largely on generation and child-birth; and *Ruyfch*, that laborious investigator and promoter of anatomical knowledge, not only practised Midwifery, but was appointed Professor of that art, by the states of Holland. The learned *Astruc*, royal Professor of physic at Paris, and physician to the French king, gave public Lectures on Midwifery; and also *Albinus*, an illustrious Professor of anatomy and surgery in the university of Leiden.

Daily experience affords ample testimony of the great utility of Midwifery, whether it regards the immediate preservation of individuals in pregnant women, or extends its influence to the good of society in general. In preternatural cases, or profuse uterine hæmorrhages, where nothing but speedy delivery could save the patient's life; the timely and judicious assistance of an *Accoucheur* snatches her, as it were, from the grave, and often preserves her infant also; he restores to the despairing husband
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the tender partner of his bosom, and gives consolation to all who are united to her by the ties of blood and natural affection.

The art of Midwifery likewise principally constitutes and illustrates the *Medicina forensis*, or that part of medicine which contributing to the public administration of justice, in what relates to virginity, pregnancy, and the natural period of uterine gestation; as well as to form a judgment whether unlawful means had been used to occasion abortion. It likewise directs us to the properest means of discovering whether an Infant was still-born or destroyed after birth. Besides those cases, in which the decision of an *Accoucheur* has no inconsiderable share, there are other important points which could not be satisfactorily cleared up, or properly determined without his interposition; and therefore, the verdict of Juries, respecting the *legitimacy of children, indictments for rapes, or actions to obtain divorce*, are chiefly guided by his report.

We are told, when women under sentence of death plead their belly, execution is ordered to be delayed; and that this matter is generally decided by a jury of matrons; but, did not the law of the land expressly thus command it, those judges, who

who would admit of such juries, ought to be deemed matrons as well as they.

To err on the charitable side, is certainly excusable; but those who have not put off all sense of feeling and humanity, must hear with horror and regret, that many children have, from thence, fallen victims to punishment, who were not sharers in guilt, and have been entombed alive within their mothers' womb. *Dionis* mentions a case of this kind, where a midwife of the Chatelet at *Paris* having examined a servant under sentence of death, and who pleaded her belly, positively declared she was not pregnant; in consequence of which she was immediately executed; but when the body was publicly opened, a child was found in her womb.

How often have young women brought forth children, who a few hours before had been declared pure virgins? Indeed, men of knowledge and skill in their profession are not always free from error, and that is always most excusable in those who have sufficient resolution and candor to confess it, for the benefit of others; but if such as have judgment are sometimes mistaken, surely it ought to be a lesson of humility and caution to those who either have very little or none at all. In a word, if it is of consequence to prove the *legitimacy of children*, and to prevent a spurious issue from inheriting the property

property of the lawful heir ; if it is of importance to *acquit the innocent and punish the guilty*, in the most horrid and unnatural of all crimes, that of child-murder ; the public utility, and private advantage of that science, on which such determinations chiefly depend, must then become self-evident.

The Creator's wisdom is not more conspicuous in the great, and original work of creation itself, than the means by which succeeding generations spring up and people the world ; and if the inanimate bodies of shells, fossils, and other concretes, or the more beautiful and organized parts of matter in the vegetable system, so often engage the curious ; surely, the *Obstetric Art* would afford them entertainment much more rational and interesting. In degree, it comprehends the natural history and physiology of the human body, and gives us an idea of its original structure. It likewise tends to illustrate and explain the mental faculties resulting from it ; the organs of sense being the first inlets to all our perceptions, which vary in perfection, according to the perfect modification of those parts, and the due performance of their several functions. It would, indeed, be impossible to discover, by the nicest anatomical researches, that exquisite peculiarity of structure in the brain, which constitutes the difference between the idiot and man of sound intellect ; yet, as every effect implies an existing cause, such an identical difference may be reasonably inferred ; for it

would be unphilosophical to suppose any essential difference in the nature of the intellect or soul itself.

No science leads us so immediately to a survey of our own origin as this; it presents to our view the rudiments of the fœtus, and shews how they gradually unfold themselves in magnitude and figure, from conception to the time of birth: Thus we may observe,

“ *How the dim speck of entity began,*

“ *T’ extend its recent form and stretch to man.*”

GARTH.

Here it may also be remarked, how the causes of things remain inactive, till they are excited into motion by other subordinate causes; for the *primordia* of the human body, like the stamina of plants in their seed, lie dormant and concealed in miniature, in the female ovum, till they are supplied with a vital principle, and rendered prolific by the subtile *aura genitalis* of the male. The philosopher and physiologist may then trace with wonder, the revolutions of matter in the human embryo, divesting itself by degrees of its inert qualities, till by a new modification of parts, it becomes an organized body, and *vegetates into life*: ’Tis now supplied with pipes and strainers fit to convey its juices, but having yet
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only circulation without sensation, it resembles the growth of vegetables, and, like a parasite plant, germinates and strikes root in the womb.

The solids of a fœtus, even the bones themselves, were once in a *fluid state*, and void of all sensation; being derived from the common elements of matter taken into the body for nourishment; and it appears highly probable, at least to me, that the extraordinary property residing in matter, called *Irritability*, is the first instrument which Nature employs towards the production of animal life. 'Tis owing to this, that the sensitive plant shrinks from the touch, and the flesh of slaughtered animals palpitates and trembles after death.

Hence then, the embryo may be considered as an organized body which advances to maturity by slow and insensible degrees: At first it admits the circulation of fluids through its delicate vascular system, and soon as it becomes *Irritable*; the *punctum sanguineum saliens*, the *primum vivens* and *ultimum moriens*, so beautifully described by the immortal *Harvey*, puts the animal machine in motion. In process of time, the diminutive being is endowed with life, motion and sensation; and at last, when arrived at its utmost period of perfection in the adult, becomes possessed of those sublime mental faculties which do honor to human nature. Such once

were *Newton* and *Descartes*, and of such humble materials may other *Alexander's* and *Cæsar's* be made, under the forming hand of the Almighty Architect.

Thus by a real transubstantiation, we begin to “*exist on many thousand grains that issue out of dust* ;” but how and when the mystical union of intellect with matter is effected, must ever remain a secret to us, and can only be known to the Divine Author of our being.

'Tis presumed that the existence of animal bodies cannot commence without the agency of an immaterial principle ; but it should be observed, that the concurrence of material physical causes are also necessary ; for the vital principle in the *ova* of birds would lie dormant for ever, was it not excited into motion by the application and energy of heat*. It may also be remarked, that the faculties of the mind increase as the corporeal organs advance in perfection from infancy to manhood, and then gradually decline as the body tends to decay.

During this tedious progress of animal life, from the first dawning of a living principle to the last extreme of age ;
 physiologists

* *Natura in animali omnino animal est. Ipsa fabricat Calces, Dentes, Cornua, ad vitam tuendam; itaque ijs et utitur, & scit quo sit utendum modo, sine objecto aut Phantasia ulla.*

J. C. Scalig. Exer. 307. Sect. 29,

physiologists have supposed there must have been an entire transmutation or total change of body, so as to leave no idea of *personal Identity*; and therefore the celebrated Mr. *Lock* places it in *Consciousness* only. But altho' the adventitious substance of the body, derived from aliment for its nourishment, should be many times changed, its *original stamina* must remain identically the same.

