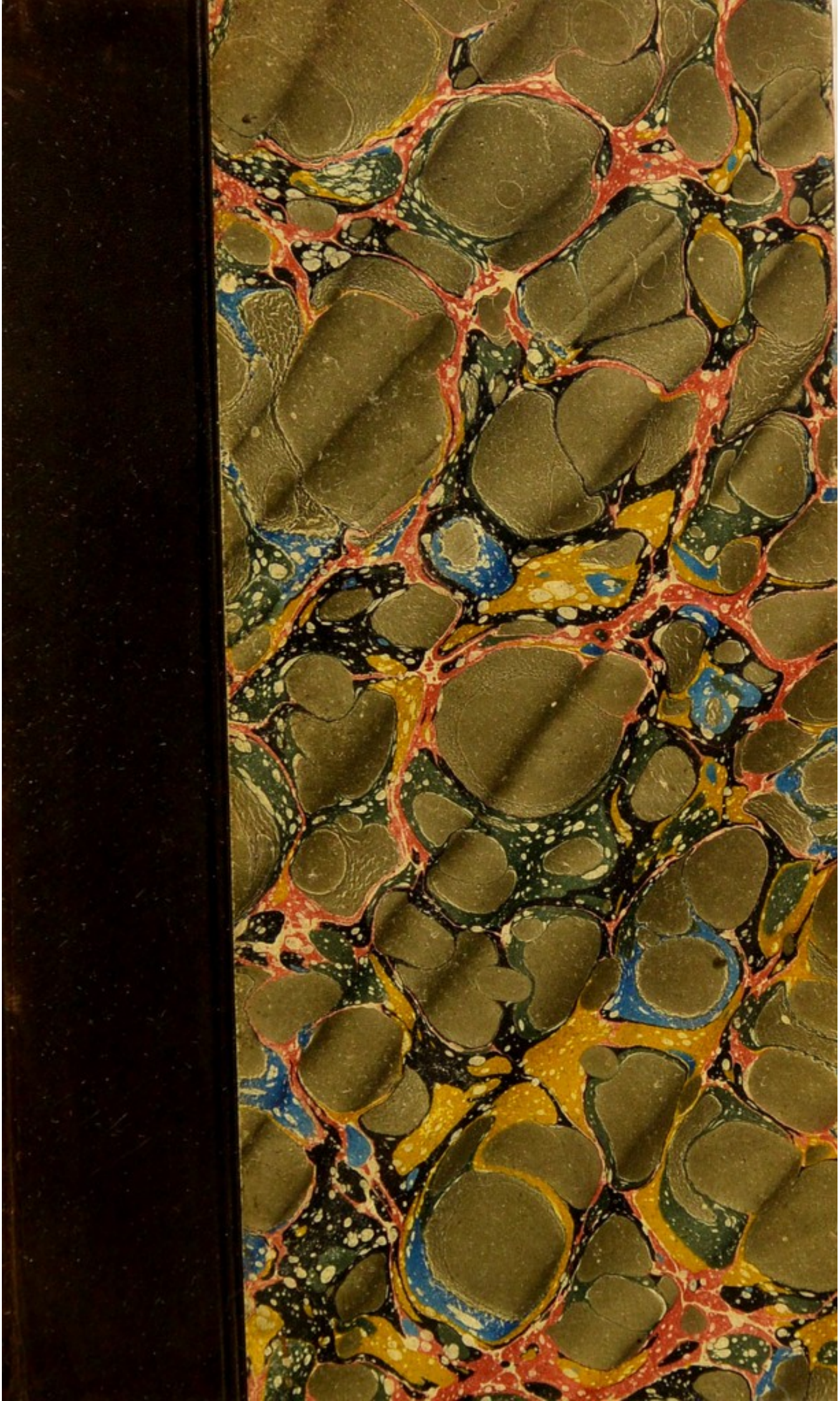
The clinical guide, or a concise view of the leading facts, on the history, nature, and treatment of the various diseases that form the subject of midwifery : or attend the pregnant, parturient, and puerperal states : ... to which is added an obstetrical pharmacopoeia ... / by William Nisbet.



THE

CLINICAL GUIDE,

PART III.

CONTAINING

MIDWIFERY AND OBSTETRICAL PHARMACY.

THE

CLINICAL GUIDE,

OR

A Concise View

OF THE LEADING FACTS,

ON THE

HISTORY, NATURE, AND TREATMENT

OF

THE VARIOUS DISEASES

THAT FORM

THE SUBJECT OF MIDWIFERY,

OR ATTEND THE

PREGNANT, PARTURIENT, AND PUERPERAL STATES:

INTENDED AS

A Memorandum-Book for Practitioners.

To which is added

AN OBSTETRICAL PHARMACOPŒIA,

Divided into Three Parts;

Viz.—MATERIA MEDICA,

CLASSIFICATION, & EXTEMPORANEOUS PRESCRIPTION.

BY

WILLIAM NISBET, M.D.

FELLOW OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH, AND ONE OF THE SURGEONS TO THE ROYAL INFIRMARY, NOW OF LONDON.

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1800.

TO

SIR WALTER FARQUHAR,

BART. F.R.S.

WHOM

PUBLIC APPROBATION

HAS JUSTLY RAISED TO THE FIRST RANK

IN MEDICINE,

THIS WORK IS INSCRIBED,

AS

A TRIBUTE OF RESPECT,

BY THE AUTHOR.

PREFACE.

IN every ſcience, the principles of which are extenſive, for the ſucceſs of their application to practice, certain diviſions have been found neceſſary;—theſe, by confining in ſome meaſure their limits, render an acquaintance with the whole leſs requiſite, and make the ſeveral parts, at the ſame time, in ſome degree, independent of each other. Hence has ariſen a variety of departments in the ſame profeſſion. In none is this more diſplayed, or with greater advantage, than in Medicine. From a ſuperficial conſideration of the nature of diſeaſe, and particularly of the difference of the means neceſſary to its cure, a diviſion of this ſcience originally took place into two departments, of Phyſic and Surgery. This diviſion, however, was too extenſive. New diſcoveries daily increaſed the number of ſubjects comprehended under each, and a ſtill farther diviſion was

found neceſſary to be made. Thus, on the inſtitution of univerſities, at a very early period, we find a variety of departments eſtabliſhed in Phyſic: Surgery continued for long in its original ſtate; but the progreſs of civiliſed life, with its attendant evils, rendered alſo a change at laſt neceſſary here. Thoſe ſituations, which were formerly conſidered as merely natural, and the effect of unavoidable conſtitutional cauſes, came more frequently to require medical aid: a diviſion therefore of Surgery took place, comprehending that part of it concerned in the delivery of pregnant women. From this period it has received a greater ſhare of attention than formerly, and a zeal for its improvement which has ariſen, increaſed the number of ſubjects originally comprehended under the title of Midwifery. Its relation, however, to Surgery ſtill in ſome meaſure prevails, and the reputation of the accoucheur is generally eſtimated in proportion to the dexterity he diſplays where difficulties occur in conducting the operation of delivery. From the other branches of Surgery it chiefly differs in this, that while the ſurgeon has the advantage of the eye to direct the uſe of his inſtruments, the accoucheur muſt truſt entirely to the feel as the guide of his conduct, in judging both of the morbid ſtate, and of the means of relief.

The preſent work is the ſubſtance of a Courſe of Lectures, delivered by the author in Edinburgh ſome

years ago on this ſubject. He has now attempted to condenſe them into the form of a ſyſtem, a plan ſeldom hitherto aimed at by the numerous authors on Midwifery; and he has alſo dwelt on ſome ſubjects, of importance to an accoucheur, which have been rather ſlightly treated in other works.

To render it more uſeful, and ſhew the relation between Midwifery and the other parts of the ſcience, he has connected it with the two former volumes, publiſhed under the title of "The Clinical Guide," comprehending Medicine and Surgery. The only difference in the plan of the preſent volume from the former ones is, the introduction of theory, which he found neceſſary to connect the different ſubjects of Midwifery, and to ſhew their dependence on each other. This, however, wherever it occurs, may be paſſed over, if diſagreeable, and the facts, in regard to the nature and treatment of the different ſubjects, only attended to.

Theſe three volumes now publiſhed include all the practical ſubjects of the profeſſion, except the Diſeaſes of Infancy and early Childhood. This part the author intends as the ſubject of an additional volume, tracing the progreſs of infancy from the firſt dawn of exiſtence to the age of puberty. The diſeaſes of infancy are perhaps leſs underſtood than any other part in medicine, and they occur equally to the phy-

ſician, the ſurgeon, and the accoucheur, in the courſe of practice. They are not, therefore, properly to be conſidered as an appendage to Midwifery, or as belonging excluſively to the practice of the accoucheur.

The preſent volume it is hoped will be received with equal indulgence as the two former. Many parts of obſtetrical practice will be found placed in a new point of view.

The Prognoſtics of Midwifery will prove uſeful to every accoucheur commencing practice. They form a part which has hitherto been little treated in books of this kind.

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PROGNOSTICS OF MIDWIFERY.

INTRODUCTION.

I. MIDWIFERY teaches the management of thoſe diſorders that attend women, from the moment of conception to their recovery after delivery.

II. The diſorders of women during this period are properly divided into three diſtinct claſſes, as peculiar to the pregnant, parturient and puerperal ſtates, which being all the effect of one common cauſe, or conception, this proceſs merits a previous and principal inquiry.

III. Conception is one of thoſe peculiar proceſſes it is impoſſible to explain. In all the more perfect animals, a union of the ſexes ſeems abſolutely neceſſary to its completion. In whatever manner alſo it takes place, the perfection of its operation *ultimately* depends on the female. Hence, though we cannot explain its nature, as eluding our reſearch, yet theſe circumſtances in the female, neceſſary to render it ſucceſsful,

we are enabled, with ſome certainty, to trace a point of conſiderable importance in practice.

IV. Since the female, then, is by nature more intimately concerned in the ſucceſs of this proceſs than the other ſex; ſo, independent of the organs in her fitted to perform it, we ſhould expect, on compariſon, to find a certain difference in the general habit of the ſex prevail; and this difference, or *Conſtitutional Diſtinction*, we therefore aſſume, as forming thoſe circumſtances neceſſary to the ſucceſs of conception, and on which, *perhaps*, it eſſentially depends.

CONSTITUTIONAL DISTINCTIONS OF THE FEMALE HABIT.

1. *General.*

V. Such a difference, or *conſtitutional diſtinction* betwixt the ſexes, has been long marked by authors, though not ſufficiently inſiſted on in the preſent view. It conſiſts in a certain lax ſtate of the ſimple ſolid, with an increaſed irritability of the nervous ſyſtem.

The former of theſe has a particular effect on the ſtate of the pulſe, and the different ſecretions. Thus the pulſe of women is always quicker and weaker than that of men; often to ſuch a degree, as to equal that which denotes the preſence of real diſeaſe. Hence, in all the diſeaſes of women, we can judge with leſs cer-

tainty by it than in the other ſex. Thus alſo, from the weaker circulation, the ſecretions, which depend greatly on the force with which the fluids are propelled into the ſecretory organs, are more ſparing, and the excretions diminiſhed in the ſame proportion; ſo that a fullneſs, or plethoric ſtate, of the ſanguiferous ſyſtem is neceſſarily produced. This plethora has been remarked by phyſicians as at all times attending the conſtitution of the ſex; and the tendency to it is alſo particularly favoured by their ſedentary life, and greater confinement than the male. From the ſame ſource of laxity in the ſolids, the action too of the lymphatic ſyſtem is much weaker than in the other ſex. Hence they are more liable to thoſe diſeaſes which depend on diminiſhed exhalation, particularly dropſy; and this diſeaſe is more apt to occur in them, from ſimple debility, without any local affection, than in the other ſex. A more favourable prognoſis, therefore, may be here generally formed.

VI. The increaſed irritability, again, of women is beſt diſplayed by the particular diſpoſition or temper of mind characteriſing the ſex, as well as the diſeaſes to which they are ſubjected.

"Thus (as Dr. CULLEN remarks) they are readily elated by hope, and as readily depreſt by fear; paſſing eaſily and quickly from one extreme to the other; eaſily pleaſed, and prone to gaiety; and as eaſily provoked to anger, and rendered peeviſh; liable from ſlight impreſſions to ſtrong emotions, and tenacious of none." Hence the proverbial deſcription of this conſtitution, as

the *Varium et mutabile femina quæ colligit ac ponit iram temere, et mutatur in horas.*

VII. That this ſtate of conſtitution deſcribed (V.) is neceſſary to conception, we infer from ſeveral obſervations.

1. It is agreed by all authors, that thoſe women who are of the moſt relaxed and weakly habit are, by experience, found to be the *greateſt* breeders.

2. Where, from their ſituation in life, by reaſon of labour or other hard exerciſe, women become robuſt, and approach the maſculine character, they either have no children at all, or ceaſe to have them ſoon.

3. Where women are late of marrying, ſo that a rigidity of fibre has begun to take place, and the conſtitutional diſtinction to depart, they are ſeldom mothers, or their children are few.

4. Where from debauchery, as in caſe of common proſtitutes, the natural irritability is leſſened, and the feelings rendered callous, barrenneſs generally enſues.

5. Fat women, in whom alſo the ſenſes are generally more torpid, have few, ſometimes no offspring. In proof of this, we have only to remark the ſtate of population in Holland, where this obeſity in the female proceeds to a morbid degree.

VIII. From theſe obſervations, detailed (VII.), ſince conception, we are led to preſume, as connected much with the preſence of this general difference of conſtitution betwixt the ſexes (V, VI.); ſo we ſhould next expect to find its preſervation ſtudiouſly provided for by nature, during the greater part of life, or, at leaſt, the

whole of that period of life, during which conception takes place; and that this is the caſe, is confirmed, when we examine next the *local peculiarities* of the female, the chief of which is *Menſtruation*.

2. *Local.*

IX. This conſiſts in a periodical evacuation of blood, from the uterus or ſeat of conception, the approach of which is marked for ſome time longer or ſhorter, according to the ſtate of the uterus, by a whitiſh ſerous diſcharge, which departing, aſſumes at laſt the proper red appearance.

The period when this arrives conſtitutes the proper acmé of the female ſyſtem, and forms the age of puberty of the ſex. In this climate, it commences at fourteen or fifteen; but in the warmer climates, where the body ſooner arrives at perfection, it diſplays itſelf at a period conſiderably earlier, as ten or twelve.

The duration of the diſcharge at each period is much diverſified with different individuals, and extends from two or three days, to ſeven or eight.

Its quantity alſo, and manner of flowing, are equally various. In ſome it ſeldom exceeds two or three ounces, and in others, though more rarely, it will amount to no leſs than a pound. In ſome it flows ſlowly, and imperceptibly, during the whole period. In others it is more rapid at once, and then intermits. Thoſe of the ſanguine temperament have been remarked as moſt liable to profuſion; thoſe of the phlegmatic as leaſt ſo.

Its quantity, however, varies in the ſame ſubject at different periods of its recurrence, and no certain rules can be drawn with reſpect to it.

The frequency of its recurrence is equally various in different individuals, as the other circumſtances attending it. At a medium, a lunar month has been mentioned as a proper diſtance between its repetitions; though the health of the female alone determines our opinion with reſpect to it.

X. From the acmé of the ſyſtem, then, whatever this be, this diſcharge continues without interruption, except during geſtation, and the period of nurſing, till what may be termed the turn or decline of life, of which it may be conſidered, by its total diſappearance at whatever time this takes place, as the leading mark. In this climate it commonly occurs ſome time betwixt the fortieth and fiftieth year; previous to which, as that ſtate of the uterine ſyſtem is beginning to be eſtabliſhed, which terminates its appearance, it becomes more or leſs irregular; a period when the health of the female is conſiderably affected, and to which much attention is generally paid.

XI. Every woman, then, whoſe uterine ſyſtem is complete, has this diſcharge for the greater part of life; and the more regular it is, the general health of the ſex is the more complete. Many authors have remarked, that the menſes, after the decline of life, have experienced a return, and that menſtruation has continued regular to a very advanced age. Theſe ſingularities, however, are to be conſidered as the effect of a diſ-

eaſed ſtate of the uterus, which is ſufficiently confirmed by this circumſtance, that ſuch patients were generally cut off by the hemorrhage at laſt.

XII. A lunar month was remarked (IX.) as the proper diſtance between the periods of the repetition of each diſcharge; but in this a very great variety prevails, both in the ſame climate, and alſo in different climates. Thus, in the ſame climate, ſome women menſtruate with the greateſt regularity every fortnight or three weeks, while others again have regularly no appearance of the diſcharge for an interval of two or three months. Theſe peculiarities, however, of habit, require to be accurately diſtinguiſhed from diſeaſe, and it is the effect alone of its retention on the ſyſtem we judge by.

In the warmer climates, again, menſtruation is common every fourteen days, or, at moſt, three weeks; nay, it is ſeldom abſent, though then it riſes in ſome meaſure to the height of diſeaſe.

In the very cold climates the reverſe takes place. In Lapland, it has been mentioned as only recurring twice, or at moſt thrice, in the courſe of the year.

XIII. The ſymptoms of the menſes are very fully deſcribed by authors, and admit a diviſion into thoſe that occur *previous* to their proper eſtabliſhment, and thoſe that mark them *after* their regular recurrence has taken place.

The former conſiſt of general ſymptoms of turgeſcence of the vaſcular ſyſtem.

The latter of irritation of particular organs, with which the uterus ſympathiſes from its diſtended ſtate.

XIV. The firſt we find manifeſted by,

1. General increaſe of circulation; the pulſe being fuller and quicker than what is uſual, previous to this period.

2. Particular ſymptoms of oppreſſion, and weight at the precordia.

3. General languor and inactivity, with ſwelling and turgeſcence of the breaſts.

4. Accidental rupture of veſſels, or hemorrhages from different parts, giving a temporary relief to this ſtate.

XV. The ſecond ſet of ſymptoms, again, or the ſympathetic, conſiſt of uneaſineſs at ſtomach, pain of head, back, &c.

When the menſes are once fully eſtabliſhed, the conſtitutional ſymptoms of turgeſcence (XIV.) more rarely appear, or only in a ſlight degree, and each ſucceſſive return is rather diſtinguiſhed by the uterine ſymptoms themſelves, as pain, tenſion, and laſſitude of the hypogaſtric region, with ſlight diſturbance in the functions of ſome of the ſympathiſing parts, particularly the ſtomach and head.

XVI. From this ſhort examination of the hiſtory and ſymptoms of the menſtrual diſcharge (from VIII. to XV.), it is proper we ſhould next attempt to deduce ſome view of its cauſe.

In order to explain this, it is neceſſary we ſhould recur to our former poſition, that the *leading characteriſtic of the female habit* is a laxity of ſolid; and that this laxity requires to be *ſtudiouſly preſerved* by nature, through the greater part of life, as eſſential to the execution of that ſeparate office which the ſex is particularly deſtined to perform; that this is the effect of the menſtrual diſcharge, in a principal manner, will appear when we conſider the circumſtances which mark the age of puberty in the male.

XVII. The growth of the body is obſerved to depend on the extenſion of the vaſcular ſyſtem with a correſponding appoſition of new matter. The manner of this extenſion is determined by certain laws, which occaſion particular parts to acquire firſt their complete ſize, before others are enlarged in the ſame degree; but the progreſs of extenſion, or the growth of any part, is always in proportion to the laxity of ſolid, or ſuperior force of the heart, compared with that of the vaſcular ſyſtem. Hence we find in infancy, while the ſolid is lax and yielding, the extenſion is moſt rapid; and gradually, in the progreſs to puberty, the facility of extenſion diminiſhes, till at laſt a balance, between the force of the heart and reſiſtance of the vaſcular ſyſtem, oppoſing the further elongation of the latter, is induced.

As the powers of nutrition remain equally ſtrong, the effect of this reſiſtance to growth muſt ſoon be an exceſs of fluids or plethoric ſtate, affecting the general circulation; which ſtate is removed, partly by the evolution of glands, whoſe functions were formerly

incomplete, forming a new ſecretion, and partly by an increaſe of the different excretions in conſequence of an increaſed rigidity of ſolid, the effect of the more powerful exertions of the heart, to accompliſh a further extenſion of the vaſcular ſyſtem.

But in the female no ſecretion is intended to take place, while, at the ſame time, the rigidity of ſolid induced by the increaſed action of the heart at this period is unfavourable to the *continuance* of that habit remarked to characteriſe the ſex. Hence, to prevent it, as from the circumſtances of growth, a plethoric ſtate muſt neceſſarily enſue; and in order to diſtinguiſh the ſex, of which, before this period, there is *little* diſtinction, a diſcharge we find take place from the general circulation itſelf, which is profuſe in proportion to its frequency, and which at once affects the action of the heart, and conſequently the ſtate of the vaſcular ſyſtem, as not being altered by any ſecretion.

XVII. From this circumſtance, the age of puberty, which gives to the male an increaſe of vigour and tenſion of ſolid, communicates, on the contrary, to the female a ſenſible weakneſs and laxity not felt before, producing, in the whole ſyſtem, that ſtate which in future is to diſtinguiſh the ſex.

XVIII. The ſituation from which we mentioned this diſcharge to appear was the uterus; and we find its appearance here originally favoured,

1. By the circulation to the organ; and,
2. By the ſtructure of the organ itſelf.

XIX. With reſpect to the former, it is obſerved,

1. That the deſcending aorta is larger in women than the aſcending; the reverſe of which is conſpicuous in the male, and ſhows that an increaſed determination is here intended.

2. It lays aſide, in ſome meaſure, its natural firmneſs and denſity, before it divides, ſo as to be more affected by the action of the heart in this ſituation.

3. The veins are ſmall in the inverſe proportion to the arteries, and poſſeſs an increaſed denſity, retarding the flow into them from the arteries, thus favouring accumulation in the organ, where a plethoric ſtate of the general ſyſtem prevails.

XIX. With regard to the ſtructure of the organ, it conſiſts entirely of a *parenchymatous* ſubſtance, which readily admits diſtenſion, and may be conſidered as ſomewhat between muſcular and cellular matter, receiving, by extenſion, the nature of the former. The diſtenſion of ſuch matter is not attended with thoſe conſequences which diſtinguiſh it in the other organs; for where diſtenſion of them occurs, inflammation is liable to enſue. In the uterus, however, this never happens; even in the liver, which is of a ſimilar ſtructure, inflammation is not very frequent, compared with the other organs, and difficult to detect, in conſequence of its little ſenſibility, whatever authors may aſſert.

Hence, theſe two circumſtances of its ſtructure, and little ſenſibility, favour that accumulation which the ſtate of its circulation naturally induces.

XX. Having thus explained the cauſes that pre diſpoſe

to its occurrence, and the neceſſity for the diſcharge, it remains next to account for the real appearance of the diſcharge itſelf.

From the diſtenſion of the uterus, mentioned (XVI.), we ſuppoſe that the ovaria, as being *highly* irritable, and ſympathiſing in a peculiar manner with the uterus, are excited in a certain degree by its diſtended ſtate; which excitement communicating to the ſpermatics, and the other vaſcular branches diſtributed in a particular manner upon their ſubſtance, an increaſed ſtimulus augments their action to that degree, that a rupture of their extremities occurs where connected with the veins, and where the reſiſtance to their circulation is greateſt, taking off the *general* as well as *partial* plethora of the ſyſtem.

XXI. That this irritable ſtate of the ovaria much influences the appearance of the menſes we have reaſon to conclude;

1. Becauſe the ovaria at this period ſhow a different appearance from what is conſpicuous before, and a fullneſs of their contents.

2. Becauſe the ſpermatic arteries, have a particular diſtribution on the ovaria, which can anſwer no other purpoſe than to increaſe any irritation conveyed to theſe parts.

3. From the ovaria being obſerved to be of a very ſmall ſize in caſes of chloroſis.

4. From theſe parts ſuffering more than any others of the genital ſyſtem, on the decline of life, when the menſes begin to depart, loſing their uſual ſize, and becoming conſiderably ſhrivelled.

5. From menſtruation becoming irregular where they happen to be diſeaſed; and,

6. From analogy in the male, in whom a certain ſtate of the genital ſyſtem is neceſſary to give tenſion and tone to the whole body, and hence, from the ſimilarity ſubſiſting between the teſtes and ovaria in their functions, where the menſes do not appear, as a general flaccidity prevails in the female; ſo we conceive ſuch a ſtate in the ovaria neceſſary to the appearance of the menſes, as on the uſual commencement of this diſcharge no ſuch flaccidity is ever diſcovered.

XXII. The menſtrual blood we conſider as flowing from the arterial ſyſtem; for during youth and middle age, when the menſes only flow, the denſity of the venous coats exceeds that of the arteries; conſequently a greater reſiſtance is formed to the tranſmiſſion of the blood into the former. Hence, the accumulation at this period muſt chiefly prevail in the latter; and from their contractile power, increaſing their natural reſiſtance, a rupture of the arterial extremities, where connecting with the veins, will of courſe occur. This is alſo proved by its greater conſiſtency with the uſual laws of the circulation, and from the nature of the blood itſelf, which diſcovers the ſame florid appearance as when flowing from the arteries.

XXIII. In this manner we account for the firſt appearance of the menſtrual diſcharge. But though neceſſary for its *firſt* appearance, and till once properly eſtabliſhed, this general ſtate of the ſyſtem is no *longer* required for its ſubſequent returns. For as we have obſerved the veſſels to be here more favourable

for accumulation than in any other part, ſo the diſtenſion of them in the ſame degree with thoſe of the reſt in the body, to produce only a ballance of them with the other parts of the ſyſtem, by giving a certain irritation to the ovaria, which we conſider in their natural ſtate as highly ſenſible, and the latter exciting in their turn, their contraction eaſily produces from their ruptured extremities the ſame evacuation as *formerly* took place; although, at the ſame time, this degree of irritation on the ovaria is much inferior to what the general plethoric ſtate, formerly mentioned, induced.

XXIV. That this is the cauſe, and that, when *once* eſtabliſhed, the ſucceeding returns of this diſcharge are *not* influenced by the general plethoric ſtate, which at firſt occured, we poſſeſs the cleareſt evidence.

1. By its not ſtopping in circumſtances of the moſt debilitated ſituation, where a general plethora can have no exiſtence; and hence it cannot, as many authors allege, depend on the quantity and quality of the nouriſhment taken in; nor yet on the degree of inſenſible perſpiration, as being moſt abundant in a warm climate, where ſuch inſenſible perſpiration is greateſt.

2. By its not being ſuppreſt by remedies removing general plethora, particularly blood-letting.

3. By its being promoted by ſtimuli applied to the uterus, exciting the ſtate of the ovaria, as frequent coition.

4. By its occurrence in greateſt quantity in thoſe who are moſt relaxed; the ſenſibility of the ovaria being in them greateſt; and the leſs diſtenſion, there-

fore, producing the irritation neceſſary to the diſcharge.

XXV. Having endeavoured, then, to deduce ſome opinion of the nature and cauſes of the menſtrual diſcharge, it is proper we ſhould review the moſt remarkable theories which have been delivered at different periods, with a view to explain the ſubject. The *firſt theory* is, that which referred its appearance to the influence of the moon. The regularity of its appearance in the ſame ſubject, and the diſtance of its periods in the greater number of women, particularly in that climate where this theory was firſt delivered, ſtrongly favoured ſuch an opinion, which, in modern times, has been very ably ſupported by Dr. MEAD. But, in ſpite of what he has offered in its favour, it appears from the hiſtory of menſtruation delivered, that women ſuffer this evacuation at all different times, without any particular regard to the ſtate of the moon; and that the periods of repetition, in different women, by no means obſerve ſuch a regularity as muſt neceſſarily take place, did they proceed from this cauſe.