The ways of Providence are past finding out; yet these very perplexities with which we meet in the pursuit of knowledge may afford some advantage. They will abate the extravagance of enthusiasm, and correct that vanity and self-sufficiency so natural to the mind of man. They will teach him diffidence and humility, by shewing him many things of which he is either doubtful or totally ignorant.

The learned Dr. *Bentley*, in his confutation of atheism, has clearly shewn, that the force of gravity, however it may influence the larger masses of matter, is utterly insufficient to account for the formation of animal bodies. The science under consideration has not been less eminently serviceable in the cause of religion, by demonstrating the wisdom of the Creator in the structure and use of their several organical parts, as well as in affording experimental facts which *refute the doctrine of equivocal Generation*, that great barrier and

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subterfuge

subterfuge of the atheistical sect of philosophers, who concluded, according to their principles, that if *Crocodiles* and other animals were produced by putrefaction, in the banks of the Nile; that men also, like so many animal plants, might originally spring up by chance from the prolific mud of their mother earth, to the total exclusion of divine agency.

This pernicious notion which prevailed for many centuries, was at last opposed by *Redi*, a celebrated naturalist of Florence, who by several curious experiments, incontestably proved, that the concurrence of both sexes is essentially necessary towards the production of the smallest as well as largest animals; and that those putrid substances, supposed to have generated insects, only afford them a proper *nidus* or hatching-place, but never produce them by spontaneous formation.

It must, indeed, be confessed that some particular animals are produced in a manner very singular and anomalous. A *Polypus* cut into several parts will generate so many perfect and distinct *Polypi*. How strangely different then may be the effect of the same cause, in animals of different species? since the division which would destroy a human body, tends to generate and multiply that of a *Polypus*.

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This extraordinary creature, I think, may be considered as an intermediate link connecting the two different orders of animal and vegetable bodies; for the sensitive and generative faculty of the first, may be perceived to descend gradually in the scale of animal beings, till it dwindles into the inanimate growth of plants. As nature insensibly drops the animal process, she begins to play the mimic, and transgress her own laws: Thus *snails* and *earth-worms*, according to *Swammerdam*, are all of the hermaphrodite kind, and whilst they impregnate are reciprocally impregnated; and that uncommon reptile the *Surinam toad* does not produce its young from the interior parts of its body, like other animals, but from certain cups or sockets placed upon its back.

Lesser in his *Testaceo-theologia* asserts, that the *balani marini*, *rock muscles* and *oysters* are not only hermaphrodites, but such as without any manner of concurrence with each other, have within themselves a power to generate and bring forth their kind *. An impregnated female *Aphis*, or *plant-louse* can communicate to her offspring the extraordinary power of producing others in succession even to the fifth progeny, without any fresh impregnation; and what is equally astonishing, the same species of *Aphis*, which in summer was

* No *Hermaphrodites*, among the insect tribe, have yet been discovered.

viviparous, becomes *oviparous* in autumn. It is also wonderful, that the *Coccus* and *Oniscus* no sooner bring forth their young, than they are devoured by them. And lastly, if we descend to vegetables, however strange it may appear, certain it is the *farina* or seed of the male flower impregnates that of the female, otherwise no fruit would be produced; for *Linnaeus* observes the favin tree was fruitful in the Upsal garden, where the male plant grew near it, but in the Clifford garden, where the male was wanting, there was no fruit at all.

The rudiments of the fœtus having already been considered, it is necessary to remark, that the œconomy of Nature, in perfecting what she had begun, is no less extraordinary; whether it regards the vital functions of the womb in nourishing the child, or the amazing expulsive force by which it is brought forth. After puberty, the female organs are so disposed as to prepare a larger quantity of blood than is necessary for the nourishment and immediate supply of the woman's body; and therefore, when she is not with child, it is periodically carried off once a month, lest it should overfil the vessels and incommode her constitution; but as soon as she becomes pregnant, it is then sent to the womb for the nourishment of the fœtus; consequently, during nine months' gestation, the *menfes* are naturally wanting. When the infant arrives at

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its utmost bulk, the uterus can then no longer contain it without danger of bursting; the violent distention of its fibres now creates pain, which puts the whole uterine system into a state of re-action, and from thence the birth is effected; so that what are called labor-pains are only the effect of that *nifus in contractionem*, or powerful endeavour of the womb to expel its contents.

From the vascular contexture and peculiar fabric of the uterus, its cavity, which in the unimpregnated state was not more capacious than that of a large filbert, at last becomes sufficient to contain a child weighing seven or eight pounds; and what is still more extraordinary, it does not, like a mass of wax or other ductile substance, become thinner in proportion as it is extended, but uniformly *preserves its natural thickness from conception to the time of birth*; had it been otherwise, Nature would have run counter to her own designs, and instead of bringing the fœtus to maturity, the womb must have burst, and the purposes of conception would thereby have been defeated.

After the child is born, the circulation changes, and less blood being wanted at the uterus, a certain quantity of chyle, which before had nourished the fœtus, is now sent to the breasts, to supply the new-born infant with that balsamic
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fluid called *Milk*. Hence it may be observed, how admirably this organ is adapted to answer the important purposes of generation; namely, to allow of vast extension without bursting; secondly, to contract with amazing force in labor, for the exclusion of the child; and lastly, by means of the same power, gradually to return to its former state.

Immediately after the infant's birth, its lungs which had remained inactive during nine months' gestation, are blown up with air, and it is scarcely to be imagined, that the cause of what so naturally then happens to every living animal, should in itself be so obscure, that the ablest Physiologists have attempted to account for it in vain; so that it still remains a question, in what manner the act of *Respiration* commences in animals newly brought forth?

Borelli and *Boerhaave* ascribe the beginning of respiration to an increased motion of all its muscles in the time of labor, and among the rest, those of the intercostals and diaphragm, which are the principal instruments of breathing. But that incomparable philosopher Mr. *Boyle*, as well as *Vesalius*, has experimentally shewn, that puppies cut out of the womb begin to breathe, when exposed to air, in the same manner as if they had been naturally brought forth. Besides, we shall shew in the following Lectures, that the fœtus does

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not usually struggle as generally thought, but is a mere passive body, which advances in the birth as it is acted upon by the vital impulse of the uterus, and in itself utterly destitute of all power to facilitate its own exit.

Pitcairn supposes, that air, by its gravity, rushes into the infants lungs as into a vacuum; but if this was true, it would also find entrance into the lungs of a still-born child; and that machine which we call a pair of bellows, would be blown up by the same atmospherical pressure, which we know is not the case.

Baron *Haller* supposes, that respiration commences from the child's endeavour to cry, in consequence of the pain it suffers during labor; but this is by no means an adequate reason; and very unlike what has usually been advanced by that learned and ingenious author; for, notwithstanding all living animals naturally begin to breathe as soon as brought forth, they do not all make a noise similar to that of crying in the human species; and farther, the act of crying being subsequent to breathing, the first is manifestly owing to the last; for it would be palpably absurd to say, that a child could either cry, or even endeavour to do so, without the previous power of breathing.