XXVI. The *ſecond theory* is that which referred its origin to a particular action of the fluids of the uterus, under the idea of fermentation, by which they came to be partly ruptured, and to pour forth their contents at ſtated periods. This was a term applied to explain almoſt every change in the animal body, while the chemical theory of medicine prevailed: but from its effects in chemiſtry we obſerve, that fermentation is a proceſs which, if occurring in the human

body, would be always attended with morbid conſequences, and extend its influence conſtantly through the ſyſtem, even all the time it was forming, as well as during the period of the flow; that it is a ſymptom of health, not of diſeaſe; and ſuch a term, therefore, cannot apply to both ſtates, as took place in the chemical theory.

2. The regularity of its occurrence in the ſame ſubject oppoſes this idea: and,

3. The vital principle in the animal body counteracts all proceſſes of inanimate matter, and ſubjects the ſyſtem to peculiar laws; ſo that ſuch a proceſs could only take place after it was poured into the uterus.

XXVII. *Another*, and a more ingenious opinion, of the origin of the menſes, is that which referred it to a *peculiar ſecretion* in the uterus, which, giving an increaſed activity to its veſſels, produced the diſcharge. In this they were confirmed by what happens in animals, which, at particular times, when deſirous of venery, ſhow a ſtate of the uterus ſimilar to what occurs under menſtruation.

But, in the firſt place, we would obſerve, that there is no proof of any ſuch ſecretion taking place, neither does the argument from analogy hold here; for women we find not more deſirous of venery at the period of menſtruation than at any other time; on the contrary, the embraces of the huſband are more carefully avoided; conſequently, no ſtate ſimilar to that in the brute creation can exiſt.

XXVIII. The fourth, and moſt univerſal theory, however, is that which viewed this peculiarity of the female habit as ariſing from a general plethora.

It has been ſupported by many writers of the firſt reputation; and, on this account, we ſhall beg leave to conſider it with ſome attention.

The firſt argument advanced in ſupport of this opinion is——

1. That the more relaxed conſtitution of women, by communicating leſs power or force to the circulation, occaſions the different ſecretions to be leſs actively performed.

2. That their ſedentary life poſſeſſes the ſame effect, and even increaſes that natural ſtate of habit.

3. That the robuſt, and ſuch as approach nearer in their conſtitution to the male, are irregular in their menſtruation.

4. The power of nutrition remaining equally ſtrong, while the rapidity of growth at the age of puberty diminiſhes, a tendency to general plethora muſt neceſſarily be produced: and,

5. That ſuch plethora actually takes place, is confirmed by a ſpontaneous hemorrhage, at the age of puberty, without any flow from the uterus itſelf, relieving for a time the morbid ſymptoms which then appear.

XXIX. That ſuch a general plethora is then conſpicuous, we have already endeavoured to ſupport; but it is equally true, for the reaſons alſo formerly aſſigned, that, when once eſtabliſhed, it cannot influence at all times its ſubſequent returns. This ſoon appeared to many authors; and deſerting, therefore, the

theory of a general plethora, which, we ſtill contend, at firſt prevails, they endeavoured to account for it by the ſame ſtate confined ſolely to the uterus itſelf. This they attempted to ſupport in two ways; either,

1. By a particular ſtructure of the veſſels of the organ; or,

2. Certain circumſtances of its circulation, without this.

The firſt was the favourite theory of Dr. ASTRUC, who has taken very great pains in deſcribing this peculiarity of ſtructure; but his deſcriptions have never been confirmed by the diſſections of any future anatomiſts, and are to be conſidered as merely ideal, and formed to explain a difficulty he could not otherwiſe overcome.

The ſecond again, or the circumſtances affecting the circulation of this organ in a peculiar manner, are:

1. The tendency to accumulation, which the veſſels in the neighbourhood of the uterus, from their ſtructure formerly deſcribed, poſſeſs.

2. The want of valves, which the uterine veins diſcover, and the ſlow motion by which their fluids muſt, therefore, be particularly diſtinguiſhed.

3. The ſituation of the organ itſelf, or its dependent ſtate; and,

4. Its analogy with the other part of the body, particularly the breaſts, where *a local plethora* at times evidently appears. For theſe reaſons, then, a local plethora muſt be admitted as taking place; but, from analogy with thoſe hemorrhages, which occur in other parts of the body, ſome added cauſes are neceſſary to produce at firſt the diſcharge; beſides, the ſimple accumulation in the organ

itſelf, and a general plethora, at leaſt a degree of increaſed action of the ſyſtem, muſt be likewiſe introduced, to account for many of the phenomena which characteriſe the firſt periods of its appearance.

XXX. The nature of the menſtrual blood was formerly ſuppoſed different from the reſt of the general maſs, and as conveying alſo ſomething morbid from the ſyſtem. This aroſe from the theory of morbific matter; and was farther confirmed by the apparent ſymptoms attending its retention. It was on this account the diſcharge was formerly named by authors, the *menſtrual purgation*, a term even uſed ſo lately as by Dr. HALLER. This opinion has been ſomewhat revived, though on a different principle, by the late Dr. HUNTER, under the idea of its being a bloody ſecretion, not common blood. The motion of the blood, indeed, in the veſſels of the uterus, from their minuteneſs in their natural ſtate, muſt be very ſlow: hence their contents will poſſeſs, on evacuation, a great quantity of coagulable lymph, which is confirmed by the menſes being frequently voided by many women in the form of clots. The blood alſo, when poured from the uterine veſſels, is certainly in an extravaſated ſtate, and is then expoſed to the different changes which heat and retention may produce. This they were very early ſenſible of in the warmer climates; hence the ſevere injunctions, and thoſe other reſtrictions recommended ſo ſtrongly by the Levitical law: ſuch regulations ſtill prevail in moſt of the warmer countries; — experience muſt have early pointed out the neceſſity for them. It is likewiſe the more proper, as diſeaſes of the menſes, or a morbid ſtate of

the diſcharge, is more liable to occur in thoſe ſituations, and particularly the fluor albus, from which a gonorrhœa ſpuria often ariſes.

XXXI. The menſtrual blood we formerly remarked as flowing from the uterus, and generally its fundus. This, however, is not always the caſe; and diſſections have ſhown ſome variety to occur in particular inſtances. This variety it is proper alſo to be acquainted with; for where the veſſels of the uterus poſſeſs any unuſual firmneſs of texture, as the circulation of all theſe parts has a connection by the anaſtamoſis of their veſſels, the rupture of the latter may occur in the vagina, and the diſcharge flow from this fource; a circumſtance which has been at times remarked: but that it flows moſt commonly from the uterus, is confirmed by obſervation in caſes of prolapſus, as well as by diſſections; and that it proceeds alſo from its fundus we have a farther proof by this part in geſtation, forming, generally, the place of attachment of the placenta.

XXXII. In the quantity of the diſcharge at each period, a great variety was formerly obſerved to prevail; and the only way of aſcertaining the exact quantity voided at a time is by examining the cloths applied to receive it. When, however, it flows at firſt in a conſiderable ſtream, as the blood poſſeſſes then a leſs proportion of coagulable lymph, it will ſtain a greater number of cloths than where it flows ſlowly and imperceptibly, and acquires an additional firmneſs by the diſſipation of its thinner parts from retention. Hence we cannot abſolutely decide on this proof of its quantity, commonly advanced by authors.

XXXIII. The natural interruption, alſo, of this diſcharge we mentioned as only taking place during geſtation, and the period of nurſing. In ſome inſtances, however, as we ſhall afterwards find, it appears for two or three periods after conception; but this is ſo rare, that it no way controverts the general opinion, and is to be conſidered in ſuch inſtances as a deviation entirely from the natural courſe. It perhaps only occurs in thoſe in whom the diſcharge is uſually from the veſſels of the vagina, which are not ſo ſoon affected by conception. In the ſame way menſtruation has been known to continue regular during the whole period of nurſing; but ſuch caſes deſerve to be marked merely as uncommon occurrences, and as ſhowing the variety of nature in the formation of the conſtitution. It is generally, however, ten or twelve months after child-bed before the menſes return; and where nurſing does not take place, it is at leaſt ſix weeks, or three months.

Nay, it has been known, though this is ſtill more rare, that ſome women have never at any time during their life ſuffered menſtruation. In theſe, however, the uterus on diſſection has been found wanting.

XXXIV. Women themſelves conſider the period of menſtruation, in ſome meaſure, as a ſtate of diſeaſe; and hence they are minutely attentive to every circumſtance regarding their health at this time. Their natural irritability is certainly then increaſed, and their opinion may have an effect in rendering it more ſo. It is neceſſary to humour thoſe prejudices. You cannot indeed, with propriety, combat what is early inſtilled both by the mother and every female attendant.

Theſe prejudices have occaſioned certain aliments being particularly rejected at this time, as fiſh and milk, which are the moſt noted. Some delicate ſtomachs, indeed, cannot bear the uſe of theſe ſubſtances at any time; and, from their particularly diſagreeing during menſtruation, they have been conſidered by the ſex in general as improper at this period.

The proper rule, however, in this caſe is, that whatever diſagrees at any other time ſhould be then carefully avoided; and where fiſh and milk do not diſagree, there is properly no neceſſity for their excluſion.

XXXV. We have thus offered our opinion of the menſes; and in concluſion we obſerve, that, independent of the local effects of the diſcharge, it is neceſſary to preſerve the *characteriſtics* of the female; and that its flowing prevents the occurrence of that ſtate of conſtitution which diſtinguiſhes the male.

XXXVI. That this ſtate of the uterus it induces, as well as that of the general conſtitution, is neceſſary to conception, is proved from the following circumſtances:

1. Previous to the age of puberty, and when the menſes have entirely ceaſed, conception is never found to take place.

2. Sparing menſtruation is always attended with difficult conception: and,

3. Something ſimilar to the menſes, conſiſting in a ſerous excretion, or the appearance of a few drops of blood, occurs in all animals, when deſirous of coition; and it is obſerved, in many animals, that when they come

to be in ſeaſon, particularly Does, the uterus becomes ſoft, lax, and fleſhy.

Theſe, then, are the ſeveral circumſtances (from V. to XXX.) that we judge eſſential to the ſucceſs of conception, and from a previous knowledge of which, the nature of this phenomenon, with its effects on the uterus, we are now prepared to inquire into.

XXXVII. From the venereal appetite, or deſire of coition, natural to every animal, we ſuppoſe, that, ſimilar to the diſtenſion of the *corpora ſpongioſa urethræ* in the male, a *certain turgeſcence* of the female parts, and particularly of the uterus, previous to this act, occurs. By this turgeſcence, a peculiar ſtate of excitement, favouring abſorption, is induced; and the Fallopian tubes, in conſequence of this ſtate, appear to have their ragged fimbriæ, or abſorbing extremities, erected; and on the admiſſion of the male ſemen into the uterus by coition, a portion of it entering their cavity is carried through its whole extent to the fimbriæ; and by this increaſed ſtimulus of the fluid, theſe fimbriæ come next to be applied round the ovaria, which they are naturally meant, by their action, to embrace. In this ſituation, what they contain is ſhed on theſe bodies, which are conſidered to be of a peculiar glandular ſtructure, poſſeſſing a number of ſmall veſicles, or ova, in their ſubſtance. One or more of theſe ova, receiving, by this application of the fimbriæ, a particular change, burſt the teguments which incloſe them, and are then carried by the fimbriæ, through the Fallopian tubes, into the uterus. This retrograde motion is particularly favoured by that debility or collapſe which

ſucceeds the excitement in coition; for, according to the experiments of Mr. DARWIN, the retrograde motion of veſſels is chiefly owing to debility.

XXXVIII. To render this theory the moſt probable on the ſubject of generation, the following circumſtances advanced require to be eſtabliſhed as matters of fact.

1. The excited ſtate of the female organs previous to coition.

2. The preſence of the ſeminal fluid in the uterus and Fallopian tubes.

3. The action of the tubes themſelves.

4. The exiſtence of the ova in the ovaria.

5. The deſcent of the ova into the uterus.

XXXIX. With reſpect to the firſt, ſuch a ſtate is obſervable in all animals; and in ſome, as in the cat, it riſes to the height of actual inflammation. In others, the diſtillation of a white fluid from the vagina, in conſiderable quantity, marking the ſame ſtate of the parts, is very conſpicuous.

XL. In regard to the ſecond circumſtance, or the preſence of the ſeminal fluid in the uterus, the facts which ſupport it are numerous; for,

1. Both RUYSCH and CHESELDEN found its cavity, ſoon after coition, not only filled with ſemen, but likewiſe the Fallopian tubes themſelves;—a proof, at the ſame time, of their abſorbent power.

2. The penis in coition is often ſenſibly felt to touch the orifice of the uterus; and, in ſome animals, it is of ſuch a length, as to ſhow it evidently intended for this purpoſe.

3. From the farther experiments of Spallanzani, it appears that the aura ſeminalis is not ſufficient for animation; but that the ſemen itſelf muſt be applied to the ovum. Hence the common obſervation ſeems well founded, that, in a ſucceſsful embrace, the ſemen is retained, while in the reverſe it flows immediately from the vagina.

XLI. To confirm the third circumſtance, or the abſorbent action of the tubes, we obſerve,

That there are ſeveral inſtances of aſcites being cured by the water being taken up from the abdomen in this way: and that this abſorbent power is exerted for the deſcent of the ovum we farther eſtabliſh,

1. By diſſections which have ſhewn the fimbriæ of the tubes applied to the ovaria, after coition, and even coaleſced there in other caſes from a morbid ſtate.

2. From obſtruction of theſe tubes having been found a frequent cauſe of ſterility.

3. From fœtus having been found in the courſe of the tubes ſtopt in their deſcent into the uterus, by ſome cauſe, and increaſing there;—and alſo from fœtus being found in the abdomen itſelf.

XLII. The fourth circumſtance needs only the proof of diſſection; for on cutting open the ovaria we find ſuch ova manifeſtly exiſt in every female, though varying in their number.

XLIII. The laſt circumſtance, and the moſt important, will be found equally clear from the following facts:

1. On cutting out the ovaria in animals, barrenneſs enſues.

2. The uterus in many animals is wanting; but in none that procreate are the ovaria wanting, or ſomething of a ſimilar nature anſwering the ſame purpoſe.

3. Fœtus have been actually found in the ovaria in ſeveral inſtances.

4. In all pregnant women, on diſſection, a particular cicatrix or ſcar, having a hollow or vacuity within, termed from its appearance in the quadruped, corpus luteum, and anſwering to the place of one of theſe ovaria is obſervable.

5. From analogy in fowls, in which the ſame kind of ſtructure prevails, and where the deſcent of the ova into the uterus is well aſcertained.

XLIV. From the ovum, then, conveyed in this manner (XLI. XLV.) into the uterus, and the ſtate of the latter deſcribed, increaſed by the preſence of the ſeminal fluid, conception we ſuppoſe to ariſe: and, with the ſame probability, we proceed next to trace the ſeveral appearances which ſucceed it.

Progreſs of the Uterine Contents.

XLV. From the retention of the ſemen in the uterus, it muſt neceſſarily act, while there, in two ways:

1. As already detailed, in giving animation to the ovum: and,

2. Which we are now to conſider more particularly, as a peculiar ſtimulus, or organiſing balſam, producing that ſtate of uterine ſurface neceſſary to form and evolve the connecting parts or appendages of the future production. For the retention of this fluid, as

insisted on, it is clear, like every other cause of irritation, must be to stimulate the surface to which it is applied: and as the uterus, like every other cavity, is furnished plentifully with exhalants, so this irritation on its internal surface, the ovum being yet too small for such an effect, must produce an excretion, which, like that from all inflamed surfaces, or surface in a similar state, possesses a tendency to connect parts, and forms into a membranous expansion for this purpose. This membranous expansion, from the peculiar direction it afterwards takes, as described by Dr. HUNTER, in its progress to connect the uterus and ovum, has received from him the names of decidua, and decidua reflexa; and, before his time, from RUYSCH, the term of tunica filamentosa. It constitutes, in early gestation, the greater part of the mass which forms an abortion; a proof that both the uterine excretion taking place is considerable, and that the semen continues to act as a powerful irritating cause.

XLVI. That the effect of the semen is really to produce this uterine inflammation, or a state similar to inflammation, we prove by the first appearances of conception, which can be traced by dissection: for the cavity of the uterus, on being opened a few days after conception, appears filled with a viscid glairy mucus, on removing which the surface below shows red and inflamed. This was particulary remarked by Dr. HARVEY in the uteri of Does, who may be considered as the first author of eminence who made experiments on this subject; and this appearance was regarded by him as the first sign of conception.

XLVII. From this view, then, the contents of the

gravid uterus come to be properly divided into two parts, a maternal and fœtal. The former connects the ovum to the uterus, as already described; for till then the ovum may be considered as an extraneous ſubſtance in its cavity. This part, however, can only be aſcertained as a maternal one in the early months; for by the expanſion of the ovum, it comes at laſt towards the term of geſtation to be entirely loſt in the fœtal membranes, and the only part of it we then aſcertain to be maternal is that portion which forms part of the placenta, and which can only be injected from the uterus, not from the fœtus*.

XLVIII. At firſt, then, this maternal part is the moſt conſiderable; and, for ſome time, the veſicle or ovum ſhows little change, which is proved by the appearance of abortions at this period. On removing the anterior portion of the fleſhy bag they form at their expulſion, a ſmall veſicle *only* is conſpicuous. From this veſicle, when opened, a gelatinous fluid flows out, followed by a ſmall white ſpeck, which is the fœtus. From the fluid, at this period gelatinous, it derives its nouriſhment, and has its parts gradually evolved, when the umbilical veſſels appear. They continue ſhooting out till they reach the ſurface of the membranes to which they form adheſions; for we find them inſerted at different parts of the cake. So ſoon as the umbilical veſſels

* This is particularly proved by caſes of extra-uterine conception in the abdomen, where the placenta wanting the maternal part was found in the form of a *thin membranous ſubſtance*. A remarkable caſe of this kind is publiſhed by Mr. W. TURNBULL, Surgeon in London, detailed with much accuracy, and which contains references to all the caſes of extra-uterine conception related by authors.

are once attached to the placenta, a conſiderable change enſues. The fluids are then tranſmitted to the fœtus by the umbilical veſſels alone. They conſiſt of two arteries and a vein; and while the latter conveys the fluid into the ſyſtem of the fœtus, it is returned by the former, after pervading its circulation, back into the placenta, where, by the exhalants of the latter, the uſeleſs or feculent part is diſcharged, and mixes with the fluids contained within the coats of the bag or veſicle. This is evident from theſe fluids loſing then their former gelatinous nature, and acquiring an excrementitious ſtate, which gradually increaſes as geſtation advances. At firſt, alſo, as little is neceſſary to the circulation of the fœtus, ſo the waters we find in greateſt quantity in the early months leſſening progreſſively, as the fœtus requires the whole of the blood entering the placenta for its nouriſhment.

XLIX. The period when this change in the ſtate of the fœtus, by the adheſion of the umbilical veſſels, commences, is about the end of the ſecond month; for till then, as obſerved by Sir R. MANNINGHAM, no appearance of umbilical cord can be traced; neither is there any regular appearance of placenta, the ſurface of the ovum being all alike. Soon after this period alſo, when the adheſion of the cord is obſerved, there appears near its extremity a particular veſicle, or bag, containing a whitiſh liquor; termed, therefore, by authors, the veſicula alba, having a duct leading into it, and performing a peculiar ſecretion, the uſe of which is unknown; for becoming gradually leſs tranſparent, it departs ſo ſoon as the cord acquires any ſize.

L. The cord thus connected (XLVIII.) we have obſerved to vary in the place of its attachment; but ſpreading out upon the ſurface of the membranes, it appears to ſhoot out its extremities deep into their ſubſtance, which, anaſtomiſing with thoſe of the placenta, a communication betwixt the uterus and fœtus comes thus to be formed.

LI. The manner in which this communication takes place has been often diſputed; and anatomy has been called in, on both ſides, to decide the queſtion. From the circumſtance already obſerved, of the umbilical veſſels not being connected to the uterus at firſt, till ſome evolution of the parts of the ovum takes place, theſe veſſels will naturally, in their progreſs towards this connection, ſhoot out into ſmall diviſions, which being incapable, in this minute ſtate, of penetrating the firm ſubſtance of the uterus, muſt anaſtomoſe merely with thoſe of the maternal part of the placenta; and by this means a direct, though minute communication betwixt the uterus and umbilical veſſels, comes to be formed,

LII. In proof that ſuch a direct communication, in whatever way it may be formed, actually exiſts, it is obſerved,

1. That injections of a very penetrating nature have been actually made to paſs from the ſyſtem of the uterus into the umbilical veſſels.

2. It is a fact agreed by all authors, that injections paſs a certain way from the uterus into the placenta, or fill its ſpongy part.

3. On the death of the child, at any period during pregnancy, a flooding for the moſt part occurs. This can only proceed from the circulation, on ceaſing in the fœtus, producing an over diſtenſion of theſe ſmall veſſels; when a rupture of their very tender coats, and a conſequent ſeparation, muſt enſue.

4. The argument commonly advanced, of a want of hæmorrhage from the cord, on its diviſion after delivery, except of what blood is contained in the placenta itſelf, affords no concluſion; for from the firſt moment of contraction in the uterus, the connection betwixt it and the placenta, as formed by minute veſſels, is generally deſtroyed; but the body of the child filling up the uterus, and the latter contracting regularly, no hæmorrhage enſues. Where, however, any irregularity in this contraction occurs, a flooding in the courſe of labour neceſſarily comes on, which we find in practice frequently the caſe. Theſe floodings alſo are moſt common towards the end of tedious caſes, where an atony of the uterus in particular parts, and thus an irregularity of contraction has probably been induced. For, as a ſtill more convincing proof that the *leaſt* contraction produces this ſeparation where the placenta has been improperly attached, depending from what we have advanced on the particular ſituation of the veſſels, whence the menſtrual flow had proceeded a hæmorrhage to a degree often fatal, enſues. From theſe facts, then, we conclude, that if the cord could be cut before the commencement of labour, a hæmorrhage from the uterus would flow from its extremity in a continued ſtream, and mark ſuch a direct communication as inſiſted on.

5. In caſes of morbid adheſion of the placenta, a direct anaſtomoſis muſt undoubtedly take place; which,

if taking place at any time, muſt prevail always, though in a leſs degree.

6. As the fœtus is very ſmall at firſt, and the placenta, on the contrary, very large, it is clear the fœtus cannot form the red blood in the placentary maſs; and as it muſt be drawn from the mother, if it took place by abſorption, it ſhould be altered as any other ſecreted fluid, and not be the ſame; but we find, on examination, that it is exactly the ſame.

7. No hæmorrhage enſues from the cotyledons of animals, after delivery, as happens from the human uterus when the placenta is removed. The analogy, therefore, between them, does not hold, and forms a ſtrong proof againſt abſorption in the human ſubject.

LIII. In this manner, then, with much probability, we judge the contents of the gravid uterus to be formed; and the progreſs of the diſtenſion of the veſicle, or ovum, comes next to engage our attention.

LIV. This diſtenſion at firſt (while the fœtus is in its incipient ſtate), is entirely performed by the waters. Theſe we have obſerved to ariſe from an exhalant excretion; but how this ariſes it is difficult to explain. We obſerve, however, that wherever red veſſels are to be found, that branches of a more minute diviſion, or an exhalant nature, always attend; and ſince exhalation is in proportion to the inhalation taking place, ſo the connection between the uterus and placenta being ſoon formed, and thus a quantity of blood tranſmitted to the latter, while the fœtus has yet no attachment to it, we ſuppoſe that, in order to allow the circulation to proceed between the uterus and placenta, this fluid collected muſt be diſcharged. The thinner parts of it,

therefore, we conſider as poured into the cavity of the veſicle, or ovum, which diſtend it. But, on a communication between the fœtus and placenta, by the adheſion of the umbilical veſſels taking place (XLVI. XLVII.) and that the fluid of the placenta paſſes directly into the circulation of the fœtus (XLIX.), as exhalation, or the excretion from minute veſſels, depends much on the ſlowneſs of the action in the larger, ſo this ſlowneſs, or ſtagnation in the placenta, being leſſened, the excretion will neceſſarily come to be diminiſhed; though for a conſiderable time only in a very ſmall degree, and tranſmit only the more purely ſerous part.

Hence we find the waters at firſt of a gelatinous conſiſtence; next, more of a ſerous nature; and, at laſt, entirely excrementitious, poſſeſſing, indeed, often a tendency to putrefaction; while, at the ſame time, they are, in larger quantity in the early months, and gradually decreaſe till the end of geſtation.

LV. Theſe exhalants of the placenta have never yet been traced; and the ſame may be applied to other parts of the body, where, from diſeaſe, they appear evidently to exiſt. Thus they have never been diſtinctly obſerved in the brain; though collections of a ſerous nature, entirely reſembling the waters, and that to a prodigious quantity, very often occur.

LVI. That the origin of theſe waters is not from the membranes in their continuation, or at leaſt not in a principal manner, is proved, becauſe the more the latter are extended, the greater ſhould be their quantity which we find, on the contrary, the reverſe and the

ſame argument may be applied, ſuppoſing them an excrementitious exſudation from the ſkin of the fœtus; for in proportion to its ſize in the latter months, ſhould the quantity of this exſudation be increaſed.

LVII. From this conſideration, then, of the waters diſtending the uterine cavity, and retaining it in that ſtate, the fœtus is to be conſidered merely as a paſſive ſubſtance. At firſt, it appears in the form of a ſmall tadpole, floating in the little veſicle or ovum; and at about three months, we find it begin to aſſume ſomething of a diſtinct form; the umbilical cord, with the veſſels, being connected to the placenta, and each of the extremities appearing only as a ſmall ſpeck. Between the fourth and fifth months, however, moſt of the parts we find pretty complete; and ſoon after this its motion comes to be readily felt by the mother. From this period its increaſe is rapid; and at ſix months, it increaſes between eight and nine inches; from which, to the time of geſtation, progreſſively increaſing, its length is from eighteen to twenty-one.

LVIII. Having thus explained the changes which the contents of the uterus ſuffer, till the period of delivery, the changes of the organ itſelf correſponding to theſe we ſhall next attempt to inveſtigate.

Changes of the Uterus.

LIX. As a certain ſtate of the ovaria, then, we have conſidered as much influencing the appearance of the menſes (XII.), ſo a particular change in this ſtate, ariſing from the acceſs of the ſeminal fluid, we are much inclined to believe as affecting the diſtenſion of this organ in its gravid ſtate.

LX. That ſuch an influence of the ovaria on the uterus is well founded, we have reaſon to conclude,

1. By caſes of extra-uterine conception, where, though the fœtus was not contained in the uterus, yet its diſtenſion, as uſual, took place to ſuch a degree, as, in conſequence of the enlargement of its veſſels, to occaſion the ſame profuſe and often fatal hæmorrhages, as in common caſes, where ſuch accidents occur in the advanced months of geſtation.

2. By the ſmall ſize of the ovum at firſt, and delicacy of its texture, compared with the ſubſtance of the uterus, againſt which it forms a reſiſtance

LXI. The changes, then, which the uterus receives, depending on this cauſe, we conceive to be,

1. An extenſion of its veſſels, in conſequence of diſtenſion; and,

2. An appoſition of new matter to its ſubſtance, the natural effect of its increaſed quantity of fluids. And as the uterus, even in infancy, ſhows a greater number of veſſels entering its compoſition than any other organ, being eaſily made entirely red by injection, ſo the facility of this extenſion will be much favoured.

LXII. From the ſtate of the uterus, mentioned as neceſſary to the occurrence of conception, this extenſion we judge to begin in that part where the veſſels are largeſt, and to which a determination chiefly prevails in the unimpregnated ſtate, from forming the ſource of the menſes. This we find to be its fundus: and from the latter conſtituting the far greater diviſion of this organ, the changes which happen in its increaſe are moſtly

confined to that part, for the greater period of geſtation.

LXIII. The firſt change obſervable in the fundus, from its particular ſhape, is found to be an increaſe of convexity, its corners loſing any acuteneſs they poſſeſs, and its ſurface becoming more extended. This increaſe naturally produces an alteration in the ſituation of the tubes and ovaria, by which they are placed lower, and conſequently more towards its centre. Such a change, however, is not ſenſibly apparent till near the fourth month. At this period the fundus begins to emerge from above the brim of the pelvis; previous to which, when its increaſe firſt takes place, as the ligaments, as well as the fundus itſelf, from their ſituation near the latter, and alſo from their connection with the veſſels which ſupply the uterus, by ſharing in proportion to their ſize in the ſame diſtenſion, receive, in ſome degree, an elongation of their fibres; ſo, in conſequence of this, the uterus of courſe deſcends lower into the vagina, and occaſions the contents of the abdomen, which it partly ſupports, to follow the ſame direction; thus producing a certain flatneſs of the belly, which gives one mark of conception.

LXIV. In ſupport of this opinion, that the deſcent of the uterus is not to be aſcribed, as ſuppoſed by authors, to the weight of its contents, we find that in caſes of prolapſus, where it is void of any contents at all, its deſcent happens to a much more conſiderable degree; and as we can ſee here no cauſe of diſeaſe to produce this relaxation of its ligaments, as occurs in prolapſus, we muſt, therefore, aſcribe it to a natural elongation of their fibres, the conſequence of concep-

tion; for it has been likewiſe obſerved, that when, from diſeaſe, as in caſe of ſchirrus, theſe ligaments were incapable of ſuch elongation, abortion ſoon enſued.

LXV. But on the emerging of the fundus above the brim of the pelvis, as obſerved (LX.), the direction of the ligaments (depending on that of the fundus) being altered, in proportion as the vagina was formerly ſhortened, it comes now from this period to be lengthened in the ſame degree, and to embrace more cloſely the os uteri. About the fifth month, aſcending in this direction, it gains half way between the pelvis and navel; when, on preſſure, its tumour can be felt inclining as it riſes from being looſely ſituated in the abdomen, and, therefore, wanting a ſupport a little to one ſide. At ſix months, it reaches the navel itſelf, which receives a protuberant appearance from being puſhed out by it; and from that period, to the term of geſtation, progreſſively augmenting, its increaſe is terminated by its preſſing againſt the ſcrobiculus cordis, or pit of the ſtomach.

In examining alſo the external appearance of the gravid uterus, we find it irregular in its ſurface, having projections here and there, from the members of the child puſhing out.

LVI. The exact height, however, which it attains, is different in different women; and much depends on the particular make of body, and the degree of ſpace in the abdomen, to allow its expanſion; for in tall women, in whom the abdominal cavity is more confined, it is naturally directed more upwards, which is the caſe,

likewiſe, in every firſt pregnancy, as the parietes of the abdomen form then greater reſiſtance to its preſſure, while, in ſhort women, in whom the ſpace is proportionally widened, it ſpreads more out as it aſcends, and preſſes a good deal to one ſide.

LXVII. In this manner, then, does the augmentation of the uterus gradually proceed in its gravid ſtate, till the term of delivery; and the manner in which its circulation is conducted, to effect this augmentation, deſerves alſo to be attended to.

LXVIII. As during the period of life that child-bearing occurs, a plethora of the arterial ſyſtem we have obſerved (X.) to prevail, and a greater reſiſtance is made to the tranſmiſſion of the fluids by the venous coats, ſo a ſtop being put to the paſſage of the uſual evacuation from the arterial extremities, by a more firm adheſion of the uterine contents at that part whence the flow uſually proceeded, a fullneſs in them naturally takes place. This fullneſs exciting their contraction, is then propelled into the veins in greater quantity than uſual; while, in conſequence of their texture, a ſlower tranſmiſſion of it, and of courſe a greater diſtenſion of their coats, muſt occur; and, at the ſame time, to favour an accumulation of their contents, and render their cavities more eaſily dilated, their trunks run all in a ſtraight direction; but the arteries again obſerve, on the contrary, a ſerpentine courſe, by which their fibres being more extended, their contraction is conſequently quicker, and rendered likewiſe more powerful; and an exceſſive accumulation of their contents, in proportion to that of the veins, thus prevented.

LXIX. The veſſels of the uterus being always larger

at that place whence the uſual diſcharge of the menſes proceeded, is found to continue ſtill the caſe when this organ is extended by gravidity; and, therefore, on opening the abdomen, from mere inſpection externally, the place of the placenta may be known.

LXX. From this view (LXV.) then, we conſider chiefly a venous plethora as the cauſe of the uterine diſtenſion; and all kinds of plethoræ of an active nature are to be referred to the arterial; thoſe of a paſſive to the venous ſyſtem. Hence moſt of theſe hæmorrhages of the early months ending in abortion, before the veins have acquired much ſize, are to be conſidered as ariſing from a rupture of ſome of the arterial extremities, and, therefore, of an active kind; while, on the contrary, thoſe of advanced geſtation, as depending on the tenſion of the venous coats, are to be conſidered as paſſive; and, as a proof, are chiefly to be got the better of by reſt and a horizontal poſture.

LXXI. Though this augmentation of the uterus, as deſcribed (LVIII, &c.), ariſes, for the moſt part, in the manner related, from the increaſe of its fluids (LXV.), yet ſome degree of addition to its ſolid parts we conceive alſo to take place; for, as in proportion to extenſion, the degree of preſſure from the diſtending power is increaſed, ſo this preſſure, we ſuppoſe, produces an appoſition of new matter; and this preſſure being greateſt internally, the veſſels, therefore, we find moſt apparent on its external parts.

LXXII. That an appoſition of new matter occurs, we believe,

1. Becauſe, wherever fluids are increaſed in any part to a conſiderable degree, the ſolids receive always, in-

dependent of their extenſion, ſome degree of addition.

2. Becauſe certain lamellæ are obſervable in the ſtructure of the gravid uterus, which are not to be found in its unimpregnated ſtate; and theſe lamellæ we conceive as giving it that particular ſpongy appearance, taken notice of by authors; but, on its contraction, they are rendered equally ſolid with the reſt of its ſubſtance.

3. Becauſe it never regains its original ſize; and this is neceſſary, as theſe lamellæ add ſomething to its ſolidity; and in order, therefore, to the regularity of future menſtruation (VII, &c.), it is requiſite its veſſels ſhould be ſomewhat more enlarged.

LXXIII. But the extenſion of the uterus does not take place, in every part of it, at the ſame period of time; this depends on the degree of laxity in its ſtructure, which varies in its different parts. Hence its ſubſtance, as being more lax at the fundus, we have obſerved, proceeds quickly in its ſtate of dilatation; till, in conſequence of its extenſion to a certain degree, a balance between the reſiſtance of its fibres, and thoſe of the cervix, naturally more rigid, is produced. Then the diſtenſion of the latter alſo commences. This is generally about the fourth month, and advances in proportion to the number of its veſſels admitting the increaſe of its fluids, in the ſame progreſs with the fundus. At the ſeventh month, about two-thirds of it are extended, and the remaining portion, being ſtill more rigid, requires for its accompliſhment the full term of geſtation; when, from this increaſe of its ſize, it receives alſo a more rounded form, conſpicuous ever after, even in its contracted ſtate, and poſſeſſes leſs of that ellipſis, or tench-like appearance, remarkable during virginity.

BOOK I.

PREGNANCY.

I. WE have thus explained the ſeveral circumſtances (III. to XLIII.) on which we ſuppoſe conception to depend; and the ſeveral changes alſo, when taking place, it occaſions in that part of the ſyſtem to which it is more immediately confined (XLIV. to LXXIII). We ſhall next conſider the effects of theſe changes on the body at large, in the ſeveral diſorders that attend this ſtate, comprehending the firſt claſs of diſeaſes that form the ſubject of Midwifery.

II. Pregnancy may be defined a certain *inflammatory* diſpoſition of body, or *nearly* approaching to it; attended with an *increaſed frequency of the pulſe,* and *other febrile ſymptoms.*

III. That ſuch a diſpoſition prevails, we endeavour to prove:

1. From the ſizy appearance of the blood drawn, which diſcovers, at this time, the *buff coat*, or ſeparation of gluten on its ſurface, ſimilar to that appearing in caſes of inflammatory diſeaſe, and alſo a defect of the *oxygenous principle.*

2. From examining the ſtate of pulſe, which is found *always fuller*, and ſome ſtrokes *quicker*, than previous to geſtation.

3. From a conſideration of the phenomena that attend it, particularly in its more advanced ſtage.

IV. In marking theſe phenomena, a conſiderable variety, it is proper to obſerve, occurs in different caſes, connected with peculiarity of conſtitution, &c.; but in every caſe, in a greater or leſs degree, certain affections pretty conſtantly ariſe; ſome of which, independent of other circumſtances, are even conſidered as giving evidence of the pregnant ſtate.

V. From the ſeveral exciting cauſes, which are peculiar to the different ſtages of its progreſs, the diſeaſes of pregnancy may be reduced to three heads:

1. Thoſe which ariſe from ſimple irritation, or the ſympathetic.

2. Thoſe which owe their origin to diſtenſion of parts, and increaſed circulation into them, or the plethoric; and,

3. Thoſe which join to this the preſſure of the gravid uterus, acting as a mechanical cauſe; termed, therefore, the mixt.

DISEASES OF PREGNANCY.

1. *Sympathetic Diſeaſes.*

VI. Of the firſt claſs, the principal diſeaſes are, af-

fections of ſtomach viz. dyſpepſia, malacia, cardialgia, and hyſteria.

They have been commonly confounded together, and no diſtinct or ſeparate conſideration of each has taken place. This, however, is abſolutely neceſſary, in order to have a juſt idea of the means propoſed for their alleviation.

Dyſpepſia.

VII. The firſt ſpecies, or dyſpepſia gravidarum, is marked by the following train of ſymptoms:

Soon after coition, a ſenſe of lowneſs and depreſſion is felt; various irregular pains occur in different parts of the body. Theſe are ſucceeded, after a certain time, by ſickneſs and nauſea, attended with a vomiting of matter, various in its appearance. This vomiting generally prevails moſt in the morning, or after eating, and is attended with a whimſical capricious appetite for ſubſtances of an unalimentary kind. It is generally moſt ſevere in the erect attitude, and ſomewhat relieved by a horizontal poſition. The duration of theſe ſymptoms varies much in different caſes. They uſually depart after the third month; but their effects are frequently very ſevere in irritable habits, producing an emaciation and decay of the fleſh, to a very conſiderable degree.

VIII. From the appearance of the matters diſcharged, ſome authors have divided this vomiting into two kinds, the bilious and alimentary; the former being moſt frequent in the morning, the latter ſuc-

ceeding the reception of food, as ſoon as digeſtion begins to take place. The former is moſt ſevere, and requires chiefly, therefore, alleviation; the latter is leſs hazardous, from the efforts being leſs ſtraining.

IX. The theory of theſe ſymptoms is ſomewhat obſcure. The general cauſes of dyſpepſia are known to be an impaired tone of the muſcular fibres of the ſtomach, a particular ſtate of its fluid, or ſome local affection impeding its functions. The occurrence of dyſpepſia after conception is too quick to ſuppoſe it to ariſe from any of theſe cauſes; nor is the debility that ſucceeds conception even ſufficient for this effect. It muſt depend, therefore, on a different principle; and to explain it, we obſerve, that the ſtomach has a connection, in a particular manner, with every part. It is to be conſidered, in all reſpects, as a peculiar organ, and as the centre of ſympathy; or, as giving the alarm, when any part of the body is in a morbid or altered ſtate. This power of the ſtomach is not explainable by any apparent connection betwixt it and the ſympathiſing part; and analogous to theſe effects of conception upon it in the female, we find, in hypochondriacs, a proof of its extenſive connection with every part, that every debilitating cauſe occaſions immediately ſymptoms of dyſpepſia.

But though originally the effect of ſympathy, where dyſpepſia is long continued, debility will come to be induced; and on it the obſtinacy of the diſeaſe will at laſt depend. The cauſe of ſympathy then ceaſes ſoon to act; and the impaired tone of the organ, to which it gives origin, continues the diſeaſe till that general inflammatory diatheſis, marking the whole of pregnancy,

but not exquiſitely formed till after the third month, removes any affection depending on this cauſe.

X. Theſe ſymptoms of dyſpepſia are remarked to attend all thoſe ſtates of uterine affection, in which the evacuation is ſuppreſt. They are here not to be conſidered as dangerous; and a favourable prognoſis, therefore, may always be made; yet the efforts of ſtraining, when violent, occaſion abortion at times.

XI. From the hiſtory of the diſeaſe delivered, a diviſion of it into two ſtages is neceſſary to be obſerved, for the ſucceſs of our practice.

The firſt of them may be termed the ſtage of *ſympathetic* irritation.

The ſecond, of correſpondent debility; and for each of theſe a ſeparate treatment is required.

XII. The firſt is attempted by blood-letting, though this requires caution in particular habits, and ſhould only be employedin the real plethoric ſtate: by the uſe of opiates, which requires alſo reſtriction, as prejudicial to the evolution or growth of the fœtus. Their external application to the region of the ſtomach is often moſt ſucceſsful; or their exhibition, by way of injection; by gentle exerciſe in the open air, with a variety of ſcene and amuſement, ſo as to withdraw the attention, as it were, from the morbid feelings.

The ſecond is effected by the uſe of all thoſe remedies preſcribed by phyſicians in dyſpeptic caſes, as neutral ſalts in the act of effervеſcence, bitters, abſorbents, &c.

Longing (Malacia).

XIII. The ſecond ſpecies of this firſt claſs of pregnant affections is malacia, or longing; by which is underſtood an immoderate deſire of ſome things formerly diſagreeable, and a rooted averſion at other things formerly liked. Though like dyſpepſia, at times attending diſeaſes, in which the uterine evacuation is ſuppreſt, yet it never riſes to that exquiſite degree, as from pregnancy. It is always to be conſidered as an affection of mind; and though no bad effects can attend the oppoſing the object of its wiſh or reſentment, yet, if reaſonable, it ſhould be indulged, as the refuſal increaſes that ſtate of mind on which its continuance as a diſeaſe depends.

This diſeaſe has alſo been remarked as ſtrongeſt in a firſt pregnancy; and for remarkable inſtances of it, recourſe may be had to the different morbid collections of medical writers.

Heartburn (Cardialgia).

Next to malacia, or longing, is the cardialgia gravidarum, or heart-burn. It is marked by heat and pain in the throat and fauces, and an increaſed ſharp ſalivary diſcharge.

Its cauſe we may aſcribe to the ſame ſympathetic irritation, producing the affections already enumerated; but here the digeſtive action would ſeem, as it were ſuſpended, or ſo far weakened as to produce this vi-

tiated diſcharge, inſtead of the proper and complete chylification which ſhould take place.

Its cure conſiſts in the uſe of gentle emetics, alkalies in various forms, particularly the lime water, or aqua kali, as alſo abſorbents.

Hyſterics (*Hyſteria*).

XIV. Laſt in this claſs we here placed the hyſteria. It only at this time attacks thoſe naturally prediſpoſed to it; and there are two particular periods of geſtation, at which it is apt to ſhow itſelf. The firſt is the time of conception, and the ſecond is the after-period of quickening. But though not aſſuming the actual form of hyſteria, women, in general, at the commencement of pregnancy, are very ſubject to pains of the head and teeth, which may be properly referred to this head.

In the treatment of hyſteria, there is nothing at this time eſſentially different from its treatment at other periods.

XV. This then (from VI. to XIV.) forms the firſt claſs of diſeaſes, induced by pregnancy; and they extend, generally, from conception to the middle of the the third month, ſometimes longer.

We now enter upon the ſecond, or thoſe which owe their origin to diſtenſion, and evidently partake of an inflammatory nature. But previous to their conſidera-

tion, it is proper to aſcertain that ſtate of the ſyſtem which gravidity induces, independent of local affection; and which, though formerly hinted at, comes only at this period to be fully eſtabliſhed, and, from the occurrence of certain morbid ſymptoms, to be ſtrongly marked.

General State of Pyrexia induced by Pregnancy.

This ſtate conſiſts in the formation of pyrexia, or the proper febrile form, by an addition of certain characteriſtic circumſtances to the ſtate of the pulſe mentioned. Theſe conſiſt in a manifeſt exacerbation of febrile ſymptoms, twice a day, correſponding to the natural increaſe of pulſe; the evening exacerbations of which are moſt conſiderable, being denoted by fluſhing of the face, heat of the palms, thirſt, diſordered ſleep, &c.; and this ſpecies of fever, though not juſt ſo violent in moſt caſes, is ſimilar to what is termed the hectic, or occurs, in other inſtances, of permanent local affection.

XVI. The cauſes of this fever we refer to two heads: 1ſt. uterine irritation; and, 2d. plethora. Uterine irritation, indeed, in the preſent caſe, we find not ſufficient for inducing inflammation; and no actual inflammation occurs during the firſt three months, when ſuch ſimple irritation alone prevails; for, till the eighth week, no ſymptoms of turgeſcence can really take place, as that forms properly the firſt period, when a

ſtop is put to the uſual evacuation. This additional cauſe of plethora, then beginning to take place, it is proper we ſhould next endeavour to explain.

Dr. Lobb has advanced ſome very ingenious obſervations againſt this idea of a plethora exiſting during the whole of geſtation. They are drawn chiefly from a conſideration of the quantity of fluid neceſſarily required for the formation of ſuch a large body as the fœtus and connecting parts, and from obſervation of the ſtrongeſt and healthieſt women being leaſt liable to abortion. By plethora, however, we do not mean any increaſed quantity of fluids in the ſyſtem in general; the previous complaints plainly ſhow that ſuch cannot exiſt, and it will be too abſurd to contend for ſuch a circumſtance taking place. It has been alledged, indeed, that the ſecretions during pregnancy are all diminiſhed; but even allowing this, of which we have no proof, if Dr. Lobb's reaſoning is admitted, it will ſtill be inſufficient. To explain this ſubject, then, we obſerve, that whenever irritation prevails in any part, by the laws of the circulation, a conſiderable afflux is directed this way, and this afflux muſt produce a natural diſtenſion of ſuch parts, while to prevent any morbid circumſtances occurring it is neceſſary, 1ſt, that the facility of diſtenſion in the parts ſhould be equal to the afflux, otherwiſe morbid ſymptoms in the adjacent parts muſt ariſe from accumulation; and 2d, that the ſupply the ſyſtem receives ſhould be greater than uſual, in order to preſerve the natural balance of circulation in parts.

XVII. In the beginning of pregnancy we know, that the uterus forms ſome degree of reſiſtance to its diſtenſion, and that in proportion to the quantity of fluids

ſent to it, which is determined in part by the particular irritability of conſtitution. This of courſe endangers abortion, as the contents of the uterus are then not firmly attached to its cavity. When riſing, however, to a certain height, in order to prevent ſuch a circumſtance, by a law of nature, in conſequence of the ſympathy prevailing between the breaſts and the uterus, the former receive too a degree of irritation, and an afflux in conſequence of this is likewiſe directed to theſe glands, leſſening that towards the uterus. But as the enlargement of the uterus proceeds, the irritation here being ſuperior to the other, ſo the afflux towards the uterus is increaſed, while that towards the breaſts in general gradually diminiſhes, and departs entirely in the laſt months.

XVIII. To explain then, on the foregoing reaſoning, the cauſe of the diſeaſes of this claſs, we remark, that from the firſt moment of conception, in conſequence of its particular afflux to the uterus, the blood continues determined in unuſual quantity to the whole of the internal parts; and of courſe, that a ſtate of collapſe, or diminiſhed action of the veſſels on the ſurface is produced; that this accumulation internally, when proceeding to a certain height, occaſions an increaſed action of the larger veſſels, to reſtore the balance loſt; and hence various morbid affections, both in the hypogaſtric region, and in the ſyſtem in general, ariſe.

XIX. That ſuch a ſtate of the ſyſtem takes place at this period, we prove from this circumſtance, that abortions are then moſt frequent, that women are the more liable to ſuch accidents, in proportion to the coldneſs of the atmoſphere, by which this accumulation is the

more increaſed; hence every practical acoucheur muſt have remarked, that miſcarriages are more frequent in winter than in ſummer; and many women too, during this period, we find remarkably ſubject to obeſity, as marking ſuch a diminiſhed action of the ſurface.

XX. It is this unequal balance that, during geſtation, is obſervable in the ſyſtem, which has given occaſion to the ideas of plethora, ſo univerſally received by phyſicians, in accounting for the diſeaſes of pregnancy, and which has led to the method of cure by veneſection, ſo generally practiſed in this ſtate.

XXI. That veneſection may be uſeful at times, in leſſening the power of reaction in the larger veſſels where unuſual accumulation to the uterus occurs, and increaſes the natural ſtate of pyrexia to a morbid degree, we do not deny; but in every caſe it is more as a palliative than a radical cure, and the indiſcriminate uſe of it, where no violent reaction occurs, muſt be attended with the worſt of effects, where women are of a delicate irritable habit, by increaſing after geſtation the cauſe of the complaints it is intended to remove.

CLASS II. *Plethoric.*

XXII. From this ſtate of the ſyſtem then we have endeavoured to eſtabliſh, different affections ariſe, and the firſt of theſe that occurs to be noticed is pain and tumefaction of the breaſts.

Affection of Breaſts.

XXIII. The breaſts have been always allowed by authors to poſſeſs a remarkable ſympathy with the uterus, and to account for their preſent diſtenſion; beſides this ſympathy they have endeavoured to explain it, by an anaſtomoſis between the epigaſtric and mammary arteries. This, however, Dr. MONRO has of late demonſtrated to be ſo inconſiderable, that it cannot be explained in this way; and the preſent complaint, therefore, we aſcribe to the internal accumulation of the ſyſtem to the uterus, which at firſt receiving an enlargement of its bulk more ſlowly, and thus forming a reſiſtance to the entrance of the accumulated fluids, excites, as we formerly obſerved, a ſympathetic affection of the breaſts, which, at the ſame time, are the only organs unevolved, and capable of admitting an eaſy diſtenſion.

XXIV. In proof of this ſympathy we find, when in the laſt months, the reſiſtance to the paſſage of the fluids into the uterus is leſſened, ſo that its diſtenſion takes place with a more rapid progreſs than before; the farther turgeſcence of the breaſts generally ceaſes, and they even become in ſome degree flaccid.

XXV. The treatment of the breaſts, in this ſtate, then, conſiſts in endeavouring to palliate and allow their diſtenſion, till the latter period of pregnancy; and the means of performing this depends on the removal of preſſure ariſing from articles of dreſs, and relaxing the part itſelf by various lubricating and emollient applications: nothing indeed is ſo pernicious in this caſe as compreſſion. When pregnancy is wiſhed to be con-

cealed, it would be to no purpoſe to point out the miſchiefs that ariſe from it; but even with married women this fault prevails; and from a deſire to conceal their ſituation, the ſame mode of dreſs is continued during pregnancy without any alteration. In a firſt pregnancy, it is even more hurtful than afterwards, for the breaſts then become moulded into a certain form, which they always afterwards retain; hence, where compreſſed at this time, they are prevented from expanding, and the nipple, inſtead of continuing to elongate by the diſtenſion of the breaſt, and become more prominent, is generally flattened, and forced in, ſo that afterwards it cannot be eaſily graſped by the mouth of the child, and the taſk of nurſing becomes impracticable; nay abſceſſes from this cauſe, before delivery, frequently form in the breaſt, which would never naturally take place at this period were compreſſion avoided. It is, on this account, independent of conſtitutional reaſons, that ſo few women in high life are capable of acting the parts of mothers, and that among the poorer claſs ſuch obſtacles more rarely occur.

Retroverted Uterus (Retroverſio Uteri).

XXVI. But a more formidable diſeaſe, at this period, to which women are ſubject, is the Retroverſio Uteri; it conſiſts of the fundus, when enlarged to a certain degree, and beginning to be ſupported on the promontory of the ſacrum, deſcending ſuddenly into its hollow, which, from its weight, occaſions the os tincæ, or other extremity of the organ, to be carried in the oppoſite direction, and thus ſo far alters the ſituation of the urethra

connected with it, that the emiſſion of urine is prevented.

XXVII. The ſymptoms of this diſeaſe are marked by a ſlight degree of uterine pain at firſt; an inclination to preſs downwards gradually ſucceeds, with a deſire to paſs urine. At firſt, the latter is performed with difficulty, but ſoon the action of the uterus, attended with ſtrong down-bearing pains, increaſing, a total obſtruction to the diſcharge of urine takes place; theſe ſymptoms proceed, and on examination, by a finger in the vagina, a tumour is felt advancing downwards, in proportion to the ſtraining of the patient, and occaſioning efforts ſimilar to thoſe employed in parturition. From the ſuppreſſion of the natural evacuations, both by urine and ſtool, inflammation, in conſequence of diſtenſion, muſt occur, and the uterine tumour at laſt coming to poſſeſs the lower part of the pelvis, becomes ſo enlarged, in conſequence of the inflammation excited in it, by its deplacement, as to prevent the poſſibility of its being replaced, the dimenſions of the pelvis, at its ſuperior aperture, being more contracted than thoſe below. Acute fever, with delirium, at this period ſupervening, the patient is ſoon cut off; or, from the enlarged ſize of the bladder (which frequently in this laſt ſtage is known to reach as high as pregnancy in the 7th or 8th month, or much above the umbilicus), convulſions taking place, the patient by a paroxyſm is carried off.

XXVIII. This diſeaſe, though formerly known, was firſt properly pointed out by the late Dr. HUNTER, who has written a very excellent paper on it, in the London Medical Tranſactions, and has publiſhed alſo

the diſſection of a caſe of this diſeaſe in one of his elegant plates.

XXIX. This diſeaſe is peculiar to pregnancy, and the period of it, at which it can only happen, is any time from the third to the term of the fifth month.

XXX. In moſt women, it occurs at this period, in a ſlight degree; the firſt ſymptoms of pain, however, generally give an alarm to the patient; and if her ſituation at all admits reſt, an horizontal poſture, as giving eaſe, is what ſhe naturally has recourſe to. It never, therefore, in women of any faſhion, occurs to a violent degree, and it is only amongſt the poorer claſs, whoſe occupations do not admit the neceſſary care at this period, that it riſes to a formidable height. Thoſe women are particularly prediſpoſed to it, in whom the pelvis is much enlarged behind, or in whom its general capacity at the brim rather exceeds, where any violent ſtraining is then employed, it is ſure to happen; it is only in a few inſtances that it has proved fatal; and ſeveral caſes are mentioned, where the introduction of the catheter, in its laſt ſtage, being with difficulty effected, a moſt ſurpriſing quantity of bloody urine was diſcharged. The late Dr. YOUNG, of Edinburgh, uſed to mention one caſe, where he had taken away no leſs than eighteen Engliſh pints. Dr. AIKIN, of the ſame place, mentions a ſimilar caſe, where he took off near twelve Engliſh pints; and in the different periodical publications, a number of remarkable inſtances are recorded of this diſeaſe. Two caſes of it occurred in Edinburgh, to my own knowledge, which proved fatal, and practitioners are daily called in where it occurs in a ſlight degree.

XXXI. For the cure of this diſeaſe, two indications naturally ariſe, the firſt, to diminiſh the ſize of the tumour itſelf, preventing reduction, or to enlarge the dimenſions of the pelvis at its ſuperior aperture, ſo as to admit, where ſtill ineffectual, the ſucceſs of the former; and ſecond, to replace it in its proper ſituation.