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The late celebrated Dr. *Whytt* will not allow, that respiration arises from causes merely mechanical, and therefore recurs to a sentient principle, which puts certain muscles in motion at particular periods; hence the infant is born with a natural propensity or appetite for breathing, similar to want of meat or drink in the adult. He supposes, that in consequence of its struggles in the birth, a larger quantity of blood will be sent to the lungs, which stimulates them into a respiratory motion; but this, like every other reason hitherto advanced, is insufficient to solve the question at first proposed; since it may easily be proved, that the cause of breathing, whatever it may be, is not originally impressed on the lungs themselves, but on the organs of respiration. The air by its gravity cannot press into a pair of bellows, till their sides are pulled asunder, neither can the lungs of a new-born infant be inflated and begin to play, till they are freed from all pressure by the action of the intercostal muscles and diaphragm, which raises the sternum and enlarges the cavity of the breast.

To proceed; when we come to examine parts peculiar to the foetus, there the immediate finger and *fat* of the Creator still discovers itself in a more wonderful and conspicuous manner; for, the *canalis arteriosus* and *foramen ovale* are manifestly designed as *diverticula* to carry off blood from the heart, and hinder it from rushing upon the impervious vessels of the
lungs,

lungs, which being yet uninflated and compressed, could not allow it to pass through them; and had it not been for this curious and cunning device of Nature, since the whole mass could not circulate through the pulmonary artery, as in the adult, it would necessarily have regurgitated on the heart and produced a mortal suffocation.

When the child has inspired air, the *devious passages* already remarked, being useless, are shut up and obliterated, except in *amphibious animals*, where it is necessary they should still remain open; for, whilst they dive under water, their lungs must cease to play, and the blood cannot then pass through them; so that such creatures, though deprived of air, will still sustain life, and in the same manner as they did in utero. This probably may be the reason, why young animals survive longer in the exhausted receiver of the air-pump, than old ones of the same species; and also why drowned persons, and those executed, have sometimes been surprizingly restored to life. Hence also the whimsical attempt to render puppies or other young animals *amphibious*, by alternately putting their heads under water and into the common air; for, in the first case, it is presumed the *canalis arteriosus* remains open to the course of the blood; and in the last, that it will only circulate through the lungs.

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The

The great Dr. *Harvey*, in a latin epistle to *Riolanus*, proposed the two following questions :

“ *Cur fœtus in utero, non respirans aërem usque ad mensem decimum, ob defectum respirationis non suffocatur ?* ”

“ *Quare in utero existens, vel adhuc intra secundinas, nondum exitum adeptus, vitam sine respiratione retinere poterit, quam primum vero aëri semel expositus, nisi respiraverit, vitam retinere non possit ?* ”

Op. Harv. a colleg. med. Lond. edit. p. 132.

Both the above questions will be answered when we come to the Lecture on the Fœtus ; it is here only necessary to remark, that as animals *in utero* do not exercise the faculty of breathing ; respiration, under certain circumstances, is not essential to life. Indeed, might we trust our reason or attend to our own feelings, it would be as difficult to conceive that any animal could live without respiration, as without circulation itself ; which shews that the great and wise Author of nature can easily find expedients to accomplish his designs, when human invention is utterly at a loss and put to confusion.

Several of the preceding phænomena may be rationally accounted for, as we shall endeavour to shew in the *subsequent*

quent Lectures; whilst others are involved in obscurity and too remote for human comprehension. It would be difficult, for instance, to know, how the strong, elastic uterine fibres, are overcome by the gradual influx of juices into the tender stamina of the Embryo, after conception; and how the same cause exerts itself, in the last months of pregnancy, with such amazing power, as not only to become superior to the womb's action, but likewise the additional pressure of the abdominal parietes in which it is contained.

Here it might also be asked, what determines the growth of animals and puts a *ne plus ultra* to their farther enlargement, or, why they do not continue to grow during life? Why are some plants and animals only the short-lived beings of a day, whilst others subsist more than an hundred years*? and why are the sensations in some animals so exquisitely acute as almost to occasion pain, but in others so dull and torpid as scarcely to produce feeling equal to that of the insensitive *sensitive plant*?

The utility and extent of Midwifery may still be farther shewn, by applying it to the knowledge of particular diseases.

* The *Creeping Ceres* blossoms at night and dies in the morning, and the *Ephemeris Fly*, although two or three years in hatching under water, when brought forth, scarcely survives a single day. The *Forest Oak* is said to grow one hundred Years, and the *Stag* is supposed to be an animal of extraordinary longevity.

eases. If the *pathology* of those maladies derived from the parent are ever to be more perfectly understood, it might be expected from the assistance of this art. Those things premised, it may be proper to enquire, whether long protracted *chronic diseases* do not at last become *hereditary*; and also, whether the placentary vessels are adapted, by their peculiar structure, to absorb from the parent, the matter or efficient cause of one disease, and to exclude that of another; as may be observed, by analogy, in the nutrition of plants, which, by an inherent, or elective power, imbibe juices of very different qualities from the same soil; and what is still more remarkable, the flower, fruit and bark of the same shrub, all vary in smell, strength and taste, according as they are influenced by the vessels of those particular parts.

In some of those diseases manifestly hereditary, viz. *scrophula*, *gout*, and *lues venerea*; might not the *materies morbi* be subdued and totally extinguished in the human Embryo, by enjoining the mother a medicated regimen during the time of pregnancy? From some late observations, I have reason to believe it may be effected; and this circumstance deserves the greater attention, as the morbid matter in a more advanced age, might be so intimately mixed and diffeminated through the system, as never to be exterminated and totally taken
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away, though at particular periods of life, it may either lie dormant or appear with less violence.

*“ The young disease that must subdue at length,
“ Grows with our growth, and strengthens with our strength.”*

POPE.

Such therefore is the miserable state of man, that he not only inherits some diseases before he sees light, or enjoys the privilege of breathing; but is afterwards subject to many more, which alternately afflict him from the cradle to the grave.

The application of variolous matter to pregnant women, who have had the small pox, would determine whether the virus was of such a nature as to be absorbed by the vessels of the Fœtus; and if so, whether this new mode of practice would not afterwards effectually secure the infant from the influence of that destructive disease. Should such a method be adopted, it would be most proper in the last months of gestation, where the vestiges of the disease might be seen on the skin of the newborn infant; or should no such marks appear, the event of the experiment might be certainly known, by inoculating the child and attending to the subsequent effects. A case mentioned in the Philosophical Transactions, where the variolous

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matter.

matter applied to a child which had previously received the infection in utero, was not sufficient to re-produce the disease, suggested to me the propriety of this practice; as well as a short but ingenious essay on the subject by a gentleman of Glasgow, which accidentally fell into my hands. Hence also it might be necessary to enquire, whether those adults who are said totally to escape the small pox, have not been thus previously infected with it in the time of uterine gestation.

It does not, I think, appear that this experiment would be attended with danger; for the mother's habit would not be affected by it; and it has repeatedly been observed, that infants escape the danger of this disease in proportion to their tender age; which probably might have introduced the practice of inoculating them at the breast, when only three weeks or a month old: However, gentlemen, I desire it may be remembered, that this hint is rather proposed for the consideration of the curious, than as a circumstance as yet sufficiently supported by practical facts.