XXXII. The former part of the firſt indication is anſwered particularly by leſſening the diſtenſion of the contiguous organs. The organ chiefly diſtended is the bladder of urine, and the catheter therefore ſhould be immediately employed. In its uſe however here, it requires a very nice attention to the ſituation of the parts. It muſt generally be introduced in a direction different from what is uſually obſerved. Where the diſeaſe has arrived at a conſiderable height, the male catheter will be more properly employed. Several attempts will even be neceſſary before ſucceeding, and you may be even repeatedly foiled. It will often take place at laſt, rather as a lucky hit, than as a real proof of dexterity. As the chief part of the cure depends upon the evacuation of the urine, the other means you employ are to be conſidered rather as auxiliaries to it. If ineffectual however at firſt, before repeating your attempts, let the contents of the rectum be evacuated, which will give ſome advantage if the bladder is much diſtended. It is unſafe making any attempts to reduce the fundus, as laceration of it may be the conſequence. Fomentations therefore are the next means to be had recourſe to; and if conſiderable fever is induced, or even without this, with a view to prevent inflammation, bleeding ſhould be liberally had recourſe to. Theſe means will be much aſſiſted by the poſture of the patient, whoſe pelvis ſhould be raiſed conſiderably higher

than her ſhoulders, while laying in bed, to prevent as much as poſſible the increaſing deſcent of the fundus. When ſucceſsful, and the urine is evacuated, the replacement of the uterus is to be attempted, and the method of reduction conſiſts in ſimply placing the patient on her knees and arms, with the head reclined, and introducing the hand lubricated into the vagina, endeavouring to puſh the tumour above the hollow of the ſacrum to its former ſituation. When once replaced, reſt and the horizontal poſture are to be particularly enjoined, the urine for ſome time is to be carefully taken off by the catheter, and the patient not even allowed to make the common natural efforts.

XXXIII. But, where the diſeaſe has gained, from the neglect of the patient and unſucceſsful attempts of the operator, its utmoſt height, and reduction cannot be effected, it next remains to inquire what methods are left to relieve the patient. The firſt ſuggeſted has been to attempt the introduction of a catheter into the os tincæ, which, being puſhed through the membranes, may occaſion by their rupture a diſcharge of the waters, and then abortion will enſue. It is indeed remarkable, and has been obſerved by all the writers on this diſeaſe, that no tendency to abortion naturally occurs, which can only proceed from the irritation being confined more to the fundus than to the os tincæ, which ſeems to lead ſomewhat to the theory of labour. Where the os tincæ can be reached with the catheter, when other means fail, it may be employed as a laſt expedient. But, at the ſame time, when we conſider the ſlow progreſs that abortion frequently makes, from the greater part of the ovum, on which the enlargement of the uterus depends, continuing attached at this early period for

long after the waters are evacuated, the patient may die of the diſeaſe before this expedient has time to ſucceed.

XXXIV. A ſecond means propoſed in thoſe deſperate caſes of this diſeaſe, where all others have failed, is the enlargement of the pelvis itſelf by the operation of SIGAULT. The circumſtances which have favoured this propoſal here, are

1ſt. That the chief difficulty to the reduction of the fundus is the different capacity of the ſuperior and inferior apertures of the pelvis; for the fundus deſcending into a more enlarged ſpace below than what it originally occupies, becomes ſo enlarged by inflammation that its original ſituation cannot contain it, and hence it cannot be eaſily preſſed through the more narrow opening of the brim; while the latter, being enlarged by the operation of SIGAULT, promiſes therefore to give an equal ſpace above, for the replacement of the fundus, to what it poſſeſſes below.

2d. After death, where the reduction could not even be made, by dividing the ſymphyſis, it came to be eaſily replaced; but to this operation ſome objections may be made. In the firſt place, it is found, that even where it is performed in the progreſs of labour, and where no morbid ſtate of the parts has taken place, the patient has been frequently cut off by the ſupervening inflammation. In the preſent caſe, the whole cavity of the pelvis is already in this ſtate, and the addition of a new irritation, from the application of the ſcalpel, muſt very ſoon induce gangrene where only ſimple inflammation exiſted; for theſe reaſons, little is to be expected from this operation, and it is more to be conſidered as a deſperate reſource than a ſafe expedient.

The ſame obſervations may be applied to another mean that has been thought of, and that is, the puncturing the bladder itſelf, to allow the diſcharge, as gangrene muſt ſoon ſucceed any wound-inflicted in its ſubſtance.

XXXV. From the view then we have offered of this diſeaſe, too much attention cannot be paid to guard againſt its arriving at any height. Its firſt ſymptoms are ſlight, and liable therefore to be neglected; but, wherever, at this period of pregnancy, the leaſt threatening of this kind occurs, the patient ſhould be inſtantly confined to a horizontal poſture, coſtiveneſs removed, and a ſuppreſſion of urine, by the uſe of the catheter, timeouſly guarded againſt.

Fixt Abdominal Pains (Pleuriſy, Cramps, &c.)

Another diſeaſe, to which women are firſt ſubject about the middle of geſtation, is fixed pain of ſome part affected by the enlargement of the uterus.

XXXVI. When, from the ſtretching of the broad ligaments, it affects them, in the form of a pleuriſy, or rather what may be termed fixed ſtitch of the ſide.—In theſe caſes it is common to bleed, but more in order to prevent inflammation than as really curing the complaint. The inteſtines ſhould alſo be cleared; and, after this, an anodyne glyſter thrown up, which will generally alleviate the pain. Reſt has alſo here an equal effect with any other medicine you can employ.

XXXVII. At other times ſuch pains occur in the form of cramp, or abdominal ſpaſm, and the ſame means will.

be found effectual in their removal. It is remarkable in theſe caſes, that their violence ſeems particularly increaſed by heat.

Convulſions.

XXXVIII. But a more alarming complaint than any we have mentioned, and which begins often at this period, though not excluſively confined to it, is the convulſions of pregnancy. They are generally ſudden in their attack, without any previous ſigns to indicate their approach; more rarely, however, they are preceded by a weight, or heavy pain, in the uterine region, ſuch as marks diſtenſion.

XXXIX. This diſeaſe attacks in paroxyſms or fits. They are generally preceded by violent pains in the head, varying in its ſituation; wild motion of the eyes, which roll in an uncommon manner in their ſockets; and a general determination to the head, appearing from the fluſhing and turgeſcence of the face. In the paroxyſm itſelf, all ſenſe and motion come to be loſt, and the face, and ſome of the extremities, are diſtorted in a particular manner, while a frothy moiſture iſſues at the ſame time from the mouth, and the tongue is forced out, or retained cloſely between the teeth, ſo as to ſuffer conſiderable injury.

That this diſeaſe in pregnancy is ſympathetic, and ariſes from uterine irritation, is not to be doubted; but it remains a matter of doubt, whether in this caſe a fullneſs of the veſſels of the brain neceſſarily attends this uterine irritation. Convulſions in pregnancy we find

occur in very oppoſite habits; at one time they attack the robuſt and evidently plethoric, at another time they attack thoſe of an irritable and debilitated conſtitution: hence we would infer, that a turgeſcence of the veſſels of the brain, or an increaſed impetus of the circulation to the head, is by no means neceſſary to this affection; that, as the circulation is generally irregular in the time of the paroxyſm, ſuch an accidental plethora may occur. But, in the cure of the diſeaſe itſelf, it requires no primary attention; and that the uterine irritation, or original morbid cauſe, demands chiefly our attention. To remove this in abſence of the paroxyſm, veneſection taking off the uterine accumulation, ſhould be performed, and that even liberally; the inteſtines are then to be cleared, and afterwards a large opiate exhibited in glyſter to the ſeat of the affection itſelf: the principal indication ſeems to be to reſtore the energy of the brain, and that by the ſudden application of cold to the face. This is a practice recommended by Dr. DENMAN, and which he has found ſucceed after every other means, particularly bleeding, has been ineffectually employed. Bleeding, however, in all caſes of pregnant convulſions, is found a uſeful palliation. It is recommended by every writer on the ſubject; and, among the French particularly, was formerly uſed in this diſeaſe to a moſt extravagant height; but, in delicate women, the after-conſequences of ſuch evacuations are to be conſidered, and, where the diſeaſe is mild, and approaches ſomewhat to hyſteria, veneſection ſhould be very ſparingly employed.

XL. But this diſeaſe often ariſes from certain accidental cauſes, which cannot be relieved by the treatment enjoined: thus it ſometimes depends on an improper poſition of the fœtal head, preſſing on ſome part

of the pelvis; or it is produced at times by an oblique poſition of the uterus, in ſome caſes of diſtortion, where its expanſion is prevented.

XLI. Where convulſions begin early in pregnancy, they are leſs to be dreaded; but in the latter months they are often alarming, and a ſingle paroxyſm has been known to kill.

XLII. In the convulſions of pregnancy, particularly where advanced, there is this peculiar circumſtance, that the motion of the child is felt uncommonly ſtrong; —a proof of that ſympathy which ſubſiſts between the nervous ſyſtem of the mother and that of the fœtus.

XLIII. Some authors have obſerved, that convulſions at this period are more common to the inhabitants of ſome countries than others, and that they occur more frequently, for example, in England than in Scotland. This fact, however, may be called in queſtion; and I know, from ſome eminent practitioners, that in ſome parts of England a caſe of them is almoſt never known to occur; beſides, without ſome peculiarity of conſtitution can be pointed out to account for their more frequent occurrence, the difference in the mode of living is not ſufficient.

XLIV. Where a woman has been formerly accuſtomed to this diſeaſe, there is leſs danger from its attacks in pregnancy.

XLV. All authors have agreed in conſidering diſtenſion of the brain as the cauſe of this affection; but diſſections give no proof of ſuch a cauſe exiſting: and why, there-

fore, continue a theory which is founded only on ſuppoſition? This diſeaſe, however, we ſhall have occaſion afterwards to reſume, as it is frequently combined with labour.

Palſy.

XLVI. Connected with convulſions, and which has been known to occur in the pregnant ſtate, though very rare, is palſy.

XLVII. There is generally here no diſpoſition in the habit, by which we can judge previous to the attack. The cauſe of it we can only refer to preſſure. It generally comes to be very ſenſibly relieved, if not altogether cured, after delivery. It is liable, however, to return, with more ſeverity, in a ſucceeding pregnancy; and, if not then departing after delivery, is found generally incurable. I never ſaw a caſe of it; and only two are mentioned, in his extenſive practice, by the late Dr. YOUNG.

CLASS III. *Mixt Diſeaſes.*

The laſt claſs of diſeaſes that falls under our attention in the pregnant ſtate is thoſe from preſſure, or where, in addition to the former cauſe of local plethora, a mechanical power is added, increaſing it. The affections of this claſs are more numerous than any of the former,

and extend, at leaſt, from the beginning of the ſeventh month to the period of geſtation.

Coſtiveneſs (Obſtipatio).

XLVIII. The firſt of them that occurs to be mentioned is coſtiveneſs. This is a diſeaſe which, from their mode of life, is at all times common to the ſex; but, during pregnancy, from the preſſure of the gravid uterus, it is increaſed to what may be termed a morbid degree. The ſymptoms which attend coſtiveneſs, and which are liable at this time to be referred to a different cauſe, are, a particular uneaſineſs of ſtomach, attended with a lowneſs and depreſſion, a quickened pulſe, a ſenſe of abdominal ſtricture, vertigo, &c.

XLIX. Such a ſtate of the inteſtines is favoured, independent of the preſſure of the uterus, by the degree of fever mentioned as preſent in the ſyſtem during the whole of geſtation; by the greater indulgence of women of their natural ſedentary life at this period; by the uſe of ſubſtances of an indigeſtible nature, which their appetite of longing frequently leads them to prefer; and, laſtly, by an increaſed abſorption of the aliment itſelf, in conſequence of the preſſure exciting more powerfully the action of the lacteals, ſo that the more purely feculent part only remaining in the inteſtines, is formed, by retention, into hardened ſcybala, or lumps, reſiſting the natural periſtaltic motion for their diſcharge. Where negligent, this accumulation has been often known to riſe to a violent degree, or to prove an impediment to labour, or produce very ſerious conſequences after delivery.

L. An attention to the inteſtines is alſo neceſſary with another view, as it tends to prevent that local plethora of the hypogaſtric region from riſing to the height of diſeaſe. The London practitioners are particularly attentive to this circumſtance, and they find, that thoſe women, in whom the bowels are kept rather lax, during the whole of geſtation, are liable to few of the diſorders that affect others in that ſtate. To remove, therefore, this diſeaſe, or rather to prevent its formation, a diet of eaſy aſſimilation is to be preferred. Many authors recommend that, with this view, vegetables ſhould be chiefly uſed; but this muſt be regulated by the conſtitution of the patient; for where ſhe has been unaccuſtomed to a vegetable diet, ſuch a liberal uſe of it, as thus enjoined, may produce ſymptoms even worſe than the diſeaſe. On this account, it will be generally preferable, that the inteſtines be gently excited to action, and the matter contained in them prevented from forming into hardened ſcybala, by laxatives of an oleous, or lubricating nature. One of the beſt remedies of this kind is the caſtor oil, which is kept light by the junction of a ſmall quantity of any ſpirit. It may be given in the quantity of two tea-ſpoonfulls, and repeated every ſecond night, or occaſionally as neceſſary. Beſides this, many other laxatives may be mentioned, as, the magneſia, ſulphur, cream of tartar, the ſoluble tartar, &c. But women are generally themſelves in the habit of uſing ſome laxative: hence, as they are accuſtomed to it, and know its effects in their uſual doſe, they will be more able to proportion it. Where, however, the diſeaſe has gained a conſiderable height, more powerful purgatives muſt be employed; or, as this practice may be rather unſafe, emollient injections, which remove the accumulation, as being chiefly con-

fined at firſt to the rectum, are to be employed with a temporary view, and then the uſual laxatives, proper to pregnancy, will have ſufficient effect.

Piles (Hæmorrhoïs.)

LI. A frequent effect of coſtiveneſs in the pregnant ſtate, or at leaſt, if not an effect, influenced by it, is the production of another diſeaſe, the piles.

LII. The piles conſiſt of an effuſion of blood from the extremity of the rectum, or the formation of ſmall painful ſwellings in that ſituation, with terminate frequently in ſmall ulcers or fiſtulous ſores, the former being named the internal, the latter the external kind.

LIII. In pregnancy, from the ſtate of the hypogaſtric region mentioned, a prediſpoſition to this diſeaſe occurs; and where preſſure takes place, interrupting the circulation about the extremity of the rectum, its veſſels yielding from diſtenſion in particular places, part of their fluids comes to be effuſed into the cellular membrane, and the diſeaſe thus produced.

LIV. In proof, that accumulation, or a ſlowneſs of circulation in theſe parts, independent of preſſure, is ſufficient to occaſion the diſeaſe, we obſerve in the other ſex that thoſe much accuſtomed to venery, or who have had frequent inflammations of the genital organs from a venereal cauſe, and in whom, conſequently, a greater afflux to theſe parts has been produced, are moſt liable to its attacks.

LV. This diſeaſe is always troubleſome, and in

women ſeldom to be radically cured, as its attacks are generally renewed from the ſame ſtate of parts, recurring in a ſucceeding pregnancy.

LVI. In attempting however the cure of hæmorrhoids, three circumſtances merit attention:

1. To remove as far as poſſible the cauſes producing diſeaſe; and this is only to be done by obviating coſtiveneſs, and enjoining a horizontal poſture; for general bleeding, by leſſening the force of circulation, will naturally increaſe the plethoric ſtate of the venous ſyſtem, occaſioning ſoon a more violent attack of the diſeaſe; topically employed in this ſituation, it is unſafe, eſpecially in pregnancy, and hence is very improperly recommended by many practitioners,

2. To alter the ſtate of the part in the external kind, where tumours exiſt, by emollient and ſedative applications; and in the internal, where there is merely a rupture of the venous coats, producing hæmorrhage, by the uſe of aſtringents to conſolidate the texture of the parts; and,

3. To allay the pain and uneaſineſs attending the diſeaſe, by opiates in injection.

LVII. This diſeaſe, though at firſt only produced by pregnancy, is liable to have its future attacks recur, independent of this ſtate, when any cauſe of irritation, exciting an increaſed afflux here, is applied: hence few women who have borne children are ever afterwards entirely free of the diſeaſe; nay, frequently after the menſes entirely depart, it obſerves in many a periodical recurrence, a hæmorrhage taking place from this ſource twice or oftener in the ſeaſon, and that to a violent degree, being preceded by an affection of the ſtomach,

and other ſymptoms ſhewing it now connected with the general ſtate of the ſyſtem.

Swelling of Legs (Œdema. Varix).

LVIII. From the ſame cauſe which produces piles, when the uterus, increaſing in its ſize, preſſes on the veſſels that ſupply the circulation of the lower extremities, and thus retards the paſſage of their fluids, *œdema* and *varix* are produced. The firſt extends very generally over the lower extremities, and particularly on that ſide to which the uterus naturally inclines; it begins at firſt in the feet, next occupies the legs, then riſes to the thighs, and even is extended to the labia pudendi: at firſt this ſwelling yields to a horizontal poſture, and is generally gone in the morning, though conſiderable at night. In its progreſs however, as the parts come to yield to the diſtenſion, no change is perceivable at any time; it is more conſiderable in twins, and often gives a ſign of them by occurring in women then, though not appearing in their former pregnancies. If the conſtitution is ſound, there is no danger from this complaint, as it generally departs after delivery, and that even in the ſpace of twenty-four hours. Where however in the habit there is a natural tendency to dropſy, the foundation of it is frequently laid at this time; and, by the preſſure on particular organs, a tendency to ſchirrus is afforded.

LIX. We can only here aim at palliation by a horizontal poſture, the uſe of mild laxatives, and occaſional veneſection, if the patient is robuſt. Where real dropſy occurs, it is diſplayed by a general affection of the body, as well as the œdema of thoſe parts, influenced

by the preſſure of the uterus; other means are then to be attempted, as gentle exerciſe, friction, and the uſual remedies employed in the other caſes of dropſy; though there is a probability that the patient may ſink ſoon after delivery.

LX. Varix again conſiſts generally in the partial diſtenſion of ſome of the veins of the lower extremities, their coats being more lax at particular places, and yielding to the impulſe of the fluids: it is very ſeldom, however, they yield to that degree as to occaſion any rupture; if it ſhould occur however, aſtringent applications may be had recourſe to; but in the form it commonly appears, we are merely to attempt palliation, by the ſame means recommended in the treatment of œdema.

Spaſmodic Pains (Spaſmi).

LXI. Theſe complaints laſt deſcribed are ſucceeded by ſpaſms of different parts; for as the uterus increaſing retains ſuch a number of muſcles in action, from ſome added accidental irritation they are frequently thrown into a ſpaſmodic ſtate, and thus cramps of the thighs, pains of the legs, &c. are produced. They generally go off of themſelves, being merely temporary. We have indeed no cure for them, though, when violent, they may be palliated by opium.

Cough and Dyſpnœa.

LXII. In the laſt months of geſtation, when the uterus has gained nearly its utmoſt bulk, and reaches ſo high as to compreſs the diaphragm, cough and dyſpnœa are

produced. Theſe ſymptoms are very uneaſy to the patient, and more ſo in the firſt pregnancy than afterwards. They are alſo more conſiderable in the caſe of twins, and where the uterus receives an uncommon diſtenſion from too great a quantity of waters: all we can aim at here is to palliate. If the breathing is more affected at times, and the diſeaſe ſeems to attack more in fits, veneſection will then be uſeful. If the cough is much increaſed by the horizontal poſture, and particularly troubleſome in bed, the ſituation of the patient muſt be kept as erect as poſſible, and an opiate, to leſſen the ſenſe of irritation, adminiſtered.

Vomiting.

LXIII. From the ſtate of theſe parts, the ſtomach is frequently brought alſo to ſympathiſe, and vomiting, ſimilar to what occurred in the commencement of pregnancy, is induced. It is here even leſs in our power to palliate, and all the means we can employ is the uſe of ſmall quantities of eaſy aſſimilated food at a time; and it will be even neceſſary for the patient to keep herſelf very abſtemious. It has been adviſed in theſe caſes, where the vomiting is very ſevere, and threatens a premature occurrence of labour, to attempt altering the poſition of the uterus, and to incline it more to the oppoſite ſide, that the ſituation of the ſtomach may not ſo readily be affected. This is an expedient however we cannot eaſily employ, and it will require more attention to retain it than the patient will chuſe if employed.

Incontinence and Suppreſſion of Urine.

LXIV. Within a few weeks of delivery, as the uterus

has gained its full extent, it inclines to deſcend a little towards the brim of the pelvis, preparatory to parturition: in ſome women it does this more than in others, and is more liable to do it in a firſt labour than afterwards. In this way, as it comes to preſs on different parts of the bladder, it naturally affects the diſcharge of the organ, and thus either incontinence or ſuppreſſion of urine enſues. In the former caſe, as a rawneſs or excoriation is liable to be produced, a thick compreſs or piece of ſponge ſhould be properly fixed to receive the urine flowing from the uretha, thus to render the ſituation of the patient as ſupportable as poſſible. In the latter caſe, the catheter ſhould be timely employed, and attention paid that this ſymptom do not continue during the progreſs of labour.

LXV. Theſe form then the ſeveral diſeaſes to which pregnancy is ſubject: few of them are really in their nature dangerous, though their violence may be increaſed by miſmanagement, or ſome peculiar ſtate of conſtitution rendering their effect more powerful.

Accidental Diſeaſes.

LXVI. During pregnancy, women are ſubject to thoſe other diſeaſes which may affect them at any other period; and their management alſo, from the ſtate of geſtation, is a point requiring particular attention. We ſhall offer ſome obſervations on a few, that have been mentioned by authors as moſt commonly occurring.

Dropſy.

LXVII. Women, from their more lax conſtitution, are more liable to dropſy than the other ſex; and aſcites fre-

quently takes place during the time of pregnancy. If exiſting before conception, it is often difficult to diſtinguiſh it from pregnancy; and the very firſt practitioners have been deceived in offering an opinion with regard to the exiſtence of pregnancy in this caſe. With reſpect to its management, diuretics are to be preferred to every other means, as leaſt liable to endanger abortion; and where, from the very great diſtenſion, ſymptoms are urgent, tapping may be even performed, and that without any danger, only obſerving to make the puncture on the oppoſite ſide from that to which the uterus inclines. I lately attended a caſe where the operation was twice performed during the time of geſtation, and the laſt time even within a few weeks of delivery. Some authors have adviſed, inſtead of the operation, that a catheter ſhould be paſſed within the os uteri, to rupture the membranes, that a premature delivery may be brought on; but I would aſk ſuch authors, on what does the progreſs of dropſy depend? certainly on an increaſing debility of the ſyſtem, which is the cauſe of the original affection. It is well known to every practitioner in midwifery, the hurtful effects which ariſe to the ſyſtem, either from artificial or premature delivery; and in the laſt caſe particularly, as the uterus has not gained its full extenſion, the placenta continues ſo firmly attached, that you cannot depend on the quantity of hæmorrhage that may take place, and thus the ſyſtem may be ſo far weakened as entirely to cut off any future hopes of cure. Beſides, if allowed to go to full time, the labour is generally ſufficiently eaſy; and if there is no morbid affection of any of the viſcera, there is then great proſpect of recovery; but if there is, the patient generally ſinks ſoon after parturition, which is even another argument againſt premature labour, as we cannot accurately determine, before-

nand, with regard to the cauſe of the diſeaſe. This complaint was formerly more frequent during pregnancy, when the too liberal uſe of veneſection prevailed for the cure of pregnant diſeaſes. The French carried it to more exceſs than ever we have done in this country; and hence, in peruſing the obſtetrical writers of that nation, you will find in their collections of caſes a greater number of inſtances of dropſy combined with pregnancy. MAURICEA, for example, mentions ſeveral remarkable caſes of that kind, where, even on delivery, the abdominal tumour, from the exceſſive diſtenſion, was no way ſenſibly diminiſhed. In the laſt months, as the uterus preſſes up the diaphragm, and impedes the functions of theſe parts, the accumulation neceſſarily occurring from this cauſe gives a tendency to hydrothorax, the foundation of which is often laid during pregnancy. Anaſarca is generally the mildeſt form of the diſeaſe; and unleſs combined with ſome of the others, it ſoon departs after delivery. Dropſy of the ovarium again very rarely occurs during the period of child-bearing, as that ſtate of the ovaria which favours its occurrence is rather the effect of age; hence it more commonly ſimulates pregnancy than is combined with it.

Whites (Fluor Albus).

LXVIII. Another diſeaſe, that occaſionally appears during pregnancy, is fluor albus. It is generally of that ſpecies, the ſeat of which is confined to the glands of the vagina; it depends, perhaps, on the preſſure of the gravid uterus on the ſuperior parts of the pelvis, occaſioning an unuſual determination to the vagina, and which, perhaps, is neceſſary, that the glands may be accuſtomed to a pre-

ternatural ſecretion of their contents previous to delivery. This, however, we find riſe to a morbid degree, and the diſcharge acquires a conſiderable acrimony. For its palliation, aſtringent injections are to be occaſionally thrown up, and compreſſes applied to the parts to prevent excoriation.

Rupture (Hernia).

LXIX. When, previous to geſtation, a patient has been ſubject to hernia, the ſtate of the diſeaſe is generally affected by the enlargement of the uterus. In all caſes of this diſeaſe, two ſtages of its progreſs may be marked; the firſt we may term that of ſimple protruſion; the ſecond, and more dangerous, of morbid adheſion: if the diſeaſe is only in its firſt ſtage, as the uterus enlarges, and the inteſtines are carried up by it, theſe herniæ generally diſappear, the inguinal about the fifth or ſixth month, and the umbilical again about the eighth. If in the ſecond ſtage again, and the inteſtine does not yield ſo as to be carried upwards by the uterus, the preſſure of the latter on it in its morbid ſituation always endangers ſtrangulation: wherever it can be eaſily reduced it ſhould be done, and great attention paid to the ſtate of the inteſtines. In labour, particularly, every effort of voluntary ſtraining ſhould be ſuſpended by the patient as much as poſſible; and if ſymptoms of inflammation ſhould appear, or thoſe which at another time indicate the operation, labour, if not commenced, is to be immediately brought on, that, the preſſure of the uterus being taken off, gangrene may be prevented. The umbilical hernia has been ſuppoſed as moſt frequently occurring in pregnancy; and it has been remarked by authors, that adheſions in this ſpecies more readily form and render

he conſequences during pregnancy more to be dreaded: he diſeaſe indeed, though continuing for ſeveral pregnancies, generally proves fatal at laſt; and this is favoured by the injury which the inteſtine naturally ſuffers from the efforts of labour, giving a tendency to gangrene.

Stone (Calculus).

LXX. Some authors have mentioned calculus as a diſeaſe alſo liable to affect pregnancy. Women, however, have been obſerved as leſs ſubject to this diſeaſe at all times, and that chiefly from the difference in the ſtructure of the urinary paſſages, giving an eaſy outlet to the ſtone when formed. From this, then, we may conclude, as an obſtruction of theſe paſſages more readily occurs in pregnancy, the diſeaſe ſhould be at this time more frequently met with: but experience by no means confirms this; and though inſtances are recorded of labour having been impeded by this cauſe, yet they are ſo very rare as to have no influence on general practice. Extraction would certainly be, at this time, highly improper; and if even forced into the uretha, from the ſtructure of the parts in the female, it can be readily puſhed back. You will meet with a few ſingular caſes of this diſeaſe, at the preſent period, in the Memoirs of the Royal Academy of Surgery.

Nephritic Complaints (Nephritis).

LXXI. From the ſame cauſe of the preſſure of the uterus on the ureters and region of the kidneys, nephritic complaints may be induced; for their ſecretion, and even

evacuation being impeded, gives a tendency to the formation of nuclei, which afterwards form into regular concretions when deſcending into the bladder; and theſe complaints often begin during pregnancy, of which, previous to this, there was no appearance.

Jaundice (Icterus).

LXXII. Connected with nephritis, and ariſing from the ſame ſource of uterine compreſſion, it remains to mention the icterus gravidarum. It is ſuppoſed to ariſe from an obſtruction to the mouth of the ductus communis choledochus, by which the paſſage of the bile into the duodenum is prevented, and its return into the ſyſtem occaſioned. It is, in this caſe, merely a temporary diſeaſe, and readily departs after delivery; Mr. White, of Mancheſter, has greatly recommended the uſe of raw eggs in its cure; and in what way their action is here exerted we ſhall leave that ingenious author himſelf to explain.

Venereal Diſeaſe (Lues).

LXXIII. Women, during pregnancy, are leſs ſubject, it has been remarked, to the febrile contagions: they may, however, be affected with a venereal taint. It has been alleged by authors, that the cure of the conſtitutional diſeaſe cannot ſafely be conducted at this period, as endangering a premature delivery: but in all the caſes of this kind that I have had an opportunity to attend, I have found them more eaſily cured than at any other time, and a very little mercury is generally ſufficient to effect it. It is the want of attention to this circumſtance that the natural ſtate of pyrexia exiſting during pre-

gnancy is favourable to the action of the remedy, and that the ſame quantity of mercury ſhould not be uſed as at another time, which has occaſioned thoſe hurtful effects commonly attending its uſe at this period. The mercurial fever, therefore, ſhould never be carried here to any height; and if the practitioner underſtands the proper principles of treatment, there is no difficulty of curing it during geſtation.

Salutary Effects of Pregnancy.

LXXIV. We have thus ſeen the ſeveral morbid effects which gravidity is liable to induce: but it is not to be denied that its influence at the ſame time is often conſiderable on the conſtitution, and that in the removal or palliation of ſome diſeaſes which occur in the unimpregnated ſtate. Chloroſis, and that ſpecies of hyſteria peculiar to the virgin ſtate, are entirely removed by it. Phthiſis pulmonalis receives a moſt ſenſible relief, and has even its iſſue protracted as long as pregnancy remains, though the patient is liable to ſink ſoon after delivery. This has generally aſtoniſhed phyſicians, and the cauſe of it has not yet been properly explained. In the——

1ſt place, we obſerve, that the uterine ſyſtem, and the parts ſympathiſing with it, are the ſeat of all increaſed determinations during pregnancy. Hence the quantity of fluids muſt be leſſened to the ſeat of the diſeaſe, and favour a re-union of texture where ulceration has taken place.

2. A general diſpoſition, favourable to healing, or a tendency to that general inflammatory diatheſis, which produces, in divided parts, a benign pus, is con-

ſpicuous, and which Dr. STARCK's late remarks on tuberculous conſumption ſhews the propriety of; and,

3. A defect of the oxygenous principal prevails, and the mind receives a ſenſible alteration, the effect of which we cannot determine, though it has been obſerved, that from mania a ſimilar relief takes place in this diſeaſe as from pregnancy.

General Treatment of Pregnancy.

LXXV. Having finiſhed the diſeaſes of pregnancy, it is proper, before concluding the ſubject, we ſhould offer ſome obſervations on the treatment of pregnancy itſelf, independent of any diſeaſes that may occur. The treatment of women during geſtation has varied much at different times; at one period they have been conſidered as in a ſtate of diſeaſe, and abſtinence very ſtrictly enjoined. This was the fault of all the more early writers, while many of the moderns have adviſed, in their management, the oppoſite extreme. There is a proper medium at this time to be hit; and if real diſeaſe does not take place, a prediſpoſition to it, at leaſt, is always afforded. Hence, in thoſe who are naturally robuſt and young, a more ſparing diet will be found uſeful; while in thoſe whoſe conſtitution is more enfeebled, ſuch reſtriction cannot well be borne. This has been very ably pointed out by Mr. WHITE, who has gone ſo far as to inculcate in ſuch ſituations the uſe of cold-bathing and other tonics, as the moſt likely means to prevent abortion. Beſides diet, the exerciſe of women ſhould, during geſtation, bear a good deal of reſtriction; for we find, that women are more liable to abortion than any other animals, and this can only proceed from the erect poſture, by which the muſcles are retained in an uneaſy extended ſtate, ſo that any increaſed motion at this period muſt give them a

tendency to contract, while the incumbent weight itſelf poſſeſſes a natural inclination to deſcend. In the latter months of pregnancy this attention to reſt is particularly neceſſary, and a horizontal poſture ſhould be frequently indulged in. In the early months again, every circumſtance that tends in the leaſt to confine the ſituation of the expanding uterus by its preſſure becomes highly improper; hence tight lacing is frequently the cauſe, if not of abortion, at leaſt of ſeveral of the morbid affections which occur during pregnancy in that ſituation.

From what we already obſerved on the effects of pregnancy, the mind of women ſeems at this period remarkably weak and irritable; hence they are eaſily affected by the ſlighteſt cauſes; and, as their paſſions are liable to be excited, every thing that may tend to diſturb their repoſe ſhould be ſtudiouſly guarded againſt. On this account, ſo attentive are ſome nations to the ſtate of pregnant women, that no perſon is allowed even to knock loudly at the door, nor can the huſband be arreſted at this period.

BOOK II.

ABORTION.

I. FROM the complaints of pregnancy, increaſed to a violent degree, the ſudden application of any power producing a morbid determination to the uterus, ſo as to overcome its natural paſſive ſtate, a morbid affection of ſome of the parts eſtabliſhing the connexion between the organ and its contents, or from a natural irritability the organ itſelf poſſeſſes, its action is often excited at a premature period after conception, occaſioning the excluſion of its contents in their imperfect ſtate, termed Abortion.

II. The ſymptoms which diſtinguiſh this accident are,—the *occurrence* of *periodical pains*, attended with a *niſus*, or *preſſure downwards*, *preceded* by a *weight in the uterine region*, and *accompanied*, more or leſs, with *hæmorrhage*.

III. Two periods of pregnancy have been remarked as moſt liable to this accident; the former of which, extending from the eighth to the eleventh week, may be termed properly the period of abortion; the 2d, reaching from the fifth to the ſeventh month, the period of premature delivery.

IV. The former deſerves particular attention; for at this period the ſymptoms of pregnancy being not ſo decided as to eſtabliſh abſolutely its preſence, it often ariſes from the want of attention to herſelf on the part of the patient; or from the preſcriptions of the phyſician, for accidental, diſorders then common, not ſuſpecting this ſtate. All women who have already borne children conſider with juſtice this period of early geſtation as critical, while the occurrence of this accident, independent of its preſent effects, eſtabliſhes a habit difficult to be got the better of. The more early abortions are, the leſs danger there is from their conſequences. They are more liable to occur early in a firſt pregnancy than in any other, for the uterus is then leſs paſſive to its diſtenſion, while the patient herſelf, not ſuſpecting pregnancy, pays little regard to her real ſtate, and the too frequent indulgences of the huſband excite alſo the action of the uterus, naturally diſpoſed to throw off its contents, and thus abortion enſues.

V. The progreſs of excluſion in abortions, as well as their appearance, is very various, requiring a good deal of experience to form a juſt prognoſtic. One ſhould, indeed, be a little cautious on this head, for, though ſymptoms of abortion are preſent, they are not in every caſe attended with the expulſion of the ovum. A flooding may continue, even in conſiderable quantity, for ſome time, and yet the fœtus be carried to the term of geſtation. Nay, the prognoſis is more favourable where it is preceded by flooding than where no other ſymptoms but the occurrence of regular pains marks its approach: for, in the former, though the placenta be partly detached, yet the life of the ovum may ſtill remain; but in the latter the ovum has generally ſome time before

loſt its vitality, while the uterus, ceaſing to diſtend, or loſing that ſtate kept up by the ſtimulus of a living principle acting againſt it, is excited in order to expel its contents. In very torpid habits abortions are often retained before this takes place for months.

VI. But abortion at a very early period is often miſtaken for a mere increaſed flow of the menſes. This is very ready to happen in women who feel always pain on menſtruation. We judge however of abortion by the woman having miſſed the former uſual period, by ſome ſymptoms of geſtation having preceded, and by the preſent flow being irregular in its occurrence, and, if departing, returning ſoon. From the appearance, indeed, of what is paſt at this very early period, we may be deceived. The ovum is then ſo ſmall as to reſemble merely a clot of blood; and many women, eſpecially thoſe who are weak and relaxed, in whom the uterus does not poſſeſs much action, void the menſes commonly in the form of clots. The ſame happens to women on the departure of the menſes; when, if they are anxious to have children, they generally ſuppoſe they have miſcarried, from the appearance of the menſes voided in this form. Hence, from the difficulty of diſtinguiſhing the difference from external appearance, authors have confounded all very early abortions under the general appellation of Falſe Conceptions, or Moles.

VII. All abortions from an external cauſe are very quickly expelled: thoſe from an internal one are ſlower in their progreſs. Hence, from this circumſtance, authors have attempted to determine the nature of their cauſe. They obſerve, that in theſe caſes, where it ariſes from ſome fault exiſting in the habit of the patient, it

is generally ſlow; a ſlight appearance of blood firſt takes place, which goes off, or returns at intervals but in ſmall quantity, proportioned to the enlargement of the uterus. Stomach complaints next occur, ſuch as mark incipient pregnancy, continuing often for the ſpace of a month without any further morbid appearances. Pains, however, at laſt unexpectedly occur, and the appearance of blood returning in greater quantity than before, the os tincæ comes to be affected, and the ſtages of labour to proceed, when the fœtus is generally excluded in a putrid ſtate.

Where this accident frequently occurs, and always at a certain period, which the female in no pregnancy exceeds, it depends on ſome local affection of the uterus itſelf, independent of the habit;—this is more difficult to be remedied. But diſeaſes of the uterus leſs commonly occur during the period of child-bearing and conception, therefore is leſs frequently blaſted by rooted and conſtitutional, than by accidental and temporary cauſes. It is only, indeed, where improper means have been employed to accompliſh former deliveries, that local affections, acting as cauſes of abortion, are induced.

VIII. No cauſes produce ſo frequently abortion as paſſions of mind. The paſſions have been divided into the exciting and depreſſing. The former act immediately, occaſioning a rapid increaſe of circulation to the uterus, and looſening, by a rupture of ſome veſſels, the connection between it and the ovum. Hence abortion frequently follows anger in the ſpace of a few hours, or even a ſhorter period. The depreſſing paſſions are ſlower in their operation, and act only by increaſing, to a violent degree, the natural complaints of pregnancy. Thus grief, by increaſing that debility of ſtomach which

attends pregnancy, occaſions the efforts of reaching to be frequently ſo violent, as to terminate by this accident.

IX. Another cauſe of abortion enumerated, which is too little attended to, is irritability of the uterus itſelf. It chiefly occurs in nervous debilitated women, where the pelvis is well formed, and the uterus does not riſe ſufficiently, after conception, to be ſupported. In them, the ſlighteſt accident, occaſioning a ſudden preſſure of its contents againſt the os tincæ, is attended with this conſequence. Thus even the motion of a carriage, in ſome women, is ſufficient to produce abortion; ſlipping the ſtep of a ſtair, the moſt ſimple purgative medicine, and a thouſand other trifling cauſes, will be equally powerful; while we know that, in an oppoſite ſtate of the uterus, the moſt powerful means of confining the organ by tight lacing, and employing at the ſame time violent motion, as ſtepping ſuddenly from a height, or even the uſe of the moſt powerful draſtics, in thoſe who wiſh for abortion, is not attended with the deſired effect.

X. A variety of cauſes of abortion we find enumerated by authors, which are barely within the reach of probability. Thus Dr. SMELLIE mentions, that knots on the umbilical cord, or circumvolutions of it round the fœtus in early geſtation, by interrupting the circulation, and depriving it of nouriſhment, may occaſion the child's death, and conſequent abortion. But in no caſe, when theſe accidents occur, can the knots be ever ſo tight as to obſtruct the circulation; and the very interpoſition of the gelatinous matter itſelf, in the compoſition of the cord, ſeems by nature intended to prevent this effect.

In this opinion, Dr. SMELLIE is followed by ſeveral ſucceeding writers, who remark, as another cauſe of abortion, ſchirroſity of the placenta. Schirroſity, however, never happens at an early period; and where it is ſometimes diſcovered on its extraction after the delivery of the mature fœtus, the latter is equally ſtrong and vigorous as any other child, which plainly ſhews there has been no interruption of circulation.

XI. The appearance of abortions, on their expulſion, are very various. At times they are very regular, and anſwer, in their ſhape, to the natural triangular cavity of the uterus. In general, however, except at the very early periods, they are not excluded completely, but reſemble a thickened bag, the parts of which cannot be aſcertained. Frequently the fœtus and waters, with the lower part, is expelled; while the placenta, with the great bulk of the ovum, is retained. Till the ſixth week, in examining any ovum on its expulſion, you cannot perceive the ſmalleſt veſtige of the fœtus; and even then, from its delicacy, it is liable to be cruſhed in the paſſage, or diſſolved in the very fluids, when any preſſure is applied. Neither can you, from the time of its retention in the uterus, judge of its age; as when the abortion proceeds from an internal cauſe, it is frequently retained for months after the extinction of the circulation, till the uterus is excited to action for its expulſion. Where, indeed, pregnancy has been ſomewhat advanced, and the motion of the fœtus felt, we are determined in our opinion by the feelings of the patient herſelf, or the time when ſhe felt the motion of the fœtus ceaſe, previous to which there often takes place a violent ſtirring, which is never again renewed; and the

putrid ſtate in which it is expelled ſhews its having been retained ſome time.

XII. It has been a common obſervation, that a woman ſuffers more from one abortion than from ſeveral labours. This depends, chiefly, on the ſtate of the organ being unfavourable for the expulſion of its contents, and from the conſtitution therefore ſuffering by the continuance of its action before this is effected.

XIII. The difficulties ariſing from this ſtate of the organ may be reduced to three circumſtances:

1. The ſtate of the uterine neck and orifice, which poſſeſs much of their natural elongated form, and, at this period, have received little or no dilatation.

2. The ſmall force of the ovum itſelf, which does not poſſeſs ſufficient preſſure, compared with the bony cranium of the fœtus at full time.

3. The more firm attachment of the placenta, which, though ſeparated in part, adheres always more ſtrongly by ſome points than what it does where the connexion is weakened by the full extenſion of the uterus at the end of geſtation.

XIV. Having thus conſidered the hiſtory of abortion, it is proper to examine next its particular management; or,

1. What methods may be employed, where ſymptoms ariſe, to prevent its occurrence; and,

2. When this cannot be accompliſhed, what aſſiſtance is to be given to cut ſhort the proceſs by favouring expulſion.

XV. Wherever ſymptoms of abortion occur, the firſt ſtep is to attempt getting acquainted with the particular cauſe from which it ariſes. This is, however, at times difficult. Where it ariſes from paſſions of mind, the effect of domeſtic concerns, you can only judge from appearances: but an account of the previous health of the patient will, for the moſt part, determine it when from an external cauſe.

XVI. For the management, then, of abortion, two indications naturally preſent.

1. To ſubdue the increaſed action of the organ itſelf; and

2. To moderate any unuſual increaſe of determination to it, either originally exciting, or only increaſing this ſtate.

XVII. The former is immediately to be had recourſe to, and is affected by,

1. Poſture, that being preferred which occaſions the leaſt preſſure of the uterine contents, beginning to be detached on the os tincæ; and hence the breech ſhould be raiſed as high as poſſible, and the head, on the contrary, placed low.

2. And more powerfully by opiate glyſters; and, the inteſtines being previouſly cleared, they ſhould be exhibited in a full doſe at once, and repeated as indicated by an increaſe of ſymptoms.

XVIII. The ſecond indication or the leſſening the increaſed determination to the uterus is performed by diminiſhing the force of the general circulation, and by

weakening the action of the contiguous parts affecting the uterus.

XIX. The force of the general circulation is diminiſhed by either blood-letting, which is moſt effectual, or expoſure to cold air.

In the uſe of blood-letting, to prevent abortion, a good deal of judgment is required. The increaſe of circulation we find of two kinds, the former of which may be termed primary, being the effect of the ſtate of the nervous ſyſtem induced by the morbid cauſe, and producing an action of the uterus merely as a conſequence. This generally attends abortions from an external cauſe: the other again is ſymptomatic, and ariſes from the action of the uterus itſelf. In the former caſe blood-letting early had recourſe to, before the detachment of the ovum is conſiderable, has certainly prevented abortion, though unleſs early employed it cannot be effectual. In the latter this operation is highly improper, as the cauſe of abortion depends on the uterus itſelf; and therefore the ſucceſs of general bleeding cannot be truſted; while, if abortion takes place, the debility induced by previous veneſection, added to the attendant hæmorrhage, muſt prove very hurtful to the conſtitution of the patient; and hence in modern practice the uſe of veneſection in abortion is become very much limited.

A free expoſure to cold air is here particularly indicated by the hæmorrhage: the degree of it, however, muſt be regulated by the judgment of the practitioner.

XX. The weakening the action of contiguons parts af-

fecting the uterus forms the ſecond part of this indication; and thoſe parts are, chiefly, the abdominal muſcles, the bladder of urine, and rectum.

The action of the abdominal muſcles we endeavour to repreſs by cold applications, as cloths dipt in vinegar and water, attention to their relaxation by the poſture formerly enjoined, &c. while retention of urine is carefully avoided, and any neceſſity for going to ſtool hindered by the moſt abſtemious diet.

XXI. This, then, is the management to be enjoined to prevent abortion, when threatened; but this accident is not eaſily prevented when the ſymptoms of it once commence, and where they ſeem to increaſe by the pains, at firſt ſlight and irregular, becoming more periodical, ſtronger, and forcing, while the hæmorrhage at the ſame time diſplays itſelf in greater quantity. We next conſider, as there are little hopes of its prevention, what aſſiſtance can be given to facilitate its expulſion.

XXII. In caſes of early abortion, little can be done, and it is improper therefore to examine, as it conveys to the patient an idea of your giving ſome aſſiſtance towards the expulſion, which if ſhe does not find take place, and an increaſing pain and hæmorrhage after examination, it is apt to convey an unfavourable impreſſion of your abilities. All therefore that ſhould be done is to inſpect often, and carefully the cloths, as they come from the patient; for the fœtus being then ſo ſmall, comes frequently off in a clot of blood. The abatement of the flooding is no certain ſign of the ovum being paſt, as on deſcending to the os tincæ, it plugs it up; and the latter forming a reſiſtance, it is there detained, preventing the appearance of further hæmorrhage.

In theſe caſes, if the hæmorrhage ſtops, and the pains ſtill continue, we may expect the ovum in this ſituation, and by introducing the finger, and rolling it round the os tincæ, we may ſomewhat aſſiſt the dilatation; but violence muſt never at this period be employed.

XXIII. The ſize of the ovum about the third month, it was formerly remarked, equals a gooſe's egg; and in the progreſs to abortion, when the pains are regular, the os tincæ, on examination, may be felt ſomewhat open, and the ovum laying over it. If then the finger can be puſhed a little within the os tincæ, an attempt is to be made to thruſt it through the ſubſtance of the ovum; by which its fluid being evacuated, the bag will be leſſened, and the uterus thus allowed to contract more, by which the flooding will in part be leſſened. This is always to be attempted where the flooding is alarming; and even in this caſe, if no part of the ovum ſhould be felt, an attempt is to be made to dilate the os tincæ, by rolling the finger round it, and thus bring it within reach, when, piercing the bag, the diſcharge of its contents may take place.

XXIV. But inſtead of this practice, many authors adviſe, as the parts are ſo confined as to prevent the finger getting up ſufficiently high within the uterine orifice in order to give the propoſed aſſiſtance, that a pair of long forceps ſhould be introduced, guided by the finger within the orifice, when, graſping the preſenting part between their blades, it will be eaſily extracted.

But in the firſt place there is an objection to all inſtruments where they can poſſibly be avoided, and particularly at this early period, when the women themſelves have an idea of nature finiſhing the delivery completely herſelf.

2. You cannot truſt any inſtrument when it is beyond the reach of your finger, and within the cavity of the uterus, as you are uncertain of what particular part it takes hold; and,

3. In employing the finger for the extraction, you can in ſome meaſure imitate nature in the ſeparation of the ovum, and excite the action of the uterus itſelf to aſſiſt, while, in uſing an inſtrument; you are obliged to employ violence at once, without attention to any circumſtances of the ſituation of the ovum. The period when the preſent means recommended to aſſiſt the expulſion will be found neceſſary, is from the third to the end of the fifth month.

XXV. As geſtation becomes more advanced, and the different parts of the ovum completely evolved, though there is little difficulty attending the expulſion of the fœtus itſelf, yet the placenta being retained, the diſcharge and other ſymptoms of uneaſineſs are ſtill kept up. The uterus alſo does not then admit the hand to aſſiſt its delivery; nor, from the ſlenderneſs of the cord, can any force be employed to haſten it. This proceſs, therefore, is generally left to nature; and before it takes place, a conſiderable time often, ſeveral weeks, nay, upwards of a month, will at times paſs. This is more liable to occur where abortion is the effect of fever, as the general inflammatory ſtate of ſyſtem is in ſome degree communicated to the uterus, and a more firm adheſion than natural kept up. It happens alſo more frequently where abortion occurs in a firſt pregnancy, or where the woman is advanced in life, and the neck of the uterus poſſeſſes much rigidity. In theſe caſes the expulſion of the placenta takes place, either

1. By an increaſed effort of the uterus ſome time after

the expulſion of the fœtus; for on the delivery of the latter the diſcharge becomes generally greatly leſſened, or aſſumes a ſerous appearance; and this increaſed effort of the uterus, which is marked by the occurrence of freſh pains and a conſiderable diſcharge, is often brought on by the preſſure at ſtool; and hence the practice recommended, of exciting the uterine action by repeated glyſters, though if not affectual, they are liable to increaſe the flooding for a time; or

2. By the tedious proceſs of ſuppuration: and this event we judge of from the diſcharge acquiring an offenſive ſmell, and before it fully takes place, or, when commencing, by its aſſuming the colour of coffee-grounds.

XXVI. In this laſt caſe very particular attention muſt be paid to the ſtate of the diſcharge. From the debility induced by abortion, ſimilar to the real child-bed ſtate, there is always a tendency here to gangrene; and by neglect of cleanlineſs, or allowing the diſcharge to induce inflammation in the paſſage, this will certainly occur. On this account the vagina ſhould be kept clean by frequent bathing, and the injection carried even, if poſſible, to the uterus, which will aſſiſt the ſeparation of thoſe pieces of placenta already in a ſtate of actual ſuppuration. If, however, gangrene is about to commence, and this may be judged of from fixt pain, ſimilar to that attending inflammation, and not of that preſſing kind which marks the action of the uterus in delivery, the bark in every form is to be liberally employed, and joined to the former treatment, every mean of preventing the danger that threatens being had recourſe to.

As ſoon as ſuppuration takes place, the diſcharge is

no longer troubleſome, the inflamed ſtate of the uterus ſealing up the orifices of the veſſels; and in any future delivery, where this termination of abortion has taken place, adheſions of the placenta may be always ſuſpected.

XXVII. Every caſe of abortion endangers a repetition of it in ſucceeding geſtations; and the management, therefore, of the accoucheur, ſo as to avoid it, becomes a neceſſary part of attention. The firſt ſtep for this purpoſe is to aſcertain the cauſe from which it proceeds. This, however, is often difficult; and, in ſpite of all your precautions, a woman will often continue to miſcarry; ſo that you will be at a loſs what plan to direct.

Where a woman miſcarries, with great regularity, at ſtated periods, it is either owing to a conſtitutional fault, or a ſtate of the organ unfavourable to diſtenſion.

With reſpect to the former, you may often trace it to a venereal taint. A ſlight uſe of mercury may therefore be tried, and it will often ſucceed.

With regard to the latter, we find in many women that the fundus uteri does not readily diſtend, which, producing a premature inclination of the uterine contents to the neck, occaſions the latter to be too eaſily dilated. In this caſe, as ſoon as the patient is ſenſibly with child, ſhe ſhould be conſtantly confined to bed till after the abortive period, and a ſpare diet in the interim recommended.

Where miſcarriage occurs in the more robuſt and

plethoric, it is rather accidental; and if attention is paid to the patient in the next pregnancy, it will not likely return.

In women ſubject to menorrhogia, or fluor albus, in the unimpregnated ſtate, when miſcarriage occurs, the obviating relaxation in ſucceeding pregnancy is clearly pointed out; and it is in theſe caſes the effects of cold-bathing, as recommended by the experience of Mr. WHITE, have been found ſo ſucceſsful.

FLOODING.

Connected with abortion, and one of its leading ſymptoms, is *flooding* in the pregnant ſtate, or a diſcharge of blood from the uterus. From reviewing the ſentiments of authors, two ſpecies of it come to be eſtabliſhed; the one very rare, and correſponding both in regularity of period, and in quantity to the natural diſcharge; the other morbid, and marked by a train of ſymptoms, which point it out as a deviation from the healthy ſtate.

XXVIII. The former of theſe has been mentioned as occurring at the uſual period of menſtruation, for two or three times, or longer, after conception, without any ſymptoms which ſhew a tendency to abortion, or lead us to conſider it in a morbid light. Its occurrence is ſupported by many reſpectable authorities, though it is by no means frequent; nor can it proceed from the ſame ſource from which the menſes naturally flow. In every caſe, therefore, of hæmorrhage during pregnancy,

where a woman has formerly had children, and this ſpecies has not taken place, marking a certain peculiarity of conſtitution, it may be conſidered as morbid; or the probability is, by its obſerving the uſual period, that the woman has not conceived. Some authors have even endeavoured to diſtinguiſh theſe different ſpecies by the appearance of the diſcharge; for in common menſtruation the fluid appears thin, while in the morbid, on the contrary, it is thick, and poſſeſſes a ſtrong tendency to coagulate.

XXIX. The latter, which properly characteriſes pregnancy, is of a morbid nature, and is always conſidered by practitioners as an alarming ſymptom; for if not dangerous of itſelf, it at leaſt threatens a premature excluſion of the ovum, and conſequently deſtroys the effect of conception. From the ſlight attachment of the ovum to the uterus in the early months, it is not ſurpriſing that ſuch an effect ſhould take place from the ſlighteſt cauſes, when we conſider the quantity evacuated at every period, and the ſize of the veſſels from which it proceeds. The falſe chorion is the original connecting membrane between the uterus and its contents; and the leaſt ſeparation of this, by expoſing the orifices of the menſtrual veſſels, muſt be attended with ſuch a diſcharge.

XXX. Flooding ariſes from the ſame cauſes formerly enumerated as inducing abortion; but the ſame cauſes, which are ſufficient to induce flooding, do not always occaſion abortion. The ſymptoms which attend it are pretty ſimilar to thoſe of abortion. It begins with ſlight rigour, attended with a ſenſe of laſſitude and pain, which is ſucceeded by a weight in the uterus and pu-

denda. The diſcharge itſelf ſoon appears,—moderate, for the moſt part, at firſt, and ſoon departing, but returning in a little time with increaſed violence.