Strange things have been imputed to the *Mother's Imagination* in marking or mutilating her child in the womb. This extraordinary opinion is ancient as the book of Genesis, and has even been transferred from the human species to the brute creation; for, we are told in the thirtieth chapter, “ streaked rods were placed
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before the breeding cattle, to make the young ones speckled." However unphilosophical and absurd such ideas may appear, they have been adopted by many, even in the present enlightened age, who too readily take things for granted on tradition and hearsay, instead of trusting to the testimony of their senses. Thus vulgar errors, like the distempered offspring of which we are speaking, have been propagated and delivered down from one generation to another. The ignorant and superstitious, in particular, refuse to be convinced, and are offended with such as disturb their extravagant belief, but are wonderfully entertained by those who feed their sickly fancies, with strange examples of marks, monsters, and mutilated forms, to whom they listen with as much avidity, as *Shakespeare's blacksmith* "with open mouth swallowing a tailor's news."

It is much to be regretted that the generality of women are thus inclined to an opinion so unfavorable for themselves; which not only tends to disturb their repose and fill their minds with horror and dreadful apprehensions, but is also contrary to experience, sound reason, and the state of the animal œconomy. To suppose that nature, in the production of the Fœtus, should thus transgress her own laws, and be put out of her due and regular course by trifling accidental causes, is not only cruelty and disaffection to themselves, but an affront to the wisdom and goodness of the Creator. A woman's mind, from the delicacy

delicacy of her frame, and prevalence of her passions, is liable to so many excesses and inordinate motions that had such causes been productive of marks or monsters, they would certainly have been much more frequent. Besides, it ought to be remarked, that conception does not depend upon the will of the mother, but results from the nature and disposition of the several animal functions, and therefore happens whether her imagination be for or against it: Surely then it would be extremely irrational to suppose its influence over the Fœtus greater than that which prevailed over her own body.

By the most accurate examination of parts connecting the child to the womb, there does not appear any continuation of vessels between one and the other; for the umbilical vein and arteries proceeding from the first, terminate at the exterior surface of the placenta; and those vessels which are derived from the uterus, without any communication with the former, enter the cellular substance of the same placental mass, and go no farther.

No anatomist has ever yet been able to demonstrate the existence of nerves in the umbilical cord, which is the medium of all intercourse between the mother and child. How then can the imagination of the first operate or extend its influence to the last, without the mediation of nerves, which
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are the organs of all sensation? With as much reason it might be supposed, an impression made on the mother would be transferred to the infant sucking at her breast. It has indeed been asserted with reason, that several parts are endowed with sensibility, where no vestige of nerves is to be seen; but granting that the funis was nervous; the placentary vessels continued from it, are not supposed at first to adhere to the uterus, when the tender stamina of the Embryo would be most susceptible of violence or change; and even when an attachment commences, that is only effected by a superficial *contiguity of parts, and not by any continuation of vessels from one to the other*, as already observed. In a word, the umbilical cord, is plainly intended for the purposes of circulation, not sensation; and as it springs from the Fœtus, is destitute of nerves, lest the infant should have suffered pain when that part was divided after its birth.

Thus may anatomical knowledge clearly convince us, that the *Fœtus in utero* has a body perfectly distinct from that of its mother, and is not affected by her sensations, which are entirely confined to her own system. Agreeable to this supposition, many instances might be brought to prove the one sleeps whilst the other is awake, the one is affected with pain when the other is at ease, and that each has a circulation of blood peculiar to itself. The imagination of the mother can therefore

have no power to alter the stamina of the Fœtus, or change the mode of its existence, either by giving it supernumerary parts, or taking away those already formed. This reasoning is still farther confirmed by the following circumstances; first, because infants have often had marks, where there was no preceding disturbance in the mother's imagination; and secondly, because her imagination has often been violently affected where the child was free from any such marks or deformities. History informs us that *Rizzio*, secretary to *Mary* Queen of Scots, was stabbed in her presence whilst she was pregnant, but notwithstanding the horror from thence impressed upon her mind, she was delivered of a child, afterwards *James* the first, who had not the least appearance of blood-colored marks or stigmata.

But seeing that marks and monsters do sometimes happen, how are they to be accounted for, or from what causes do they arise? Perhaps from some accidental violence disturbing the tender Embryo, as yet in a gelatinous state; or from a diseased stamina, where its very rudiments are monstrous and deformed. Sudden frights are observed to occasion abortion, by what *Hoffman* calls *convulsio uteri*; and it is probable that the same preternatural pressure, by producing constriction of the uterus, may forcibly act on the Embryo, and by obstructing the juices in its extremities, occasion those parts to wither and drop off for want of circulation.

Eller

Eller supposes, that flesh-marks in the child arise from a fault of the womb, which, by pressing on the surface of the skin and obstructing the arteries, may throw their blood upon the lymphatic branches, and convert them into blood vessels, which being spread on the skin, will tinge it with a red color. We are seriously told, marks resembling red currants, cherries, &c. become more red and vivid when those fruits are ripe; to which, if any reply is necessary, it might be answered, that the paleness or florid color of the skin depends on the quantity of blood passing through the capillary vessels on its surface; the last of which will therefore always be greatest in warm weather, when such fruits are in season. But if imagination had power to produce colors, as some would weakly suggest, why should not children be marked with grapes, or green gooseberries, as well as with cherries or red currants, since it may be presumed the mother will as often have longings for one as the other?

Before we dismiss our present subject, it may be necessary to remark, that monstrous Fœtuses are also common in brute animals; although our selfishness and pride will not allow them the exercise of those rational faculties which are supposed the sole cause of such deformities in the human species. In short, a *lufus naturæ*, or preternatural conformation of parts, is frequently known to prevail in plants as well as animals, which

shews, that such uncommon appearances in the last arise from mere corporeal agency, or the perverted laws of motion, and have noting to do with imagination or operations of the mind; a presumption, that, in the first, the cause is the same.

As by chemistry the texture of natural bodies is unfolded, and their several qualities disclosed; so the elements of human bodies, as well as the diseases to which they are subject, are illustrated and explained by the Science of Midwifery; for it brings us to an intimate acquaintance with the state and condition of man, even from the first stamp of his existence.

Here it may not be improper to subjoin the following queries, most of which belong to the Obstetric Science, and therefore will hereafter be duly considered.

An locus certus conceptui propius assignari queat?

An, ab origine monstra sunt, vel causis accidentalibus sic fiunt; & quænam sunt eorum causæ?

An, et qua ratione seminis potestas parentum, affectiones ingenitas mores, robur, formæ similitudinem, staturam et reliquos characteres una traducat?

An,

An, et quomodo semen maris, fœminam virtualiter contineat, et semen fœminæ virtualiter marem? & quænam est causa sexuum differentiæ?

An fœtus omnia viscera, vasa, artus simul habeat; an verò plane mutet formam, primò pisciculo, deindè amphibio, postèa respiranti proximam?

Quibus experimentis precipuè indagari valeant fœcunditas et sterilitas mulierum?

An superfœtatio potest?

An alatur fœtus per os, per umbilicum, an per utrumque?

Quid de legitimo tempore partûs humani statuendum sit?

We shall now trace the progress of Midwifery, and remark the advances it made among the ancients and moderns, till arrived at its present state. It is not however my design to give an historical account of the several authors on this subject, in chronological order; for as their writings are almost innumerable, such an undertaking could not come within the narrow limits of an **INTRODUCTORY LECTURE:**

I shall therefore, Gentlemen, only mention those of the greatest note, and lay before you a general view of their opinions and practice.