XXXI. The great point, in all caſes of flooding, is for an accoucheur to be able to form a juſt prognoſis with reſpect to their nature. Rules will not inſtruct us in this. It is only experience, and the opportunity of frequently obſerving ſuch accidents in pregnancy, ſo as to be able to draw an opinion from compariſon. With a view however to this, floodings may be divided into two kinds; either,

1. With reſpect to their real danger, as threatening the life of the patient; or,

2. With regard to pregnancy alone, as endangering abortion.

XXXII. Till the fifth month, authors have aſſerted there is little danger from ſuch accidents in the pregnant ſtate. There have been inſtances, however, of flooding proving fatal at an earlier period; but, in general, we find the remark well founded; and in ſuch early caſes they muſt have been complicated with ſome morbid circumſtances not attended to, or on which their fatality more juſtly depended: even the practice formerly employed, of forcibly bringing off the placenta of early abortions by draſtics and other modes of irritatation, muſt have very much contributed to ſuch a fatal effect.

But after the fifth month, every appearance of blood from the uterus is to be conſidered as attended with danger; and though departing, and apparently got the better of, it is very liable, on the ſlighteſt miſconduct,

suffer a relapse. Many women are subject to flooding in every pregnancy, and it marks in them a particular lax state of the uterus, which generally proves fatal at last.

XXXIII. Whenever a flooding is attended with regular uterine pain, however slight, and the second appearance of it, or the return after the first discharge, is not soon checked, it must, by detaching the decidua from the surface of the uterus, end at last in abortion; and this will be more certain if any filamentous membrane appears in the discharge. The alleviation, however, of this symptom we must aim at, and the same remedies are to be had recourse to here as in case of abortion.

XXXIV. The ingenious Count de BUFFON has observed, that during pregnancy, though for the most part the menses do not appear, yet the usual effort is continued at each successive period. To avoid flooding, therefore, particular attention should be paid to the returns of this period, and this tendency of the uterus to action counteracted by rest and other means.

False Conception.

XXXV. Connected with flooding, and which used to be treated by the earlier writers at considerable length, is the mole or false conception.

Every ovum excluded in the early months, when the fœtus was yet so small as hardly to bear detection, received this appellation, in which practitioners were

confirmed by its poſſeſſing the appearance of an irregular fleſhy maſs, being generally cruſhed more or leſs in its excluſion, ſo as greatly to diſfigure its form. By a mole, however, is properly underſtood an extraneous body formed in the uterus, from the retention of the diſcharge peculiar to the organ, receiving a form ſimilar to the cavity containing it, but without any firmneſs of organiſation, or regular texture.

XXXVI. Such a diſeaſe is apt to occur on the departure of the menſes in thoſe women who are much ſubject to profluvia; for the action of the organ being impaired, and the diſcharge accumulating in its cavity, receives, from the preſſure of the uterus, a form ſomewhat reſembling in its appearance the organiſed ſtructure of the ovum.

XXXVII. No peculiar ſymptoms diſtinguiſh this diſeaſe from real pregnancy; and, in its treatment, manual aſſiſtance is only required when the exceſs of flooding, attending its evacuation, endangers the life of the patient.

BOOK III.

PARTURITION.

I. PARTURITION, or labour, is diſtinguiſhed by the following ſymptoms:—pain of the uterine region, recurring at intervals of uncertain duration, and producing always preſſure downwards: on examination, affecting more or leſs the os tincæ, with an increaſe of the pulſe, and diſorder of ſome functions during their continuance.

II. From this definition of labour, uterine pain appears its leading characteriſtic; but towards the term of geſtation every uneaſineſs in the hypogaſtric region is conſidered, by women themſelves, as the commencement of this ſtate: to form a proper judgment, therefore, certain circumſtances are to be remarked, conjoined with the ſymptoms above deſcribed.

III. The firſt of theſe is, that the term of geſtation be completely elapſed; for in this a very great regularity prevails; and without ſome extraordinary cauſe women are ſeldom delivered till this period arrives.

The ſecond is, the effect of this uterine pain on the organ itſelf, which is diſplayed,

1. By the orifice beginning to dilate, or feeling in a

ſoft ſlippery ſtate, while a thick mucus, tinged with blood, ouzes from the glands at the neck of its cavity.

2. By its nature being regular, periodical, and bringing into action the abdominal muſcles.

IV. The true diagnoſtics of labour-pains come to be, the ſtate of the uterine orifice as affected by their preſſure, their regularity, and intermiſſion.

V. As pain then forms the leading characteriſtic of labour, it muſt be conſidered, in the human ſubject, as a ſtate of diſeaſe, which is eſtabliſhed both by the feelings of the ſex themſelves under it, and alſo by its comparative difficulty with that of the brute creation.

VI. This difficulty has given occaſion to a diviſion of labour into certain claſſes or kinds, according to the morbid circumſtances with which it is complicated; and from obſervation of theſe, without adopting the plan of former authors, which we conſider as not ſufficiently extended, all labours we diſtinguiſh into five claſſes, by the names of the *natural*, *protracted*, *inſtrumental*, *manual*, and *anomalous*.

CLASS I.—*Of Natural Labour.*

VII. Natural labour, or thoſe of the firſt claſs, are marked by the following appearances:

The os tincæ feeling, on examination, ſoft and mucous, with its edges thin, and readily yielding to the in-

cumbent preſſure of the fœtal head, the pains recurring at regular intervals, gradually ſhortening, and the different containing parts forming no morbid reſiſtance to the paſſage of the preſenting part, while its duration ſeldom exceeds ſix hours.

VIII. But though labours, from the foregoing diviſion (VI.), differ materially from each other in the nature and variety of the circumſtances attending them, yet certain leading circumſtances we conſider as proper to every labour; and the aſcertaining theſe is eſſential, in order to underſtand the variety taking place. Such circumſtances we find occur in the progreſs or ſteps of a natural labour as it is moſt commonly formed; and the phenomena obſerved in it are to be ſtudied, as explaining the general doctrine of parturition.

IX. The appearances marking the progreſs of ſuch a labour are:—The patient firſt complains of ſome degree of cold or chilline ſs. Slight pain next ſucceeds from the ſmall of the back, and ſtrikes forwards towards the pubes, on each ſide, meeting as it were in a point, or down to the thighs. An increaſed diſcharge of mucus from the vagina next appears, ſtreaked commonly with a few drops of blood. The pains proceed, increaſing gradually in frequency and ſtrength, the intervals become ſhorter, and their preſſure downwards augments in proportion. The os uteri, on examination, is felt ſomewhat open, with its edges thin, ſoft, and yielding. The opening, at firſt ſmall, is hardly perceptible during the interval of pain, but ſoon extends; when, on the finger being introduced within it, there is felt a ſmall diſtended bag preſſing againſt the orifice. This body gradually enlarging at each pain, ſoon fills the os uteri, and continues its

preſſure againſt it for ſo long as the edges of the orifice give it a ſupport. At firſt, when ſmall, its figure is rather conical. As the orifice enlarges, and it comes to fill it, it becomes of a more rounded form. In the abſence of pain it feels ſoft and flaccid, and the uterine orifice, if poſſeſſing much elaſticity, becomes alſo, in the interval, a little more contracted. By the force of pain continuing, the dilatation of the orifice proceeds, ſo that its edges are obliterated; the coats of the body, or bag, being unſupported, at laſt give way, and the evacuation of the fluid contained, or at leaſt of the greater part, takes place. The quantity varies according to the portion contained in the uterus, and according, alſo, as the head accurately fills up the paſſage, preventing its exit. On the evacuation of the waters, the head, the preſenting part, is diſtinctly felt, and a ceſſation of pain, for a ſhort period, generally ſucceeds. The uterus then reſumes its contraction with increaſed force, proportioned to the greater reſiſtance from the bony cavity, which the head now fills, compared with the ſoft dilatable ſtate of the oſtincæ, and it comes, by accommodating itſelf in its paſſage to the difference of ſhape in the cavity of the pelvis, to be gradually propelled againſt the ſoft external parts. Its vertex then riſes from under the arch of the pubes, by which the reſiſtance from the pelvis, or bony cavity, is taken off, and the bulk of the head fills up the yielding parts that form the perinæum. In this manner, the head advancing in its progreſs with every pain, comes at laſt, on the yielding of the ſphincter, to be immediately expelled; and a ceſſation of pain then enſuing for a few ſeconds, the uterus reſumes its action, and the ſhoulders and body purſue the ſame direction with the head, when the child is completely delivered.

X. From this ſeries of appearances every labour may be properly divided in its progreſs into three ſtages, which we diſtinguiſh by the names of the period of *acceſſion*, *dilatation*, and *expulſion*.

In the courſe of each of theſe, various circumſtances ariſe, which deſerve to be more particularly mentioned.

XI. Under the firſt ſtage is included that period from the firſt ſymptoms of uneaſineſs till the os uteri is felt ſenſibly to dilate. In this ſtage a greater variety is obſervable in its ſymptoms than in the two others; and that both in different women, and in the ſame woman in different pregnancies. It generally commences with a chillineſs, or ſenſe of cold. In ſome this riſes to a regular cold fit, or trembling, ſimilar to what is felt in a tertian. In theſe caſes no pain enſues till the violence of the trembling abates. In others it is accompanied with cholic, diarrhœa, or ſome particular abdominal complaint, to which the patient is uſually ſubject, and of which ſhe experiences then a ſlight attack. Sometimes it begins alſo where the uterus falls low, about the end of geſtation, with a difficulty in the diſcharge of urine. Where this complaint then occurs, and the patient feels alſo a ſort of relaxation or freedom about the ſtomach, and parts adjacent, labour may always be conſidered as at hand.

XII. This ſtage ſeems a neceſſary prelude to the reſt of the operation; for, during it, the connection between the uterus and placenta is in part looſened. The veſſels of the decidua, connecting the ovum or bag to the uterus, are alſo gradually ruptured, and thus every part is prepared for the approaching excluſion; for, in every labour, we are to conſider, that thouſands of veſſels along

its ſurface are lacerated, and an evident deſtruction of organiſation produced, ſo that the organ is left in a raw inflamed ſtate, which, on any cauſe of irritation being applied after delivery, is liable to have a ſenſible effect on it. Hence there is, perhaps, more propriety, than modern practitioners ſeem now to think neceſſary, in the attention formerly paid to the ſtate of the diſcharge after delivery, and thoſe other circumſtances marking the particular diſpoſition of the organ at this period.

XIII. The duration of this ſtage is very uncertain: in moſt women it laſts only a few minutes. In ſome, particularly thoſe of a tenſe ſolid, and in a firſt labour, where the under part of the uterus is not ſo completely dilated as afterwards, it has been known to laſt ſeveral days; the pains at the ſame time being as ſtrong as thoſe of the ſecond ſtage, and bringing the uterus low into the pelvis, without having the ſmalleſt effect on the orifice, even the diſcharge from it not taking place.

XIV. The pains of this ſtage are marked in general more by a grinding, or conſtant ſenſe of uneaſineſs, than much preſſure. Hence the difficulty of diſtinguiſhing labour, during this period, till the ſecond ſtage properly commences.

Correſpondent to this ſtate of pain, the patient, during this ſtage, ſeems fretful, uneaſy, and cannot even expreſs her feelings. And the pulſe, from the apprehenſion of the impending danger, is frequently ſomewhat fluttered; but, when the ſecond ſtage takes place, the pulſe becomes fuller, and during the preſſure of the pains is conſiderably increaſed, acquiring often a good deal of ſharpneſs.

XV. Theſe are the chief circumſtances that mark the ſtage of acceſſion. The ſecond commences from the time that the pains, obſerving a regular recurrence, ſhew a ſenſible effect in dilating the uterine orifice, and terminate when its edges are obliterated, as marked by the rupture of the membranes: and we know it to have taken place by the waters beginning to form at the os uteri. The progreſs of dilatation is at firſt very ſlow. As the orifice enlarges, however, its edges become gradually thinner, and more yielding; and, in proportion alſo as it admits a greater proportion of the bag, or diſtending power, the contractions of the uterus are ſtronger. In this ſtage, and before the rupture of the membranes, the throes are never ſo painful as where the body of the child, on their evacuation, comes in contact with the ſurface of the uterus; which diſplays one intention of the waters, to prevent violence of pain at an early period of labour, before the fibres of the uterus are ſomewhat habituated to irritation. Hence we find inflammation ſucceed moſt commonly tedious labours, where they have been prematurely ruptured.

XVI. The rupture of the membranes marks the completion of the ſecond ſtage, in general, or takes place on the full dilatation of the uterine orifice. But, in certain inſtances, they continue entire even longer, and the whole ovum has been expelled at the full term of geſtation complete. This many authors have conſidered as the moſt natural ſtate of labour; but it is by no means to be wiſhed for, as flooding, the moſt alarming circumſtance in parturition, is thus endangered. What happens moſt frequently we are to conſider as always the moſt natural ſtate.

XVII. The nature of the pains themſelves have alſo an influence on the rupture of the membranes. Where they commence very ſtrong at firſt they are frequently prematurely ruptured; but where the labour is ſlow and gradual they continue long entire. When ruptured prematurely, the fluid continues to come off in ſmall quantity at every pain.

XVIII. Before their rupture the figure of the membranes is more or leſs rounded, anſwering to the circular form of the os tincæ; but, where any obſtruction to the dilatation of the os tincæ prevails, it aſſumes different ſhapes, which are conſidered by accoucheurs as giving evidence of the nature of the labour, or the particular part which preſents.

XIX. When the waters firſt form, the preſenting part comes to be retracted a little in the abſence of every pain. As the bag enlarges, however, it becomes gradually more fixt, and there is then more danger of rupturing them prematurely by touching. At this time a conſiderable pain is often felt behind, or about the top of the ſacrum, which inclines the patient, in the abſence of the real uterine throes, to bear downwards. This, however, ſhould be ſuppreſſed as much as poſſible, for it has no effect to forward the labour; and, if the latter ſhould be protracted, it tends to exhauſt the patient by fruitleſs exertions.

XX. As ſoon as the preſenting part becomes fixt the pains become ſtrong and ſettled; the former inquietudes of the patient depart; while, in the interval, the period of eaſe is more enjoyed, and the reſolution begins to be more confirmed. As this period advances,

or towards the termination of the ſtage, when the membranes are about to be ruptured, the uterine efforts are ſo uncommonly ſevere as to affect every part of the ſyſtem. The face becomes conſiderably fluſhed, the eyes are inflamed, and a general increaſed heat, and quickened circulation, viſibly take place. The rupture of the membranes alleviates this ſtate, and is perhaps neceſſary to prevent the danger of any morbid effects from its continuance.

XXI. After the rupture of the membranes, when the action of the uterus is reſumed, the third ſtage of labour, or what may be termed properly the ſtage of expulſion, commences. The period when this action is reſumed is very different in different caſes. In ſome it proceeds almoſt inſtantly, and the uterine action continues regular, without any intermiſſion, till the head is expelled: in others, and moſt commonly, there is a conſiderable ſuſpenſion of pain. But, whenever the membranes break, the head generally fills up, more or leſs, the vagina, and the uterine orifice is retracted beyond the feel. If the ſpace is not confined, it preſſes then, in a few minutes, againſt the perinæum, and the duration of the labour now depends very much on the reſiſtance from the external parts; for the two points of reſiſtance in this ſtage are, the protuberances of the iſchia, or ſphincter of the externum. As the perinæum yields, the tumour of the external parts begins to form, and the occiput, riſing from under the arch of the pubes, begins to ſhew itſelf during the preſſure of pain without the pudendum. When, however, the perinæum is rigid, or poſſeſſes much elaſticity, though apparently at the os externum, during the preſſure of pain, it becomes again retracted within the vagina on its departure; and in this

way the labour will often continue to proceed for ſeveral hours after the rupture of the membranes. This is one of the moſt painful ſtates that can well be imagined for the patient; but it is not in general attended with danger, as a laceration of the perinæum is thus prevented, an accident which often happens in a firſt labour, though natural. But the parts, though long preſt on by the head, are not very liable to ſuffer inflammation, unleſs when fretted by the attempts of the operator.

XXII. When the head, as it fills the vagina, in this third ſtage, is rather large, from its preſſure on the ſacrum, and nerves connected with it, cramps of the thigh ariſe. Theſe are troubleſome, but ſeldom particularly attended to by the accoucheur, any further than as they convey to him ſome idea of the progreſs of the labour. Soon after this alſo, from the ſame preſſure on the rectum, many women feel a deſire to go to ſtool. At this time, however, it is unſafe to indulge it, as the child may be born in this ſituation, which has frequently happened in the hands of midwives. It is very liable to occur in protracted labour, where the head, fixt on ſome projecting point, has remained many hours without any ſenſible advance; for, by this change of poſition, and the efforts then employed, if the obſtacle is overcome, it is at once expelled, when leaſt expected from appearances.

XXIII. When the labour has proceeded to this length, of affecting the thigh and rectum by the preſſure of the head, it comes ſoon to puſh out the external parts, and in a pain or two at moſt is expelled.

XXIV. The different changes in the poſture of the head, in its paſſage to expulſion, do not affect the re-

maining parts of the body; and time is therefore to be allowed for them to make the ſame neceſſary turns. This generally takes place in a few minutes; and by the occurrence of freſh pains, the child being completely delivered, the moſt important part of the labour is finiſhed.

XXV. From the hiſtory of labour delivered (from IX. to XVIII.) we proceed to make ſome ſteps towards aſcertaining its theory. As yet it has eluded the reſearch of phiſiologiſts; or rather, all its circumſtances have not been explained with ſatisfaction; and we ſhall not therefore pretend to offer an explanation that will univerſally apply.

XXVI. In entering upon this ſubject, it is proper to remark the comparative difficulty that takes place in human labour, contraſted with that of the brute creation. This ariſes from the particular poſture of the human ſubject, and the manner in which the fœtus muſt be neceſſarily carried, during geſtation; for here theſe very circumſtances, which are eſſential to the ſafety of geſtation, prove the very cauſe of impediment to the eaſe of delivery.

XXVII. Theſe circumſtances are a conſtant ſtate of the parts concerned, oppoſing the deſcent of the uterine contents, and that either from

1. Their form; or,
2. Their natural action.

XXVIII. Thus, with regard to the former, we obſerve that the brim of the pelvis, from the expanſion of the alæ of the innominata, affords a ready ſupport to the uterus; while, by ſlipping forwards, it gives it a tenden-

cy rather to be thrown upon the pubes, than to enter the hollow of the pelvis; and the parts covering the abdomen yield at the ſame time readily to its preſſure directed this way, and are capable of ſuffering very great extenſion, without being brought into powerful action.

The capacity of the pelvis again has its axis not in a line with the external opening of the parts. It is furniſhed alſo with a number of projecting points, which, ſhould the uterus poſſeſs a tendency to gravitate downwards, would prevent, without the addition of other more powerful aſſiſtance, the occurrence of labour, while the natural proportions betwixt the pelvis and head are ſuch, that it can only enter it in one direction,—a circumſtance not remarkable in other animals, for that nice adjuſtment betwixt the dimenſions of the pelvis and head is in them no way remarkable. Hence, in human parturition, there prevails a variety of circumſtances, which render it a more complicated ſituation than in the quadruped.

XXIX. With reſpect to the ſecond circumſtance, or natural action of the parts, we find the very exit of the uterine contents oppoſed by the ſtructure, as well as mode of action of the organ itſelf.

The uterus is commonly divided into three parts, the body, the neck, and orifice.

From the body, or fundus, the fibres run in a longitudinal direction towards the neck, ſimilar to what occurs in the bladder of urine, and other hollow organs of a ſimilar ſtructure; and the neck therefore may be conſidered as a fixed point, to which, when contracting,

their action tends. The fibres of the neck, again, are placed tranſverſely, ſo that their action is in oppoſition to that of the fundus, which they naturally reſiſt; and the orifice is, in its ſtructure, ſimilar to the neck; being however more acutely ſenſible, ſo as, on any ſtrong irritation applied to it, to bring into action all the other parts.

XXX. To apply this, then, to explain the theory of labour, we obſerve that, during the whole of pregnancy, the uterus itſelf ſeems to poſſeſs a ſtate of diminiſhed irritability, remaining entirely paſſive; and this paſſive ſtate is only removed on its acquiring a certain degree of ultimate extenſion.

XXXI. That ſuch a ſtate prevails during pregnancy, appears,

1. From the ſymptoms immediately ſucceeding conception; as, lowneſs, languor, and want of venereal appetite.

2. From the impulſe of the menſes, &c. at their next period having ſo little effect for it, is not owing to the adheſion of its contents preventing the diſcharge, but that the ſtate of the uterus itſelf is ſomewhat altered, is confirmed by what was formerly remarked on its increaſe, in caſes of extra-uterine conception, even though its proper contents adhered to the cavity of the abdomen.

XXXII. After theſe obſervations, in order to elucidate the theory of labour, the peculiar manner in which the extenſion of the uterus takes place requires to be conſidered; and this we find to proceed in the following manner. The ſtructure of the fundus differs from that of the neck, in its fibres being naturally

more looſe and extenſive, while thoſe of the neck poſſeſs a denſity of texture reſiſting extenſion, in proportion to its leſſened ſize, compared with that of the fundus. From this ſtructure the uterine contents are chiefly confined to the fundus, till the latter admitting no longer an eaſy extenſion, the fibres of the neck begin to be dilated. When the dilatation of the neck has acquired the ſame degree of extenſion with the fundus, proportioned to its ſize, an equal balance takes place between them, and an increaſed irritability, riſing ſoon to a morbid degree, is induced over the whole of the uterus.

XXXIII. That ſuch a ſtate of morbid irritability then occurs, we prove,

1. From the ſymptoms attending the firſt ſtage of labour, previous to the real uterine action; and,

2. From the ſtate of the contiguous parts in the laſt months of geſtation.

XXXIV. That a balance of extenſion alſo happens between the different parts of the uterus, giving a ſuperior power to the fundus, is confirmed by the eaſe of natural labour, compared with what occurs at a premature period; and the greater the degree of extenſion the cervix acquires, in order to bring it to this ballance with the fundus (for it takes place in a greater degree in ſome than in others), the ſooner will the progreſs of labour be completed. Hence we conclude, that the ſtate of the uterus itſelf, during the whole of geſtation, forms even a reſiſtance to the action of the contiguous aſſiſtant parts that are affected in delivery; and this being once taken away by the full extenſion of every part, labour comes to be un-

avoidably induced; and the cauſes which, during the period of geſtation, we have ſeen unequal to this effect, then readily excite it to action.

XXXV. The period of geſtation varies in different animals, and even ſome latitude prevails in individuals of the ſame ſpecies. The larger the animal is, the longer in general is the term of geſtation.—Women go nine complete months, or from 270 to 273 days.—This may conſidered as the medium; and the obſervations of Dr. Roderer on this ſubject eſtabliſhed it as the proper time when labour may be expected. It is not to be denied, however, that women often exceed, and alſo at times fall a little ſhort of this period. Thus many women are delivered in the eighth month, while the fœtus has all the appearance of having arrived at full time: others again have been known to go beyond the uſual term for ſome weeks; and women themſelves generally remark that females remain longer in the uterus than males. This variety we ſhould naturally expect to find, as the capacity of the uterus, and conſequently its progreſs of extenſion, muſt differ a little in different ſubjects.

XXXVI. This variety we do not find prevail in other animals, who are much more regular in their terms of delivery; and as in the human ſubject it may be made a bad uſe of in caſes of illicit commerce, accoucheurs have diſcouraged its being received as a general opinion. Law, however, has eſtabliſhed ſuch a latitude, that every child born twelve months from the death or abſence of the huſband is conſidered as legitimate. But to regulate our opinion on this head, it may be remarked, that in the ſame perſon a good deal of regularity prevails; and wherever a woman has had ſeveral children, and exceeds

at laſt the uſual term, from the period of reckoning, it may be ſuſpected ſhe was not with child ſo early as ſhe imagined.

XXXVII. The cauſe of this regularity of delivery at the end of the ninth month authors have been at a loſs to explain; but the uterus, whatever the ſtature of body may be, we find in moſt women pretty much of the ſame ſize; and its contents, which determine the period of excluſion, or its ultimate extenſion, are remarked to be as large in ſmall as in taller women. Even in caſes of twins the ſame rule will hold, for the fundus is the part that receives the exceſs of extenſion, and the cervix and lower part never receive their alterations till near the uſual time, as where there is but one: at leaſt a great deal of difference does not take place.

XXXVIII. The cauſes which, at the term of geſtation, by promoting the action of the uterus in its full extended ſtate, induce labour, may be referred to ſeveral heads, and conſiſt of—

1. The general unequal balance between the ſolids and fluids, diſtinguiſhing the whole of geſtation.

2. Violent tenſion of neighbouring parts, giving a tendency to action.

3. Increaſed ſtimulus of the uterine contents.

XXXIX. In accounting for labour, authors have not included all the cauſes to which it is referable. They have generally contented themſelves with one, and, while ſeveral were concerned, have admitted it only as acting in a primary manner. Hence they have attributed this operation to the action of the uterus at one time, and to

the efforts of the child at another. That ſeveral, however, are concerned, we have a ſufficient proof from the phenomena of labour deſcribed, and we ſhall conſider ſeparately each of them enumerated.

XL. With reſpect to the firſt, or the unequal balance between the ſolids and the fluids, conſtituting more particularly a uterine plethora, it has been ſtrongly inſiſted on by the Count de BUFFON; but he has circumſcribed its power of action to the recurrence of the menſtrual period alone. Though no blood be exhibited from the uterus during pregnancy, yet the cauſe of the menſes, he contends, is not deſtroyed, and a puſh is therefore made, as uſual, at each ſucceſſive period. This puſh occaſions a tendency in the uterus to contract, which it reſiſts till a certain degree of ultimate extenſion takes place, and then the menſtrual effort becomes ſufficient for inducing labour.

XLI. This theory Mr. BUFFON ſupports,

1. By women themſelves being ſenſible of this menſtrual effort continuing during pregnancy.

2. From the variety in the term of geſtation in the human ſubject, which does not take place in other animals: and, as they have no menſes, he concludes labour in women muſt depend on this cauſe.

That the effort made at the menſtrual period may have ſome effect is not to be denied; but were it the ſole cauſe, labour ſhould never take place but at the time one of theſe periodic revolutions recurred; and if the effort excited by this periodic revolution was inſufficient, no action of the uterus ſhould recur, or labour commence, till the return of the next revolution; but we find labour occur at all times, independent of the menſtrual period.

The latter, therefore, cannot be the ſole cauſe of parturition, though, when coinciding with the time of labour, it will certainly have conſiderable effect in exciting the action of the uterus, and comes therefore to be properly introduced as a cauſe.

XLII. That the ſecond cauſe, or violent tenſion of neighbouring parts, has likewiſe ſome influence in inducing labour, is alſo proved from the accidental irritation of theſe parts during geſtation, frequently occaſioning its premature occurrence, and, from the power of their action, in aſſiſting the expulſion of the child. Nay, even the very firſt ſymptoms of labour are frequently an affection of the neighbouring parts, and though, perhaps, not of itſelf ſufficient to induce labour, yet, when concurring with the others ſpecified (XLII.), it muſt be attended with conſiderable effect.

XLIII. The third ſet of cauſes to which the occurrence of labour is to be referred, conſiſting of the increaſed ſtimulus of the uterine contents themſelves, has been the moſt general opinion received on this ſubject; and this increaſed ſtimulus ariſes from,

1. Decreaſe of the fluid, or liquor amnii, that leſſens the action of the fœtus upon the uterus; and,

2. Increaſe of motion on the part of the child.

XLIV. With reſpect to the firſt, we can perceive no other reaſon for the diminiſhed quantity of waters which takes place towards the term of geſtation.

The ſecond is a fact ſufficiently known to the mother herſelf,—the motions of the fœtus in the laſt months becoming generally ſo ſtrong as to give a good deal of un-

easineſs, and threatening, according to her own idea, to rupture the ſides of the abdomen. The cauſe of this increaſed action of the fœtus authors have endeavoured to explain in a variety of ways, ſome conſidering it to depend on the diminiſhed capacity of the uterus, which, confining its ſituation, obliges it to exert every effort to break its priſon; while others contend, that the weight of the fœtus, now inſupportable to the uterus, occaſions the latter opening to be diſcharged of its burden.