In the first ages, women in labor were attended by their own sex, who gave their assistance without method, being rather directed by necessity than skill or choice; hence, the progress and improvement of this art must have been extremely slow. In difficult cases, compassion naturally inclined them to enquire into the cause of such difficulties, by touching the patient in the time of her labor-pains; and in this manner they began to improve their slender knowledge, and made some observations that were of service in their future practice. For example, they could not help remarking, that in most cases where the infant's head presented, the patient was speedily delivered by the simple effect of the labor pains; therefore they concluded this was natural.

On the contrary, when the arm, or any other part presented, the pains were insufficient to effect the birth; and as they were ignorant of the proper methods of assisting, the mother generally died undelivered; consequently, they had great reason to suppose that all such cases were dangerous and preternatural. Hence sprung the division of labors, which they distinguished into natural and preternatural.

Midwifery

Midwifery at this time being chiefly exercised by women, frequently fell into abuse. To remedy this evil, we are told a law was made at *Athens*, excluding them from practice, and appointing men only, to take upon them the province of delivering women, and directing medicines for the several diseases to which they were subject; but such was the effect of custom, that the legislative power was incessantly importuned, and at last prevailed upon to revoke this edict, and to restore women to their former privilege of practising this art.

I think there does not appear sufficient reason for setting female practitioners aside, provided they are properly instructed, and not only able to distinguish when there is danger, but conscientiously endeavour to avoid it, by sending for farther assistance in time, which too frequently is neglected. This is so far from disparagement to them, that it makes a necessary part of their duty, for which they ought to be commended; and therefore, when men of the profession are called in, they ought not to brow-beat and suggest hints to their disadvantage, but treat them with becoming civility, and, if possible protect them from blame; as an injury to their reputation would be followed by the loss of business, and might affect the interest of a family which they are industrious to maintain.

Cleopatra

Cleopatra and *Aspasia* were the two female proficient in this art, who by their practice and writings were most distinguished and made known to posterity; an account of the first may be found in the *Harmonia Gynæciorum*, and the last is particularly mentioned by *Ætius*, who has transcribed several chapters from her works, relative to the management and delivery of women.

The progress and improvement of Midwifery may be dated from the time of *Hippocrates*, who practised in Greece four hundred and sixty years before the birth of Christ. He wrote several books professedly on diseases of women under the following titles: *de Morbis mulierum*; *de Superfœtatione*; *de Fœtus in utero mortui extractione*; *de Virginibus et de Sterilibus*. Some of these tracts are accounted spurious, and the rather, as it was five hundred years after his death, before those works were collected into a body by *Artimidorus* and *Diascorides*, two physicians of Alexandria, in which several contradictions are to be found.

Erotion took great pains to point out the true works of *Hippocrates* but makes no mention of the book *de Virginibus*, nor that *de Natura Muliebri*. *Mercurialis* also has placed the books *de Natura Muliebri*; *de Morbis Mulierum*, and that *de Sterilibus*, in the third class, as writings in which *Hippocrates* had no share.

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The medicines recommended by this author are odd and indelicate, and his theory extremely erroneous. In the hysteric passion, he asserts that the womb changes its place, and rises to the stomach and heart; so that one would be apt to conclude, he had never seen its situation in the dissection of a human body; otherwise, he could not have omitted to remark its connection to the surrounding parts. His doctrine of conception was adopted by authors of the first rank, and adhered to, even till the sixteenth century; but his method of practice deserves no attention, for it appears by a survey of his works, as well as those of the ancients in general, how imperfectly the Obstetric Art was known; so that if we compare *Hippocrates* discoursing on this subject, with the same *Hippocrates* speaking of diseases, pointing out their distinctions, and prognosticating their various events, *nil fuit unquam tam dispar sibi*. In the first, he is a stranger to the structure and functions of the parts appropriated to generation and parturition, but in the last, is wonderfully sagacious, accurate and just; and therefore, as a nice observer of Nature and a faithful recorder of her operations, he has stood the test of all ages, and justly continues admired and esteemed to the present time.

Aristotle also wrote on the subject of Midwifery, particularly on the generation of animals; and though his rules for

practice are few and scarcely to be regarded, yet in his seventh book on this subject are to be found several observations worthy of remark, under the following heads: Of the signs of puberty in men and women; of the menses; the signs of conception, and symptoms which happen from thence to the time of labor: Also the situation of the Fœtus in utero, the child's birth, and of the placenta and funis. He observes that the constitution, both of the male and female, undergoes a considerable change at the time of puberty, and that women who have not the periodical flux are generally barren, although some have been known to conceive, who never had the discharge at all. He asserts, that women suffer more than quadrupeds in the time of parturition; that the Fœtus is nourished by the funis, and naturally presents with the head; that the period of gestation is various in the human species, but that animals bring forth at a stated time, and with their bones perfectly formed. But the most extraordinary of all his positions is, that blind and lame children, are generated of blind and lame parents; from which it is plain he had adopted the doctrine of *Hippocrates*, who asserted, that the semen is a combination of organical particles, derived from the several parts of the body, and that, being associated, they form a *genitura* or rudiments of the Embryo.

Cornelius

Cornelius Celsus, who might justly be called The Latin Hippocrates, is the next author of note; he lived in the reign of *Tiberius*, A. D. 35, and wrote a treatise on medicine in the Latin tongue, much admired for its elegance of style; but whether he was really a physician, or a man of uncommon understanding, whose natural genius led him to study that science, is not certainly known, for he wrote on war and agriculture as well as physic. In his seventh book he treats on the diseases of women, and the method of extracting a dead Fœtus, but what he lays down is chiefly borrowed from the Greek physicians, particularly *Hippocrates*, so that he is rather consulted as the standard of elegance and true purity of style, than for any thing remarkably instructive on this subject.

Galen of Pergamus, a celebrated Greek physician, was born A. D. 132, and lived in the reign of *Adrian*, about six hundred years after the time of Hippocrates; he travelled through several provinces of the Roman empire, and afterwards resided at Alexandria in Egypt, which was then the most celebrated school of medicine in the world; but at last returned to his native country, where he died. He appears to have been a man of great learning, and a subtle discerning genius, but he was assuming and vain-glorious, arrogating to himself the highest honors, and at the same time attempting to de-

preciate and lessen the authority of other physicians. He is allowed to be the best commentator on the works of *Hippocrates*, though in his relation of things he is circumlocutory and diffuse. He wrote several books on the subject of Midwifery; namely, one *de Semine; de Formatione Fœtus et de Uteri dissectione*, where he lays claim to the discovery of those tubes belonging to it, which were afterwards said to be found out by *Fallopianus*.

To enumerate the several antient authors who have written on the present subject, would be tedious and unnecessary; from *Galen* therefore, down to the time of *Paræus*, it will be sufficient only to mention those of principal note.

Ætius, who lived A. D. 380, left a system of physic in Greek, which was translated into Latin by *Cornarius*, and printed at Basil under the title of “*Contracta ex Veteribus Medicina*,” the last book of which treats fully and judiciously on diseases of women. He describes the situation, magnitude and figure of the uterus, and gives a circumstantial account of difficult births; he likewise takes notice, that delivery may be retarded by the too early rupture, or preternatural rigidity of the membranes containing the child, and directs what is necessary to be done on those occasions. His cautions against violence, when the *os uteri* is closed by inflammation

flammation, are rational and well adapted to the disposition of the parts; in short, though he is little more than a compiler from *Galen*, *Soranus* and others, he seems an author of exceeding merit and candor, always naming the originals from whence his quotations are taken, which in general are judiciously chosen and well applied.

This was the state of the *Obstetric Art* among the Greeks and Romans, but when the western empire was invaded and ravaged by Goths and Vandals, a barbarous people and enemies to the polite arts; the several sciences, for want of patronage, began to languish and at last were neglected and forgot. The fate of learning in the east was much the same soon after, for the *Saracens* subdued Egypt, and destroyed the famous library at Alexandria, the books being dispersed by the Calif's order, and burnt at the several Bagnios. But in proportion as learning declined among the Greeks, it began to flourish among the Arabians, who extended their empire over Asia, Africa and Europe, under the Calif *Almamon Abdalla*, who reigned A. D. 813, and caused the Greek authors to be translated into the Syriac and Arabic tongues; for several of them were fortunately preserved, although the public library was destroyed.

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Avicenna,

Avicenna, a Mahometan physician, was born in Persia, and lived A. D. 1000. He wrote a book called *Canon Medicinæ* divided into five sections; in the third he speaks of conception, pregnancy and delivery, and also the disorders peculiar to women. Though the forceps is supposed a modern invention, he mentions that instrument, and such as was manifestly intended to save the child.

Albucasis, an Arabian, is supposed to have lived A. D. 1085, and likewise treats on diseases of women: He is remarkable for delineating and describing the several instruments then in use; among the rest a figure of the forceps, and of an instrument called *Impellens*.

From this period to the year 1200, the Europeans, by their commerce with the Saracens, became acquainted with the sciences; hence, the art of physic was cultivated, and at last gave rise to two of the most ancient colleges of medicine in Europe; namely, those of *Salerno* and *Montpelier*, where the doctrines of the Arabian physicians were principally taught, till the taking of *Constantinople* by the Turks, in the year 1453; for at this time the several learned men fled from thence, and took refuge in different parts of Europe, particularly in Italy and France, where they carried the sciences; and as learning revived, men of genius now began

to study *Hippocrates* and the other Greek physicians; and the works of *Avicenna* and *Rhazes*, whose authorities had long prevailed, were now justly rejected. Thus was the Grecian art of medicine restored, and by degrees a solid system of physic established, by which the causes and cure of diseases were more rationally considered, and accurately distinguished.

From this period to the time of *Paræus*, the great promoter of *Obstetric knowledge*, the general practice of the ancients was as follows: If the infant did not present naturally they shook the woman and altered her position, a method so irrational, that it could answer no purpose but that of tormenting the patient. The operator also attempted to bring the head to a right presentation, but if he failed, he then endeavoured to deliver by the feet; if none of these methods succeeded, it was treated as a dead child, and extracted with crotchets; but if it was too large to pass whole, they dismembered and extracted it piece-meal.

In the year 1575, *Paræus*, a French author, in his twenty-fourth book, where he treats on generation and the delivery of women, entirely rejecting those irrational proceedings of the ancients, in all preternatural cases, expressly directs the child to be turned and delivered by the feet, which was a capital

capital endeavour towards the advancement of the art; for by this judicious method many women were saved, who otherwise must have died undelivered.

From this time the improvements in Midwifery were many and great, both by manual operation and the invention of new instruments. *Guillemeau*, who was a scholar of *Parès*, also wrote expressly on the same subject, and improves much on the rules laid down by his predecessor: In profuse floodings, he orders the membranes to be broken and the patient speedily delivered; he also takes notice of the ruptured uterus, some instances of which had fallen under his observation.

From the time of *Guillemeau*, till that of *Mauriceau* (being upwards of half a century) several useful tracts were published. *Severinus* published a book on pregnancy and delivery; and in the year 1628, *G. Nymmanus* printed his dissertation *de vita Foetus in utero*, wherein he proves that the child may survive a considerable time after the mother's death, and therefore admonishes magistrates, and those who have the direction of public affairs, to permit the opening of such women as die undelivered, in order to preserve the infant.

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The works of *Sennertus*, a celebrated professor of physic at Wittemberg, were published in the year 1640; in which is to be found a valuable practical treatise on the diseases of women and children; where the description of the symptoms appears accurate, and the intention of cure is laid down with clearness and profound skill.

A. D. 1668, *Mauriceau*, after much experience at the Hotel Dieu, published a book on Midwifery, which came nearer to a complete system, in what regards practice, than any thing which went before it; but his doctrine of conception is false and erroneous, and his theory vague and irrational, though his practical aphorisms are judicious and excellently deduced.

Various now were the authors on Midwifery; for *Dionis*, *Peu*, and *Portal* published their several works, and not long after, *Saviard*, who practised at the Hotel Dieu, also published several observations on female diseases and the method of assisting in difficult labors. *Daventer*, a Dutch physician, printed his book on the art of Midwifery in the year 1701, and became eminent by remarking, that the most common cause of difficult labors arises from an *oblique situation of the uterus*; the fallacy of which opinion will be shewn in the subsequent Lectures. Besides, though this passed for a dis-

covery of *Daventer's*, it was observed by *De Graaf* and *Winckler* long before. Those points of doctrines for which *Daventer* most deserves commendation, are to be found in his observations on *Touching*, from which many useful indications may be taken concerning the event of labor.

From this time several detached pieces were published, though nothing very considerable, till *Lamotte's* book appeared, in which are to be found many judicious observations, candidly and circumstantially laid down, and therefore worthy of remark; but this author, though a modern, probably knew not the use of the *Forceps*, for in laborious cases, where the difficulty is great, he directs the child to be turned and brought by the feet.

About the year 1721, many curious and uncommon cases were published by the celebrated *Ruyfch*, and also his tract *de Musculo in fundo uteri observato*. Soon after, *Vaterus* printed his *dissertatio pathologica de utero gravido*; and *Puzos*, in the memoirs of the Royal Academy of Surgery at Paris, attempts to shew a more safe and gentle method of proceeding in uterine hæmorrhages than had before been practised on such occasions, all which will hereafter be duly considered.

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In the year 1743, *Noortwyk*, a Dutch physician, published at Leiden his accurate anatomical history of the gravid uterus, which merits the perusal of all those who purpose to study Midwifery. *Levret*, a celebrated professor of Midwifery at Paris, has also from time to time published three volumes on the subject of Midwifery: In the first he treats on that art, as demonstrated on mechanical principles; the second comprehends his observations, with the description and figure of the different forceps in use. The third volume treats on the polypus, and describes the figure of his instruments for tying polypose tumors of the uterus, in a manner more safe and easy than hitherto known.

Rodererus, professor of Midwifery in the university of Göttingen, in the year 1759 printed the second edition of his *Elementa Artis Obstetricariæ*, in which the practice of Midwifery is concisely laid down; but as a public teacher, whose doctrine may have considerable influence on those who attended his lectures, it is much to be regretted, that he shews an uncommon propensity to the use of instruments, even those of the destructive kind. He also published his anatomical tables of the gravid uterus, where some of the parts are finely delineated.

About the same time, *H. Crantz*, professor of Midwifery at Vienna, printed a tract *de rupto utero in tempore partus*, and also

also his *dissertatio de re instrumentaria*, in which he gives a full historical account of the different instruments used in Midwifery. He asserts, that the use of the crotchet is never required, although they have often been applied; he thinks it ought to be deemed homicide, where the head of a living child is opened, even though the life of the mother should be in danger; and therefore censures *Rodererus*, with uncommon severity, for inculcating such practice. The author indeed shews humane attention to the infant, and it would not have been less commendable, had he been a little more merciful to the reputation of his brother professor.