But, in oppoſition to theſe opinions, we may remark, that the uterus is never completely full; that, when loaded with two, it is more extended than with one; that the weight and ſize of children of eight months ſometimes exceeds that of nine; and, as the period of delivery in all theſe caſes is pretty nearly the ſame, it cannot ariſe from theſe cauſes.

XLV. Forſaking, then, theſe opinions, an attempt has next been made to account for it on the principle of certain functions being about this time neceſſary to be performed; and that, by a law of its economy, or a natural inſtinct, the motions of the fœtus are exerted to ſeek itſelf from its ſituation. Thus GALEN pretends that the fœtus continues in the uterus till it is able to take nouriſhment by the mouth; and that the want of proper food makes it reſtleſs, and anxious to eſcape. On the ſame principle another party, who ſuppoſe the fœtus originally nouriſhed by the mouth, contend, that in proceſs of time the liquor amnii is ſo contaminated as to be unfit for the farther purpoſes of nouriſhment; and that the deſire for the latter occaſions the action of the fœtus to be excited. But theſe reaſons, when duly conſidered, are by no means ſatisfactory: for, were this

the caſe, the more weakly children ſhould remain longer in the uterus than the more robuſt, and nutriment we find not the firſt want of the child after birth. It often remains for ſome days before being capable of receiving it. Other anatomiſts have, with equal probability, referred this increaſed motion of the child towards the turn of geſtation to a deſire of being refreſhed by reſpiration. As reſpiration, however, does not ſeem neceſſary to the fœtal life, why ſuppoſe it ſenſible of its want; and if the placenta is capable for ſo long of producing a depuration of the fœtal maſs, ſome alteration muſt take place in it, and which we cannot perceive, by which it is incapable of longer executing this office equally well as before?

XLVI. An opinion ſuggeſted by DRELINCOURT may be alſo mentioned, that the collection of the meconium in the inteſtines produces, from its acrimony, an irritation, which, rendering the child uneaſy, occaſions its motions to be excited, that, leaving its ſituation, it may be freed of this collection in the inteſtines. But were this actually ſo, why may not the excrement be voided in the uterus? We know that any accidental preſſure on the abdomen of the child in the uterus, where we have occaſion to turn in manual or preternatural caſes, forces the excrement at times to be paſt. Where a child dies in utero, the meconium too is frequently voided in its laſt ſtruggles; and the appearance of it therefore, on the rupture of the membranes, is conſidered as one proof of the death of the child. Hence, if the child really felt an irritation from it, it could be eaſily paſt in the uterus.

XLVII. From examining the above theories, we are led

to conclude that authors have taken too contracted a view of the ſubject; and, without a deſire for the performance of any one particular function, we are to conſider this increaſed motion of the fœtus as depending on the fœtal life, being ſo far completed that its ſyſtem is capable now of depending on itſelf; and, conſcious of its vigour, an attempt is made by the fœtus, to exerciſe its different members as far as in its power, which in this irritable extended ſtate of the uterus muſt certainly have ſome effect in exciting its action. But to ſuppoſe this motion of the fœtus is of itſelf capable of inducing labour is falſe; for we know that a dead child is delivered at the uſual time with as much eaſe as a living one; though, misled by this theory, practitioners for long conſidered a dead child as only capable of being delivered by manual aſſiſtance. But though the fœtus, we have endeavoured to ſhew, is not the original cauſe of labour, yet there can be no doubt it has great effect in its progreſs in a mechanical way, ſo ſoon as the head comes to be engaged in the os uteri, and to act upon its irritable ſurface.

XLVIII. Having thus enumerated the ſeveral cauſes on which we conceive labour to depend, the theory to be formed of its proceſs is ſimply this:

The united power of certain ſtimuli mentioned (from XXXVIII. to XLVII.), applied to the uterus in a ſtate of morbid irritability, the effect of extreme extenſion, excites the action of its fundus, which overcomes the natural reſiſtance of the neck in conſequence of the latter having now received a degree of extenſion, putting them in balance; and the contents of the uterus are thus determined downwards, by which the orifice

begins to dilate. To render this dilatation more expeditious, the fluid ſurrounding the fœtus is firſt puſhed down in a certain quantity, and, from its elaſticity, admitted into the orifice, however ſmall,—thus acting as a wedge before the head can poſſibly enter, while its irritation being ſlight, the orifice is not thrown into thoſe ſpaſms which frequently take place when it is irritable, and the waters break early, ſo that the head is applied at once againſt it.

XLIX. The action of the uterus in this proceſs we find temporary, or continues only for a time, and then ſuffers an intermiſſion. From the uneaſineſs attending it, it has received the appellation of labour pain, and authors have diſtinguiſhed it into three ſpecies, which they term true, falſe, and mixed.

By the firſt, is underſtood that kind of pain which ſhews a ſenſible effect in bringing forward the fœtus to delivery.

By the ſecond, that which affects only the contiguous parts, and does not at all excite the action of the uterus.

By the third, that which affects both the uterus and contiguous parts at the ſame time; though its effect on the former is not equal to the force its ſeems apparently to exert.

L. This pain, or temporary exertion of the uterus, may be explained on the principles of muſcular action; for every muſcle, after being a certain time in action, remits or becomes inſenſible to the ſame degree of ſtimulus. Hence we find the pains in their progreſs naturally increaſe in violence; for the preſenting part, advancing gradually, produces a greater irritation on

he extremity of the muſcle; and hence alſo the inter-
als of pain are at firſt more diſtant, and become gra-
ually ſhortened as the labour advances. The action
f all hollow muſcles too, when once excited, we find
tronger than any other, as not being fixed to any part,
nd conſequently having no limits to their contraction,
hich is even one reaſon for conſidering labour as de-
ending ſo much on the action of the organ itſelf,—the
auſes which act during pregnancy, in oppoſing its
ontraction, being taken away.

LI. At firſt the efforts of the uterus are perhaps in
me degree under the command of the will, and we
ven find that at this time they may be partly ſuſpend-
l, of which we have a ſtrong proof when called to a
atient, that they will often leave her entirely on our
ppearance, though regular and frequent before; but,
hen the uterine action is once fully eſtabliſhed and
bour advanced, they are then involuntary, and can-
t be ſuſpended, which we find particularly the caſe
the laſt efforts, when, from their violence, the rup-
re of ſome of the parts frequently enſues.

LII. From theſe obſervations, then, on the action
the uterus, though its muſcular ſubſtance has been
nſidered by authors as leſs apparent, yet its power as
muſcle is in labour ſufficiently eſtabliſhed; and, if it is
t muſcular, it then ſhews that the power of contraction
not excluſively confined to that kind of organiſation.

LIII. But though delivery depends chiefly on the
ion of the uterus itſelf, yet certain powers, termed
ſtant, are alſo conjoined with it; and theſe are the
dominal muſcles, and alſo thoſe of the extremities.

LIV. With reſpect to the firſt, it appears that the abdominal muſcles and adjacent parts have a conſiderable effect in aſſiſting delivery, as a proof of which we find that diſtorted women, in whom the thorax and abdomen are more contracted, and in whom of courſe the action of theſe parts is more imperfect, independent of the ſtate of the pelvis, have generally protracted labours. Hence the propriety of voluntary ſtraining on the part of the patient to aſſiſt delivery, though, at the ſame time, it ſhould never be carried too far, and only employed when the primary action of the uterus co-operates.

In regard to the ſecond again, or the muſcles of the extremities, when put in action, they fix thoſe parts of the body to which the former are connected, and render their operation more extenſive. Hence the advantage of particular poſitions, which authors have directed, as facilitating delivery.

LV. Having thus detailed the progreſs of natural labour, and offered ſome hints towards aſcertaining its theory, its management in the laſt place claims our attention.

The chief point to be obſerved here is, that natural labour is that ſpecies which is performed by the natural powers alone; and of courſe that the aſſiſtance of the accoucheur to forward it is at leaſt unneceſſary, if not injurious. The great merit of an accoucheur in theſe caſes is,

1. His ſhewing a ſedulous attention to favour the natural efforts, by directing the proper management of the patient, ſo as to prevent harm being done by female prejudices; and,

2. His diſplaying his knowledge, by forming a juſt prognoſis of the duration of the labour; a ſubject on which he is commonly interrogated, both by the patient and her attendants.

LVI. The former of theſe he endeavours to execute,

1. By directing the proper poſition for delivery.

2. Obviating any morbid ſymptom, which ariſes during the progreſs of labour.

3. Preventing over exertion on the part of the patient; and,

4. Where languid, aſſiſting the natural efforts by ſtrengthening the general ſyſtem.

LVII. With reſpect to the firſt, the cuſtom of different countries has occaſioned a great variety to be obſerved; and to point out the proper one, it is neceſſary to conſider what is required for this purpoſe.

The firſt thing is certainly the eaſe of the patient; and,

The ſecond, that the uterine efforts be no way counteracted.

LVIII. Both theſe purpoſes are anſwered by the poſition now moſt generally employed, which is lying in bed on the left ſide; and this poſition, in the preſent claſs of labours, is moſt agreeable for delivery, moſt convenient for the operator, is eaſieſt for the patient where any morbid circumſtances occur, and does not, by any preſſure on the ſoft parts receiving dilatation, prevent their extenſion as takes place in the back poſition.

LIX. Before the patient is directed to any particular poſture, and, indeed, even confined to bed, the progreſs

of the labour ſhould be pretty far advanced, and the ſecond ſtage almoſt completed.

There is very little danger of being too late with this, as the feelings of the patient will incline her to retire to bed much earlier than perhaps is neceſſary. During the firſt ſtage of labour, it is improper to confine the patient to any one poſition; for its duration being uncertain, the time will paſs more eaſily, and it is only from the period that women are confined to bed they judge of the ſlowneſs of their labour. There can indeed be no proper time fixed when the patient ſhould be put to bed, as it muſt be determined entirely by the circumſtances of the labour, and this the accoucheur himſelf will be beſt able to decide.

LX. During the progreſs of every labour, even the moſt eaſy, from its effects on the ſyſtem, certain morbid ſymptoms ariſe, which require attention, and which we muſt endeavour to palliate.

LXI. One of the moſt frequent of theſe is *ſickneſs*. With many women it commences with labour, and continues during the whole progreſs of it. With others it only begins when the labour is pretty far advanced, and the os tincæ fully dilated. From the exertions of vomiting it occaſions, it proves an aſſiſtant to the pains where they are weak. But where no vomiting occurs, and the ſickneſs is very violent, it occaſions, frequently, a ſuſpenſion of labour to take place. We can do very little to it, except waſhing out the ſtomach, for the cordials, which are commonly in this caſe given, tend much to increaſe it.

LXII. *Diarrhœa* is likewiſe a uſual attendant of labour. In ſome it begins regularly, as formerly obſerved (XI.), with a degree of cholic. In others it takes place where the head is ſo far advanced as to ſtretch the perinæum, and of courſe dilate the rectum. In this laſt caſe it requires no attention; but in the former it may be alleviated by an opiate glyſter.

LXIII. *Suppreſſion of urine* is alſo a complaint that occurs in the commencement of labour. It requires then particular care; for, by allowing it to proceed till the head is engaged in the pelvis, from its compreſſion on the neck of the bladder, the introduction of the catheter becomes very difficult, often impoſſible; and where the ſuppreſſion continues above twelve hours, and cannot be relieved, delivery muſt be had recourſe to with as much expedition as poſſible, and that by the moſt gentle and leaſt coercive method. Thus a labour, ſtrictly natural, and which might have terminated eaſily, is, by this ſymptom, often rendered one of the moſt troubleſome, and which ſometimes ends fatally; for, independent of the quantity of urine accumulated, which threatens the rupture of the bladder, and excites its action, the pains of labour come, from this irritation, to be totally ſuſpended.

LXIV. *Coſtiveneſs* is a complaint natural to pregnancy; and where allowed to proceed, is ſometimes troubleſome in labour. On this account, a glyſter ſhould always be exhibited at its commencement; for, by clearing the bowels at this period, it give leſs trouble for ſome time after delivery.

LXV. *Cramp* is alſo very common during the pro-

greſs of parturition. When in the belly, it is moſt ſevere, and requires to be alleviated by the uſe of opiates; and, if the membranes are not broken by their rupture, allowing the uterus to contract, and thus leſſening compreſſion, the complaint is relieved. Cramp of the thigh again is leſs to be regarded. It generally comes on when the labour is pretty far advanced, and prevails chiefly in one thigh.

LXVI. *Flooding* likewiſe frequently occurs in labour, even in its moſt natural ſtate. It uſually takes place where the labour is tedious, or where the patient is overheated and uſes much exertion. If moderate, little is to be done but attending to the ſtate of the patient, and its effects upon her. If ſevere, it is then alarming, and requires delivery to be expedited as quickly as poſſible, in the manner pointed out in flooding caſes.

LXVII. Next to obviating the complaints of labour, now deſcribed, *preventing over exertion* on the part of the patient, as inducing theſe, is to be ſtrictly recommended. This moſt commonly takes place in a firſt labour; for the patient, on the leaſt irritation, ſtrains with conſiderable force, which, wanting the co-operation of the uterine action, has very little effect. It often does harm, by occaſioning a degree of fever, marked by a general increaſed action of the ſyſtem and intenſe heat within the vagina; ſo that bleeding, to prevent inflammation, becomes often neceſſary.

LXVIII. The oppoſite alſo of this ſtate, or a *torpor of the ſyſtem*, by which the natural efforts are not properly aſſiſted, occurs at times, though leſs frequent. When met with, it conſtitutes a ſpecies of natural la-

bour, termed by the women themſelves a ſleepy labour, the patient inclining to doze during the whole of it, and being hardly waked, even by the recurrence of pain. In this caſe, a moderate uſe of ſtimulants may be proper, though in general the uſe of cordials is not much indicated in parturition.

LXIX. Theſe form the firſt circumſtances that demand the attention of the accoucheur in conducting natural labour. The next, or his opinion with reſpect to its duration, is a more difficult taſk to execute. No opinion, indeed, can be formed, with certainty, on this head, as it is connected with ſuch a variety of circumſtances that may retard its progreſs; but, in order to form a probable judgment for our own direction, we compare the extent of dilatation of the uterine orifice, in a given time, with the ſtrength of the pains. The dilatation we obſerve at firſt ſlow, but it is otherwiſe when it gains a certain extent; and if it requires ſix hours to dilate the os uteri one half, it will not take above one hour, where it admits a portion of the head, to dilate the reſt. When the head advances within the vagina, the prognoſis is more uncertain. The reſiſtance which the ſoft parts may give may occaſion its being detained, even ſome hours, at the os externum, the ſphincter of which, if entire, may be conſidered as another orifice, to be overcome like the os tincæ.

LXX. Since natural labour is accompliſhed by the efforts of the patient alone, it becomes proper to aſcertain what interference is neceſſary on the part of the accoucheur at all, during its progreſs.

Till the head is advanced ſo far as to preſs againſt the perinæum, even touching is unneceſſary, except to aſcertain the preſentation, which is generally done ſoon after the commencement of labour. Too frequent touching is attended with bad effects; for,

1. If not very cautious, you are liable to rupture the membranes prematurely; and the more ſo, if a ſmall portion is protruded beyond the os uteri, which is ſometimes the caſe while the latter is very little dilated.

2. By ſuch interference the parts muſt unavoidably be fretted, which we find particularly the caſe where midwives attend; and,

3. By touching, the patient has generally an idea of your conveying aſſiſtance, while, if the labour is not ſoon terminated, ſhe cannot entertain the moſt favourable opinion of its ſucceſs.

LXXI. When the head begins to preſs againſt the perinæum, has been mentioned by authors as the proper time for placing the patient in the poſition intended for delivery. This, however, though a general rule, is by no means to be ſtrictly adhered to, but muſt be regulated by the former circumſtances of the labour, with reſpect to its duration and the apparent ſtate of the external parts, or the reſiſtance they may form to its expulſion. The confinement to bed at this period of labour proceeded on the practice inculcated by many eminent accoucheurs, that it was neceſſary to ſupport the perinæum by the preſſure of the hand, to prevent its laceration. But by this practice one of two circumſtances muſt take place. If the preſſure is ſo ſtrong as to prove effectual, it muſt counteract entirely the influence of the pains, as the dilatation of the ſoft parts, when the head has advanced ſo far, is then only want-

ing to affect the delivery. But, even independent of this, ſuch preſſure occaſions it to be violently bruiſed, and if ſo ſlight as not to induce this, it may indeed ſhew an attention to the patient, but can be of no ſervice in eaſing the pain of delivery. It may be alſo affirmed, that laceration of the perinæum has as often taken place where this preſſure was applied, as without it; for the violence of the laſt pains is generally ſo ſtrong, that without a degree of preſſure, which no practitioner will think ſafe to employ, they cannot be counteracted.

LXXII. The advance of the labour to this length may be even judged of by the nature of the pains themſelves, or their effects on the patient: for, in the ſecond ſtage, the force of the preſenting part is counteracted by the interpoſition of the waters, which act as a medium, and blunt its effects againſt the ſenſible uterine orifice. Hence the pains of this ſtage, where the membranes continue entire, are generally bearable. In the commencement of the third ſtage, again, when the uterine orifice is retracted, and the waters break, the force of the preſenting part is directed againſt the bony cavity, and the pains here are not more ſevere than in the former; but towards its termination, when the head deſcends againſt the perinæum, the pains become ſo ſtrong and ſevere, as to differ in their effects on the patient, from any of the former, becoming in ſome meaſure intolerable, and obliging her to cry out.

LXXIII. When the head has pretty nearly filled the perinæum, the tumour of the external parts begins to form, and is at laſt expelled. When expelled, the face generally turns to one ſide, directed by the poſition of the remaining parts.

LXXIV. On the protruſion of the head, practitioners generally imagined that the reſt of the delivery belonged entirely to them. The head, therefore, was taken hold of, with a hand on each ſide, and violently pulled forward, ſo as to diſentangle the reſt of the body. But by this practice the patient was ſubjected to many inconveniences, which even affected her recovery. The reaſon aſſigned for this method was, the danger the child ſuffered from compreſſion of the cord by this delay: but till part of the body is protruded, the cord can never ſuffer compreſſion, unleſs it is circumvoluted round the neck of the child, and, in this caſe, ſuch practice may be allowed.

LXXV. Mr. White was the firſt, who, from an attention to the natural efforts, pointed out the propriety of truſting alſo this part to the ſame power; for, after the protruſion of the head, a ſhort reſpite taking place, the pains are again renewed, and the ſhoulders, obſerving the dimenſions of the pelvis, enter its brim towards the ilia, and deſcend, in this poſition, till its capacity is changed by the protruſion of the iſchia, when turning towards the pubes and ſacrum, as giving the moſt enlarged ſpace, they are expelled in this direction. A neglect of this practice occaſioned the expulſion of the placenta to be generally more difficult, and the after-pains alſo to be more ſevere; for if the operator pull forth the child, the laſt efforts of the uterus are prevented, which have the chief effect in ſeparating the placenta, and the ſoft ſubſtance of the latter does not afterwards give it ſuch a ſtimulus as to excite anew its ready contraction. In the ſame way, by the want of theſe laſt exertions of the uterus, ſmall coagula are retained in the extremities of its veſſels, which are expel-

led at laſt by the action of the uterus, marked by what are termed after-pains, and theſe are rendered uncommonly ſevere from their not being expelled during the previous efforts of labour itſelf.

LXXVI. When the child is expelled, it is laid upon its ſide, with its back towards the mother, and the next ſtep that remains is to ſeparate its connection with her by dividing the umbilical cord. With reſpect to the proper time, however, of doing this, different opinions prevail. It was formerly the cuſtom, and is ſtill too much employed, to make this ſeparation immediately, or, at leaſt, as ſoon as the child had given any ſigns of life. But, in paſſing from the fœtal to the perfect animal ſtate, the neceſſary changes in the circulation require ſome time. The lungs of the child, when at firſt diſtended, are imperfect in their functions; and, by allowing the connection with the placenta for ſome time to remain, the latter, from its ſuppoſed ſecondary office of ſupplying the uſe of the lungs in the fœtal ſtate, will be an aſſiſtant at this time to the lungs till their proper action is eſtabliſhed. Hence the propriety of a practice employed by many accoucheurs in caſes of ſtill birth, the immerſing the placenta in warm water, to allow its circulation, from its effects on the fœtus, to continue.

LXXVII. For theſe reaſons ſpecified, till the circulation in the umbilical cord is ſtopped, no diviſion ſhould take place. When that happens, a ligature is to be paſt on the cord, about two fingers breadth from the umbilicus of the child, and tightened ſo as to make a proper compreſſion on the veſſels, though there will be leſs danger of any hæmorrhage if this practice is obſerved

of not dividing the cord till the circulation in the child is once eſtabliſhed. The cord may be then cut, and the child removed; but many authors adviſe, previous to this, and it is by far the moſt cleanly method, that a ſecond ligature ſhould be paſt on the cord, about an inch diſtant from the former, and that the diviſions ſhould be made between them, by which the contents of the placenta will be prevented flowing into the bed; and, in caſe alſo there is a ſecond child, which you do not at firſt diſcover, no hæmorrhage will enſue to prove hurtful to it.

LXXVIII. Dr. SMELLIE adviſes but one ligature, by which the placenta, he ſays, unloaded of its blood, will ſhrink in ſize, and aſſiſt the ſeparation; but it is not the placenta that occaſions this ſeparation, it is the uterus itſelf. Hence a ſmall diminution of its bulk can have little effect in this way; nay, the larger the placenta, the more readily will it ſeparate, by giving greater irritation to the uterus, and exciting its more powerful contraction, though it may, perhaps, unleſs care is taken in bringing it along, excite a ſpaſm of the os tincæ. It is, perhaps, immaterial which practice is purſued.

LXXIX. Having thus conſidered the proper aſſiſtance natural labour requires, it may be proper next to offer a few obſervations on the treatment of the patient during its progreſs.

In general, during the time of labour, digeſtion does not proceed as uſual. Similar to acute diſeaſe of ſome principal organ, the other functions are either entirely ſuſpended, or greatly weakened, during its continuance; or the attention of the ſyſtem is as it were wholly taken

up with the preſent ſtate. On this account, with moſt patients, little ſolid food will be neceſſary; and, if any way irritable, the ſtomach is even apt to reject it.

LXXX. In delicate habits, however, at times, this general rule muſt be infringed, as the exertions employed require ſome ſtimulus to continue them, and the patient is apt to fall low, and to become diſpirited. In the choice of ſtimulants, many reſtrictions have been enjoined by accoucheurs, from their endangering flooding after delivery. It is to be doubted, however, if flooding after delivery is ever endangered by this cauſe. It moſt commonly ariſes from a ſtate of the organ itſelf, unconnected with the general circulation. Whatever accelerates the general circulation muſt have an influence on the ſolids in a primary manner, while the effect of any increaſed action on the ſolids muſt give a tendency to contraction, the very thing in ſuch an occurrence wanted.

LXXXI. Of labour, the proportion belonging to this claſs is 99 out of 100. The improvement in their management is juſtly due to modern practitioners. The firſt æra of it was in the beginning of the 15th century, when the introduction of the term laborious, as a diviſion of this claſs rather than a ſeparate one, took place. From that period its limits have been gradually extended. Artificial aſſiſtance has been leſs frequently employed; and its perfection ſeems at laſt to be almoſt completed, by the application of the ſame rules of conduct in the delivery of the reſt of the body as had been formerly confined entirely to the head.

LXXXII. The expulſion of the child is immediately ſucceeded by the evacuation of the remaining por-

tion of the water retained after the rupture of the membranes, in conſequence of the head, by its filling the paſſage, confining them. The contraction of the uterus next ſucceeds, and occaſions the ſeparation of the placenta, which has already almoſt entirely taken place during the laſt efforts of the organ to expel the body of the child; and this ſeparation is attended by a diſcharge of blood from that part of the ſurface of the uterus formerly occupied by the ſeparated portion of the placenta. This continues till the contraction of the uterus proceeds ſo far that the ſituation of the placenta comes to be confined. The organ then reſumes its contraction in a ſlight degree, proportioned to the ſize of the body, the ſoftneſs of its texture conveying leſs irritation, and the ſtate of the organ itſelf not being ſo eaſily acted on as during the progreſs of labour; and by this contraction it comes at laſt to be gradually expelled,—the pains that effect this reſembling thoſe which diſtinguiſh the firſt ſtage of labour.

LXXXIII. The expulſion of the placenta is immediately ſucceeded by the diſcharge of any remaining exceſs of fluid in the veſſels of the uterus, when the organ is reduced ſomewhat to its natural ſtate,—feeling to the hand, applied on the os pubis, as a ſmall hard round tumour, and leaving the abdomen, and ſituation it formerly occupied, in a flaccid ſtate.

LXXXIV. Such is the uſual proceſs by which the delivery of the placenta is effected. It becomes next proper to conſider,

1. How far the interference of the accoucheur is at all times neceſſary in aſſiſting it; or,

2. What circumſtances determine him, in particular

caſes, to anticipate the natural efforts, and, by manual aid, perform it entirely.

LXXXV. On no ſubject of practical midwifery have accoucheurs differed more than on this of the management of the placenta in natural labour. The idea of the immediate contraction of the uterine orifice preventing its exit, determined them for long on its inſtant extraction; and, as its complete ſeparation was thus prevented by forcibly tearing it from the ſurface of the uterus, the mouths of large veſſels were expoſed in their dilated ſtate, which produced of courſe a violent increaſe of hæmorrhage; and the natural contractions of the uterus being counteracted from this violence employed, often produced on it an atonic ſtate, by which this hæmorrhage proved fatal. But even where this termination did not take place, from the fibres of the uterus poſſeſſing perhaps more elaſticity than uſual, inflammation, and afterwards ſuppuration of that ſurface of the organ occupied by the placenta, frequently happened, and the patient was thus ſubjected, from the too officious aſſiſtance of the operator, to all the conſequences of a painful and tedious recovery. Independent of this, alſo, ſuch a practice is particularly reprobated by the very great and unneceſſary pain the patient muſt unavoidably experience, who, from the violence of the former parturition, compared with the preſent interval of eaſe ſucceeding the expulſion of the child, expects no ſuch renewal of the former agony.

LXXXVI. This practice then was ſucceeded by an oppoſite procedure, or an opinion that the natural efforts ſhould at all times be truſted with the expulſion of the placenta, and that the hand of the operator ſhould in

no caſe be introduced into the uterus for the purpoſe of its extraction. This opinion was ſtrongly inculcated by Ruysch, to which he was led by the pretended diſcovery of the muſculus orbicularis at the fundus uteri, the uſe of which he conſidered as intended in a ſpecial manner for the expulſion of the placenta. Though leſs dangerous than the former on the whole, this practice was ſtill, in particular ſituations, attended with fatal effects; and its retention, till actual ſymptoms of putrefaction occurred, was the conſequence of an unlimited confidence in the efforts of nature. Truth, however, is ſeldom in extremes; and Mr. Puzos was the firſt author who pointed out with judgment the proper mode of practice in this part of delivery. He has been ſucceeded by Mr. White, who, in his publication, has entered fully into this ſubject, and who, from a number of very juſt obſervations, the reſult of an extenſive practice, has at laſt fixt the conduct of practitioners in this part.