This naturally leads us to consider the *use and abuse of Instruments*, which the passion for novelty has multiplied to an extravagant number. Some of them, indeed, particularly the *Forceps*, are found to be safe and effectual, in preserving the life of the mother and child; but wherever delivery can be brought about by the simple force of labor-pains, all instruments are unnecessary and improper; since it would be injudicious and absurd to substitute art, for the performance of that which might be better and more safely accomplished by the powers of nature only.

Those who are not sufficiently conversant in practice, from motives of fear, which always magnify danger and suggest

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the worst, are often led to a more precipitate application of instruments than is necessary or consistent with the patient's safety. On the other hand, there are some who exclaim against all instruments whatever, pretending they are dangerous and unnecessary; but it may with reason be asked, whether this does not arise from vanity or artifice in such declaimers, and an endeavour to recommend themselves to the good opinion of timorous and weak-minded women, who are alarmed at the very name of an instrument, and had almost rather die, than call in the assistance of those who are said to make use of them? for all such as have candor and skill must allow, that instruments, particularly the *Forceps*, are sometimes so absolutely necessary towards the preservation of both mother and child, that he who either wants dexterity or resolution to apply them, would be deficient in the duties of his office.

I did intend, in this place to have been more particular on the use and abuse of instruments; but as it is first necessary to know the structure of the parts concerned in parturition, before we can have a just idea of their application, I shall defer what is farther to be said on that subject, till we come to the Lectures on laborious cases; where the different instruments will be examined, by taking a comparative view of their several advantages and defects; particularly the *new Forceps with three blades*, hereafter described and illustrated by two copper-plate

prints, exhibiting the utility of the third blade when the child's head is locked within the brim of a *narrow pelvis*.

Moubray, Chapman, and Ould; Giffard, Smellie, and Burton, are the principal English writers on the subject of Midwifery. Besides a due attention to many of the authors already mentioned, I shall hereafter occasionally remark such *new observations* and *capital improvements*, as have been laid down from time to time by the most eminent *modern Professors* of Midwifery in different parts of Europe.

Whoever teaches a science, ought to present those intending to study it, with a clear and comprehensive view of all its branches, and the means most conducive to a perfect knowledge of the whole. Midwifery, respecting its operative part, may be called an art; but as it comprehends the nature and treatment of diseases, it ought also to be considered as a science. It may be divided into Theory and Practice: Theory consists in a competent knowledge of anatomy and physiology, particularly what relates to generation and the menstrual flux; œconomy of the gravid uterus; the nature of parturition; and the doctrine of diseases incident to women and children. The method of assisting with dexterity and skill in laborious and preternatural labors, and acting with judgment in cases of danger

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or difficulty, constitutes the practical part. Without a previous and distinct knowledge of all these, no one deserves the name of *Accoucheur*, for if he ventures to give advice or assistance not founded on rational theory and the established rules of his profession, he will act like a bungling mechanic, who vainly attempts to repair a complex machine, without being acquainted with the several wheels and springs which compose it, or the principles upon which its motion depends.

From regard to the safety of women, and the public good, as well as the credit of the profession, it is much to be wished, that none were permitted to practise Midwifery, till they had given sufficient testimony of their skill, by *due Examination* before gentlemen appointed by legal authority, for that purpose, as usual in other branches of physic and surgery. We should not then find the town and country over-run with ignorant pretenders of both sexes, who impose on the credulous, and supply their want of knowledge by arrogance and vain-boasting, or a slavish submission to the obstinacy or avarice of old women and nurses.

Where humility is joined with ignorance, it should rather excite pity than indignation; but it is truly observed, that those who are most deficient in understanding are least able to perceive it; and instead of making up by diligence and application what

they want in intellect, they are generally, of all others, the most self-conceited and presuming. Did the evil rest with such unworthy members of society, it might be passed over in silence; but when it affects the immediate safety of such as *intrust them with their lives*, it cannot be too seriously represented, or too openly exposed. Hence it must appear an act of manifest injustice to the public, and a real injury to those of the medical profession duly qualified, whenever *professors* are prevailed upon to sign *certificates* for such as are not qualified at all.

The patient's life more immediately depends on the operator's skill in this, than any other branch of physic or surgery; and therefore it is the indispensable duty of every one who engages in it, to render himself duly qualified. He ought not to suppose, that a course or two of Lectures negligently attended, is sufficient for this purpose, and that he may then set out in practice with reasonable hopes of success; on the contrary, after obtaining a rational theory, he should have *frequent opportunities of practice*, without which he will never acquire dexterity of hand, or that resolution and firmness of mind, so necessary in all cases of *danger and difficulty*. Instead of this, his behaviour will be timorous and confused, and no one can reasonably expect to engage the confidence of others, who apparently distrusts himself. Such conduct will always subject him to censure, and where another of the profession is sent for, and performs

performs what he himself is unable to do, it will degrade his character and injure his reputation.

The force of habit is so remarkable in the difficult operations of Midwifery, that it may be truly said, *'tis Practice which makes perfect*; for the hand gains strength and dexterity in proportion to its use, and the mind being familiar with danger, becomes more circumspect and deliberate than before; whereas, fear enervates the hand, destroys recollection, and puts the thoughts into confusion.

Whatever knowledge a man may possess, or however respectably he may appear in his profession, he has a right to regulate his conduct by the rules of true policy, and to pay due attention to his own interest; but this is not to be done by timorous and time-serving deportment; not by chiming in with the prejudices of the people; by being in league with nurses and ladies' women, or paying compliments to the wealthy and great at the expence of truth; not by imposing on the ignorant with pompous and pedantic jargon, or astonishing the vulgar with miraculous and pretended cures; but by principles directly opposed to all these. If such artifices degrade the meanest of mankind, surely they are unworthy of men professing a liberal science, whom no interest should prompt to base and ignoble proceedings, even could they be supposed to escape detection and contempt.

The privilege of attending a public Lying-in Hospital has long been wanting in this great metropolis, to perfect students in the true practical knowledge of Midwifery; and it affords me much pleasure, that I have been able to obtain this singular advantage for my pupils at the WESTMINSTER NEW LYING-IN HOSPITAL; where near *five thousand women have already been delivered under my direction*; and where an additional number will now be admitted, by order of the Governors, in consequence of new subscribers, benefactions, and legacies since its first institution.

The utility of permitting students, when duly qualified and under proper regulations, to attend *Public Hospitals* is so obvious, that this custom was adopted in France many years ago, and is now allowed in other parts of Europe. Such privileges manifestly tend to the improvement of Midwifery, and therefore will be productive of universal good, by extending the benefits of that art to different parts of the kingdom, where those students may hereafter chance to reside; and who, from such previous advantages, will be duly qualified in dangerous cases to give their assistance with judgment and dexterity. Hence, many women, the rich as well as the poor, will be preserved, who otherwise might have fallen victims to the ignorance or insufficiency of unskilful practitioners.

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It was owing to the wise and early institution of Lying-in Hospitals in Paris, and to the peculiar advantages and improvements arising from them, that students in Midwifery formerly resorted thither from other nations; but though this Art is no where more rationally now taught, or more judiciously practised than in London; it must be confessed that we were at first indebted to the French for many of its capital improvements.

Nothing will more redound to the public good than humane attention to the health and well-being of the industrious poor. A man of this profession by his advice and timely assistance, may often administer relief and comfort to the afflicted, and even preserve life. To those who are blessed with sympathy and benevolence of heart, this will afford the most exalted pleasure, especially where such assistance is given to women in the hour of their distress, who are to be considered as the weaker sex, and unable to help each other.

At such times, none, who are worthy to be called men, will desert even the poorest of them; their nerves are strung to the same sensations of pleasure and pain as those of the rich; they are formed of the same materials, and ordained to the same end. Let us look back to our own origin, and we shall find that once we were parts of themselves; for we
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sprung from their bodies, we were nourished by their blood, and should have perished in the very commencement of our being, had we not been sustained, nursed up, and cherished on their tender bosoms, and protected by their unwearied care.

It would be cruel to take fees of those who suffer from the extremes of poverty and pain, especially where Hospitals are wanting for their reception; even a trifle, scarcely of benefit to the receiver, would be more than they could spare, who earn their daily bread with the sweat of their brows, and are often unable to supply their needy families with the common necessaries of life!

When we come to consider the office of an *Accoucheur*, we find it attended with great fatigue of body and anxiety of mind. His patience will often be put to severe trials by the obstinacy and caprice of those under his care; by the petulance and self-sufficiency of ignorant nurses, or the malignant whispers of malice or envy. The life of the patient and his own reputation are depending, and where the event is fatal, he will frequently meet with undeserved censure and the most illiberal treatment; especially, among the lower class of people, who, being swayed by prejudice and vulgar errors, judge without reason, and condemn without mercy. This will render

his attendance irksome and tedious; but as long as human nature continues what it is, he must expect sometimes to meet with such unwelcome behaviour. The tongue of slander is as much at liberty as the tongue of truth, and since it is not in his power to prevent the first from proclaiming injurious falsehood; his principal happiness will be to act in such manner as not to deserve it; and being thus conscious of having done his duty, that will afford him consolation which nothing can take away.

Besides these qualifications, there are others no less necessary for the *Accoucheur*, in common with the rest of his profession. Every one is a judge of his appearance and deportment, though not of his skill; the method of pleasing, as far as it is conformable to the principles of honor and rules of good breeding, ought therefore to make no inconsiderable part of his character: Of this the celebrated *Hoffman* was so sensible, that he published his *Medicus politicus*, and *Bohnius* also wrote *de officio medico*; but what has been laid down on that subject by the late Dr. *Gregory* of Edinburgh, is preferable to the rest; having delivered his sentiments with becoming freedom, and the zeal of a physician honestly solicitous for the credit of his profession, and the advancement of true medical knowledge.

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Whoever practises Midwifery, ought to be sober, patient, and discrete; polite and easy in his address, and of a modest and humane disposition; yet possessed of so much resolution as not to be alarmed or disconcerted in cases of the greatest danger. At all such times, he should duly consider and deliberately attend to the symptoms and circumstances before him, taking care to proceed with the distinct exercise of his judgment and reason, as a few grains of error, or proper discernment, in extreme danger, may turn the scale for life or death. When the patient's situation is truly alarming, and the event likely to be fatal, her relations and friends should be apprised of it; and where the operator finds the case singularly perplexing, another of the profession eminent for his candour and skill, ought to be called in; but, whether in consultation or speaking to the attendants he should deliver his opinion with clearness and prudent caution, avoiding all such pedantic phrases and mysterious terms of art, as are fitter for conjurers than men of science. He should avail himself of no illiberal methods, or attempt to filch a good name at the expence of another's reputation; but in all things, as becomes a man of honor and true benevolence, endeavour to promote the good of society without ostentation, to support the credit of his profession without pride, and to practise condescension without artifice or meanness.

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Whatever assistance women may at this time require should be regarded with the utmost delicacy; their situation being only such, as it has ever been and still must continue according to the stated laws of Nature. But, to inculcate what must be obvious to all men possessed of a sense of their duty, and the common principles of humanity, would be an unnecessary waste of time. Should one in a thousand be found of a different character, surely, it would be inconsiderate and unjust to censure the whole profession, for the delinquency of so small a part. It is not sufficient to say, that those who practise Midwifery have frequent opportunities of acting dishonorably; for if the means of violating their faith and honor could be proved the cause of doing so; all mutual confidence would then totally cease, and mankind in general, as well as they, would of course be immoral and base, since there is no station or department in life which does not daily afford opportunities of becoming vicious.

The Plan which I propose to follow, in the ensuing COURSE of LECTURES, is exactly conformable to the order of particulars laid down in my SYLLABUS, which I have therefore here annexed as a SPECIMEN of the whole.

From thence Gentlemen, it will appear, that I mean not only to lay before you, the *Theory and Practice of Midwifery*,
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according to the Doctrines of the most eminent *modern Professors of that Art*, but also to expatiate largely on the Nature and Treatment of the various *Diseases incident to Women and Children*, whether *acute* or *chronical*, being a branch of medical science highly important, yet of all others most imperfectly known to those who are young in the profession. I shall likewise add some general Reflections on what is called *clinical Practice*, and shew the utility resulting from it, in the cure of Diseases; as well as the great advantage of examining the morbid appearances in such bodies as are occasionally directed to be opened at the Westminster Lying-in Hospital.

In short, I shall pay the utmost regard to whatever is most useful in practice and endeavour to preserve such a regular succession of circumstances, as tends to render the following COURSE OF LECTURES as clear and instructive as my abilities will allow. Here I must request, that those who do me the honor to attend as *Pupils*, will take down their *Notes* with such care, as neither to discredit themselves or misrepresent me. They will do well to consider, that their *future gain, and advancement in the world* will chiefly depend on the rank they may hold in their profession, for address, dexterity and skill, and that those qualifications can only be attained by assiduity and application.

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The early reading of Books, during their attendance at Lectures does not seem eligible, for it often misleads the student, and gives a false bias to his judgment: It will first be requisite to acquire *true Principles of the Science*, with a competent share of *practical Knowledge*, and with such guides to direct, he will be less liable to error, in adopting many things, which ought to have been rejected, as exceptionable.

To conclude; the great importance of the *Science of Midwifery*, whether considered in a moral or political view, is sufficiently evident; and was its utility only confined to the *Preservation of women and their tender offspring*; that alone would effectually recommend it to all good and sensible minds; but, by a review of its several advantages, it appears a necessary *Branch of Philosophy* as well as *Physic*; the *public Administration of Justice*, under certain circumstances, calls for its assistance; and even the *Cause of Religion* itself has been promoted by its extensive influence. It may, therefore, be truly said, that the *Obstetric Art* contributes to the good of society, and the general interest of mankind, in a manner superior to all other sciences.

I shall now, gentlemen, trespass no longer on your time; for I presume it will evidently appear, from what

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has already been said, that all those who propose to study Midwifery, and to become deservedly eminent in their profession, ought principally to avail themselves of *practical Knowledge*, founded on a previous *rational Theory*; and not indolently content themselves with that superficial and imperfect method of being instructed, which has hitherto so long prevailed; to the danger of the patient, the discredit of the science, and the injury of their own reputation.

S Y L L A B U S