LXXXVII. It may be laid down then as a general rule in moſt natural caſes, when no particular urgent ſymptoms occur, that the management of the placenta ſhould be truſted to nature, by which is meant, that the accoucheur, waiting a certain time, till the patient complains of ſlight uneaſineſs in the uterine region, and previouſly aſcertaining by the external feel of the abdomen the ſtate of contraction, ſhould gently aſſiſt the uterine efforts by twining the cord round the fingers of one hand, while the other is applied to it higher up, within the vagina,—giving the proper direction for the exit of the placenta, by pulling the cord in a line with the centre of the pelvis, or as much as poſſible towards the ſacrum. If the uterine efforts are exerted, the cord will be felt to

lengthen at each pain; if the complete ſeparation has taken place, one pain will be ſufficient; if not, let an intermiſſion take place, waiting the repetition of more, which will ſoon occur; and in this way the extraction will ſoon be completed.

LXXXVIII. Before making any attempts at the extraction of the placenta, as deſcribed (LXXXVII.), a ſpace of at leaſt fifteen or twenty minutes after the delivery of the child ſhould intervene, or in proportion to the duration of the former labour and apparent irritability of the uterus, the expulſion of the placenta being moſt ſpeedy where the former parturition is tedious; and in this interval nothing ſhould be done, except applying a warm cloth to the pudendum, and occaſionally feeling the ſtate of contraction in the uterus.

LXXXIX. From the ſtate of the uterus, the repetition of pains is ſometimes marked by ſo little uneaſineſs, that the patient, from their compariſon with the former, has no idea of their being really ſo. If, however, the patient, in the ſpecified time, complains of an increaſed flow of blood as denoting the ſeparation of the placenta, aſſiſtance is then to be given in the manner directed.

XC. This is the common management we would recommend; and, in ninety caſes out of one hundred, it will be found ſufficient for the delivery of the placenta. But particular ſituations occur, in which this method may prove ineffectual, from urgent ſymptoms ariſing, which demand at once a ſpeedy extraction.

XCI. Theſe circumſtances are,

1. Violent hæmorrhage affecting the pulſe.

2. Faintings, the conſequence of the former; and, in this laſt caſe, the hæmorrhage is ſometimes concealed; or the placenta, filling up the orifice, confines the diſcharge.

XCII. The cauſes of theſe ſymptoms, though ultimately depending on the retention, may be referred either to the placenta itſelf or the uterus.

Where depending on the former, they conſiſt in morbid adheſion or rupture of the cord; where on the latter, in ſpaſm or irregular contraction of the organ.

XCIII. Morbid adheſion is the moſt dangerous cauſe of retention, and that in proportion to the ſpace of ſurface over which the adheſion extends. It may be either general or partial. The former is very rare, though ſome uncommon inſtances have occurred where the placenta poſſeſſed a general ſchirrous hardneſs; and being thus incapable of ſeparation, was retained for years.

XCIV. Partial adheſion is more frequent, and the point or lobule in this caſe is often retained, being ſeparated from the reſt of the placentary maſs by the operation. It is known when, after waiting the uſual time, the placenta does not ſeparate on any efforts we employ to aſſiſt, but the cord being extended, returns back with an elaſticity; and, on applying the other hand to the region of the uterus externally during theſe efforts of extending the cord, we find the uterus drawn forward, and again, on ſlackening the cord, recoil back to its former ſituation.

XCV. In this caſe ſeveral different modes of treatment have been recommended, in addition to pulling by the cord, in order to increaſe the contraction of the uterus, and effect a ſeparation. Theſe are ſneezing, coughing, friction of the abdomen, ſtrong preſſure downwards, &c. But when the adheſion is ſo ſtrong as to reſiſt pulling by the cord, theſe expedients will be ineffectual, and even tend to increaſe the hæmorrhage, already profuſe. Nay, the rapidity of the latter, and its powerful effects on the patient in a few minutes, will ſeldom admit the delay of ſuch modes of practice.

XCVI. The introduction of the hand, therefore, into the uterus is preferable, and the method of doing it is this.

Let the hand, in the form of a cone, be quickly paſſed through the vagina, for in paſſing here it chiefly gives pain, into the uterus, which will readily admit its entrance, and carry it as high as poſſible towards the ſituation of the placenta, to which you will be directed by the cord. Let the fingers then be ſpread out on the body of the placenta, ſo as to take a large hold of it; and drawing them in towards you, let the body of the placenta be graſpt, when the adhering portion will ſeparate from the ſurface of the uterus, or peel off; then turning the palm of the hand towards the abdomen, let it be gradually brought out with the placenta.

XCVII. Partial adheſion of the placenta is moſt liable to occur from previous diſeaſes of the uterus, eſpecially inflammation. It is always ready to occur in a ſubſequent delivery, where any force has been neceſſary to

effect the ſeparation in a former; and, more eſpecially, if the placenta occupy the ſame ſituation as it did then. In many women the uterus ſeems naturally to form too firm a connexion with the ſubſtance of the placenta, and its extraction is neceſſary in every labour. The preſſure of ſome member of the fœtus in a particular manner during pregnancy, againſt part of it, may occaſion alſo ſuch adheſion; and the more its ſituation recedes from the fundus, it is alleged by ſome authors, there is danger of partial adheſion, as the contraction towards the neck is not ſufficiently powerful to admit its complete ſeparation.

XCVIII. In every caſe where, on the introduction of the hand, as recommended (XCV.), the adhering portion cannot be eaſily ſeparated, rather than uſe violence to the ſurface of the uterus itſelf, it may be allowed to remain by detaching the reſt of the placenta from it; for it will be very rarely ſo conſiderable as to produce any very troubleſome effects.

XCIX. Rupture of the umbilical cord is the next cauſe of retention enumerated. It depends much on the operator; and we can only aſcertain by practice what degree of force the cord can bear. Its rupture, however, may ariſe from either of four circumſtances.

1. The application of too much force, even where it poſſeſſes a proper degree of ſtrength.

2. Its improper attachment weakening the degree of its adheſion.

3. Its thickneſs, the interpoſed gelatinous matter occaſioning its veſſels to be too much extended; or,

4. An incipient putreſcency of the placenta itſelf.

C. With reſpect to the firſt of theſe circumſtances, it has been known to occur at times in the hands of the beſt operator. It is always unpleaſant, as the appearance of the placenta after extraction without the cord gives an idea to the attendants of the operation being incomplete. It is by no means a dangerous circumſtance of itſelf, as the hand, though wanting the direction of the cord, can eaſily diſtinguiſh it from the ſurface of the uterus by the irregular vaſcular feel which the termination of the umbilical veſſels on its ſurface occaſions, by the abſence of pain, as the patient does not feel any great uneaſineſs when touched by the hand; and, laſtly, by its ſoft ſpungy texture, compared with that of the adjacent uterus.

CI. This accident of the rupture of the cord is very liable to happen to a young practitioner, who truſts rather too implicity in the powers of nature; for an averſion to the introduction of the hand will lead him, with a view to overcome the difficulty, to exert more force than the parts can bear, and he is then obliged to have recourſe to the ſame means, which, employed earlier, would have been attended with fewer obſtacles. On this account, perhaps, a young practitioner ſhould be adviſed, where any appearance of difficulty occurs, to introduce his hand oftener, for its extraction then may be ſtrictly neceſſary, as he has not then aſcertained by his own experience the proper time of waiting, nor yet the degree of force which the cord can commonly bear, while, if it is done cautiouſly, the patient will receive little or no diſadvantage, and, at the ſame time, the accoucheur will acquire a facility of introducing his hand into the uterus in ſuch ſituations,

which will render him no way intimidated to undertake it when ſtrictly unavoidable.

CII. The ſecond circumſtance mentioned as occaſioning rupture of the cord was its improper attachment; for in proportion as it is ſituated too near the edge of the placenta, its adheſion muſt naturally be weakened, from the ſmaller number of branches, or points of connexion. The ſame degree of force which can be ſafely applied while its inſertion is more towards the centre of the cake will be ſufficient to occaſion its rupture here.

CIII. The third circumſtance affecting the ſtrength of the cord is its thickneſs. This circumſtance has been particularly remarked by Mr. Puzos; for as it proceeds from a quantity of coagulable lymph, by which the coats of the umbilical veſſels will be more extended, in proportion to this extenſion they muſt loſe of their ſtrength; and hence all practical accoucheurs have remarked, that it is not from the apparent ſize of the cord we are to judge of the degree of ſtrength it poſſeſſes.

CIV. The laſt circumſtance producing a ſeparation of the cord from the placenta is an incipient putreſcency of the latter. This more eſpecially occurs in premature labours, particularly where any cauſe exiſting in the habit of the mother tends to weaken the attachment between her and the child. And it is a ſingular fact, that the placenta will be delivered at times in a ſemi-putrid ſtate, and yet the child appear at birth equally vigorous and healthy with any others as where the placenta retains its uſual health. This, however, is not to be conſidered as always the caſe.

CV. Theſe are the ſeveral cauſes which depend on the placenta itſelf; thoſe again, which may be referred to the ſtate of the organ, are even more frequent in their occurrence, and demand equal attention. The firſt enumerated was its irregular contraction.

CVI. By this, part of the membranes comes to be incloſed by the fundus, and proves a cauſe of the retention of the placenta, though it is otherwiſe completely ſeparated; and in this caſe the introduction of the hand to the fundus uteri will be equally neceſſary, as where the adheſion is much ſtronger.

CVII. The ſecond cauſe again, or ſpaſm, is equally frequent, and eſpecially after a firſt labour, where the habit of the patient is naturally irritable; and by it its cavity is either contracted in the middle, in the form of an hour glaſs, or its orifice is ſhut up, retaining the placenta from being expelled. In the firſt caſe the ſpaſm is very difficult to overcome; and, if time admit, a large opiate ſhould be adminiſtered (a practice firſt inculcated by the late Dr. HUNTER), and the hand retained in the uterus, endeavouring to overcome its contraction till the ſpaſm is relaxed. When once this takes place there will be little difficulty in effecting the extraction.

CVIII. This ſpecies of retention the French have properly termed the Encyſted Placenta. It was firſt remarked by Mr. PEU, who gives ſeveral inſtances of it in his treatiſe, though it has been erroneouſly ſuppoſed to depend on the ſituation of the placenta; and that the more directly it was placed at the fundus, the more liable was the ſpaſm to occur. The placenta, however, we

find generally ſituated at the fundus; yet this ſpaſm of the uterus does not occur once in a hundred times; and therefore it muſt ariſe entirely from the ſtate of the organ, independent of any ſituation of the placenta.

CIX. Spaſm of the orifice we find moſt frequently occur in the hands of females, who do not attend to the axis of the pelvis in extracting it. The os uteri of all parts of the organ is moſt acutely ſenſible; and, after the expulſion of the child, by its ſudden return to its natural ſtate, where the fibres poſſeſs much remaining elaſticity, a degree of ſpaſm of it is induced. This, however, is generally overcome by the action of the fundus in expelling the placenta, where attention is paid to carry it directly through the centre of the orifice; but where this is not obſerved, and the operator attends only to the centre of the vagina, it is pulled againſt the orifice in an unfavourable manner, and the ſpaſm, inſtead of being overcome, is more rigidly formed. In this caſe a finger or two muſt be introduced into the os uteri, to catch hold of the edge of the cake, which, being brought without the orifice, the bulk of the placenta will naturally follow.

CX. Another cauſe of the retention of the placenta mentioned by authors is the inertneſs of the uterus. This more readily happens in caſes of over-diſtenſion of the organ, where more than one child has been contained in it. The great matter here is to give time; and, by friction of the abdomen, and even irritation of the os tincæ, to excite contraction.

CXI. This ſubject of the management of the placenta has been detailed with too much minuteneſs by

AUDELOQUE, the beſt author on midwifery, who has ven particular directions for its treatment, according the different ſituations of the uterus it may occupy. his, however, is not neceſſary. The general rule is, herever ſymptoms requiring its extraction occur, let e hand be introduced, when the cauſe of retention ill be aſcertained, and for the moſt part eaſily obviated; ter which there is no difficulty in the extraction.

CXII. Having thus detailed the different methods managing the placenta, whatever treatment we adopt e following maxims may be laid down;

1. That, even though no urgent ſymptoms occur to termine its extraction, yet the patient ſhould never be ft by the accoucheur while it is undelivered, as, a par l ſeparation taking place in his abſence, fatal hæmor- age before its expulſion may enſue.

2. The retention of the placenta ſhould in no circum- nces whatever exceed 48 hours, as ſymptoms of pu- faction then ſupervene, which endanger the conſe- nences of abſorption into the ſyſtem, as well as its ac- n againſt the organ itſelf *. This is ſufficiently con- med by the caſes of Mr. WHITE, where too long re- ntion of the placenta appears to have produced the oſt fatal effects; and even where at laſt excluded, after continuance of ſome days, fever generally ſupervened, d from the weakened ſtate of the uterus, not able to ſiſt the increaſed circulation hereby induced, a pro-

* The author had lately an opportunity of ſeeing, along with Dr. ARTSHORE, a very ſingular caſe, where the placenta after delivery s never expelled, and where no dangerous ſymptoms followed. It s at the diſtance of five weeks from delivery that the author ſaw patient; and he has ſince learnt that ſhe is perfectly well, without ever coming away, or there being any appearance of diſcharge.

fuſe flooding generally ſucceeded the excluſion, and proved fatal to the patient.

CXIII. The delivery of the placenta ſhould in no caſe, even where attached, as ſometimes happens over the os tincæ, precede the birth of the child; for by its removal the uterine circulation is always expoſed; and without the organ poſſeſs an immediate contraction, a fatal hæmorrhage muſt enſue. Hence, in theſe caſes of flooding, where the placenta preſents at the orifice of the uterus, on the introduction of the hand for the purpoſe of delivery, it is to be cautiouſly avoided, and an entrance procured into the uterine cavity in another direction, ſo as to prevent, as much as poſſible, any ſeparation of it; nay, if completely occupying the os tincæ, a paſſage is to be made through its ſubſtance, rather than ſeparate any of the points by which it adheres; and this is a ſituation of it at times met with.

CXIV. In abortion the management of the placenta was formerly detailed; but the ſame danger from its retention does not take place to that degree as ſucceeds the delivery of the mature fœtus, and it is often, therefore, unavoidably retained.

CLASS II. *Of protracted Labours.*

CXV. This claſs we define,—labours beginning as natural, but where the pains do not recur in their progreſs with the ſame force and regularity as in the former, or, from the different ſtate of the containing parts, forming

a morbid reſiſtance to their efforts, where, even though powerful, they are attended with ſmall effect, being marked in their courſe by conſiderable intermiſſions of uncertain duration, and the pulſe, in the intervals of pain, retaining for the moſt part a quickened febrile ſtate.

CXVI. Under this claſs we mean to comprehend thoſe laborious caſes where nature, with time, of herſelf effects the delivery. And authors under this diviſion have included every labour whoſe duration exceeds twelve or eighteen hours. Yet other circumſtances may be introduced to diſtinguiſh them, as well as the ſimple period of duration.

CXVII. From the definition offered (CXV.) four leading circumſtances are noticed as characteriſing them; and theſe are,

1. Irregularity in the progreſs of pain.
2. Want of effect.
3. Intermiſſion; and,
4. General fever.

CXVIII. In natural labour the pains, it was remarked, obſerve a regular progreſſion, according to its duration, and on which we can depend. They are at firſt ſlight, and diſtant in their period of attack. Their occurrence becomes gradually more frequent, while they acquire at the ſame time an increaſed power, and their force becomes ſo violent in their laſt exertions as to require the aſſiſtant efforts, on the part of the patient, to be ſomewhat repreſt, from the danger of rupturing the external parts, an accident that frequently takes place where they are quick.

In the preſent claſs again, this progreſſion of pain does not proceed with regularity; and hence we can form from it no prognoſis, or determine the period of continuance.

CXIX. Every pain alſo in natural labour poſſeſſes a ſenſible power on the uterine orifice. In the protracted each ſingle pain has comparatively little or none; and, where even it has, the effect gained is frequently loſt by the orifice again contracting on its departure, from the different ſtate of the parts, and the efforts of ſeveral pains therefore, with the greateſt voluntary exertions the patient can employ, have generally leſs influence than one pain in natural labour.

CXX. No intermiſſions properly prevail in natural labour, except on the rupture of the membranes. When the uterus poſſeſſes much elaſticity, this is even very trifling, and one continued pain often takes place till the head is expelled. Hence one of the diſtinguiſhing marks of labours of this claſs is their intermiſſion; for the uterus, finding itſelf incapable of overcoming the reſiſtance, has its action for a time ſuſpended, ſimilar to what occurs in the bladder of urine in caſes of ſuppreſſion, or in the ſtomach when worn out with the repeated efforts of vomiting: and this ſuſpenſion is attended with a ſtate of feeling in the uterine fibre, which, not riſing to the height of pain, communicates however to the ſyſtem a degree of irritation, occaſioning fretfulneſs, and reſtleſſneſs in the patient, which it is often difficult to overcome. In this ſuſpenſion of uterine pain a great regularity is obſervable; and where the labour is protracted for ſeveral days we may generally expect an intermiſſion every twelve hours. This is even remarked by the women themſelves; and generally taken notice of by them to the practitioner.

CXXI. The laſt circumſtance enumerated, as diſcriminating protracted labour, is the occurrence of actual fever, or rather continued pyrexia. This does not properly occur in natural labour. The increaſed action in it is merely temporary, and attends only the preſſure of pain; and, if continued, it is confined generally to the ſtage of expulſion. Beſides, in ſuch caſes, the pulſe is full and ſtrong; but, in the protracted labour, particularly in its advanced ſtage, it becomes always conſiderably quickened, and for the moſt part weak.

CXXII. The cauſes of protracted labours have been detailed at very great length by authors, and they have even extended them to a number almoſt infinite, ſo that no practitioner in his attendance can recollect the one half of them. Before entering upon the enumeration of them, it may be aſked ſuch authors what is their intention in remarking theſe difficulties,—certainly in order to detect and relieve them. If theſe difficulties, then, are not apparent in the progreſs of labour, their knowledge is of no conſequence; and it is only thoſe that are apparent, and which we can remedy, that deſerve our attention.

CXXIII. Theſe ſeveral cauſes may, from their mode of action, be reduced to two general heads; either,

1. Want of power, or impaired uterine action; or,
2. Real reſiſtance, impeding the effect of the action.

CXXIV. Under the firſt we comprehend weakneſs—early rupture of the membranes—over diſtenſion—or fixed irritation of ſome neighbouring part.

Under the ſecond, rigidity of the os tincæ—contrac-

tion of the parts—narrowneſs of the pelvis, without any real diſtenſion, &c.

CXXV. Weakneſs from relaxed habit cannot prove a cauſe of difficult labour; for the ſame relaxation that prevails in the uterus will prevail in the external parts, and hence the labour cannot be retarded on this account. In proof of it, we find that women of a fair complexion and fair hair, in whom ſuch a ſtate of ſolid generally prevails, ſuffer proportionally leſs than thoſe of an oppoſite temperament; women alſo, even thongh weakened by diſeaſe, as in the laſt ſtage of phthiſis, have eaſy deliveries. It is only in caſes of little women ſuch a cauſe can have effect, where, from the diminiſhed capacity of the thorax, the aſſiſtant efforts are not ſufficient to aid thoſe of the uterus, and in this way deformed women, even where the pelvis is well ſhaped, have often protracted labours.

CXXVI. An early rupture of the membranes and premature excluſion of their contents is alſo a frequent cauſe of difficult labour, and the manner in which it acts it is proper to explain.

The dilatation of the uterine orifice depends for its quickneſs on the diſtending body being engaged in it. Where the waters are kept entire, they accommodate themſelves to the degree of dilatation; but the head cannot; and therefore till the os tincæ is dilated ſo far as to receive the head the dilatation muſt be very ſlow, and depend on general preſſure, while part of the fluid retained by the head filling the paſſage will at the ſame time prevent the uterus from receiving that increaſed ſtimulus from the reſiſtance of the child which is neceſſary to render the pains here ſtrong and forcing.

CXXVII. A third cauſe of ſlow labour, by impeding the uterine action, we mentioned to be over diſtenſion.

In caſe of twins, the contractions of the uterus we find ſlow and triffling; and till the waters are expelled, the pains ſeldom poſſeſs any force or preſſure ſufficient to effect delivery. The ſigns of twins, however, previous to the birth of the firſt, are all fallacious; and therefore the rupture of the membranes, as ſuppoſing the protraction from this cauſe, may be attended with bad conſequences, if not really ſo, and even increaſe that very ſtate of contraction we wiſh to remove.

CXXVIII. A fourth cauſe enumerated under this firſt diviſion was fixed irritation of a neighbouring part. This is well exemplified in caſes of ſuppreſſion of urine, labour being evidently detained by this cauſe. Coſtiveneſs has been alſo mentioned; but the rectum is a more paſſive organ than the bladder, and is accuſtomed to bear ſuch irritation. If alſo impeding labour, this can only happen in the third ſtage, and while the preſenting part is paſſing through the ſpace of the pelvis. The effects, however, of ſuppreſſion of urine are always conſiderable; and convulſions in labour are known frequently to ariſe from this cauſe.

CXXIX. Theſe, then, are the ſeveral cauſes which act merely by weakening the uterine efforts, and form the firſt diviſion on which the protraction of labour depends; the ſecond, or thoſe which form a real reſiſtance to the efforts, however powerful, are more numerous and more difficult to obviate.

CXXX. The firſt commonly remarked is rigidity

of the os tincæ,—the orifice, from the commencement of labour, feeling firm and elaſtic, and in the progreſs of the ſecond ſtage acquiring an increaſed thickneſs, or appearing in the form of a tumid ring round the preſenting part. Sometimes in women who have had children it divides into two flaps, placed towards the pubes and ſacrum,—the former retaining an unuſual thickneſs, which is increaſed by its preſſure in the time of pain againſt the bone, and which retards the dilatation of the orifice.

CXXXI. A cauſe of difficult labour may be here mentioned, which, though connected with this article of rigidity, can hardly receive this title. It occurs in a firſt labour, particularly where the female is of a ſanguine temperament, and where the os uteri poſſeſſes a very elaſtic irritable ſtate; for by the action of the fundus it is frequently thrown into ſpaſm, and before this can be overcome the patient will often be ſeveral days in labour: nay, in the courſe of labour, the orifice will at times dilate to a certain extent; and on examination ſome time afterwards, be again ſomewhat contracted. In theſe caſes a practitioner, in forming a prognoſis, may be very much miſtaken; and as the os uteri is always here very low, and its ſides even uncommonly thin, he may be the more deceived in forming an opinion.

CXXXII. The real rigidity is the effect of either age or diſeaſe. We find it therefore generally occur in a firſt labour, where the woman is advanced in life, and where of courſe labour commences before the neck and os tincæ are extended to the ſame degree as in other caſes; the general rigidity of the uterus hindering the fundus from yielding to its contents to the ſame degree of extent as where its fibres are more ſoft and yielding.

Where it takes place in ſubſequent labours, it is generally the effect of long preſſure of the preſenting part, and of the violence neceſſary in inſtrumental delivery.

CXXXIII. The ſecond cauſe enumerated under this head is contraction of the parts; and hence, in general, every firſt labour is more tedious than the ſubſequent. This contraction is connected with two circumſtances which point out its nature, either a diminiſhed excretion of mucus in the vagina, or a ſpaſmodic ſtate of its ſphincter. That the excretion of the vagina is uſeful in delivery, there can be no doubt, as we find that wherever irritation is applied, it is the means employed by nature of preventing or obviating inflammation. Hence, wherever it is deficient in a firſt labour, we find generally a tendency to inflammation; that is, a burning heat within the vagina, and a painful ſtate, ſo that it gives uneaſineſs on the ſlighteſt examination. The ſpaſmodic ſtate of the ſphincter we can only know in the laſt ſtage of labour; and in theſe caſes the head will often continue for hours at the os externum, threatening to be expelled every pain, and occaſioning the moſt uneaſy ſtate to the patient, from the long ſtretching of the perinæum and external parts.

CXXXIV. A cauſe of protracted labour in a firſt caſe is alſo at times a counter-exertion on the part of the patient. It generally only affects the firſt ſtage of labour, before the os uteri is fully dilated. The patient, as ſoon as ſhe feels pain, ſtrives as much as poſſible againſt the action of the uterus; and in this way, by want of the aſſiſtant efforts, the pains continue to have little effect, till the dilatation of the os tincæ being com-

pleted, the assistant parts are brought so powerfully into consent, that any voluntary opposition on her part has no farther influence.

CXXXV. The third cause, forming resistance to the action of the uterus, is narrowness of the pelvis, without any real distension. This often occurs in women who are early married, and have children before their twentieth year. It is generally known by examination, and the subsequent labours of such women are commonly easy. It is of great consequence in these cases to retard as much as possible the action of the uterus, and to allow a long retention of the head in the passage. Protracted labour from this cause more frequently takes place where the child happens to be a male; and in these cases we may pronounce on the sex *à priori*, and we shall very seldom be deceived.

CXXXVI. These are the several causes (from CXXIII. to CXXXV.) commonly met with, that occasion protracted or merely lingering labours, which are completed, as well as the former class, by the efforts of nature alone. Many others have been enumerated; but they either very rarely occur, are merely imaginary, or may be explained in a different way. We shall enumerate, however, the principal of them.

CXXXVII. One commonly mentioned has been polypous tumours of the uterus or vagina. That these may happen we do not deny; but they are so very rare, that they should not be introduced on all occasions among the causes of protracted labour, as such variety will only perplex the student; and none should be intro-

duced but what frequently occur, and are neceſſary to be known in practice.

CXXXVIII. In the ſame manner, we find calculus of the bladder mentioned as having a ſimilar effect. That ſuch has been the caſe there is no doubt; but that ſuch never occurred to four-fifths of the moſt eminent practitioners is equally true, which ſhould determine our concluſion.

CXXXIX. Paſſions of mind have been enumerated too under this head. They form, however, a very accidental cauſe, and therefore may be properly omitted, where we conſider thoſe only that more conſtantly and unavoidably take place.

CXL. Another ſtrongly inſiſted on by many authors, is obliquity of the uterus,—a piece of theory which has been unluckily aſſumed, as is often the caſe, for a fact. It was to ſupport this ſuppoſed diſcovery DAVENTER's publication was written. That the uterus inclines naturally in the gravid ſtate a little to one ſide every accoucheur knows; but that the neck and os tincæ are connected ſo to the vagina, as not to be affected by this inclination, is alſo true; while the neck, being a fixt point, to which the contraction of the fundus tends, the body contained, independent of the ſituation of the fundus, muſt be naturally determined by its action this way. Hence we find no ſituation of labour occur, but what the os uteri, a proof of its fixt ſituation, can generally be felt. Beſides, as in every caſe the uterus inclines a little to one ſide, or forms an obliquity, every labour, on this principle, ſhould be difficult and protracted.

CXLI. Another cauſe has been circumvolutions of the umbilical cord round the child's neck; but it is to be doubted much in theſe caſes, if the difficulty proceeds from this cauſe; for the head is naturally ſo rivetted in the pelvis in every caſe of labour, that, even ſuppoſing it to take place, the fundus uteri would rather be prevented from retracting on the ceſſation of pain, as being more pliable, or elſe flooding would enſue, which I have never in theſe caſes perceived; and the child, when born at laſt, poſſeſſes generally a ſufficient length of cord to allow its being laid by the ſide of the mother, which could not happen were the length to affect the delivery. The leading ſymptom in this caſe is, the reſilition of the head on the departure of pain; but this may depend on the ſimple elaſticity of the vagina itſelf, which frequently, on the introduction of inſtruments, throws them, by its contraction, from their place, after being applied; and this is the more confirmed, as ſuch ſuppoſed caſes of circumvolution I have generally found in a firſt labour.

CXLII. In many authors there is found alſo an improper poſition of the ſhoulders, placed towards the ſacrum and pubes, mentioned as a cauſe of protracted labour. Such a caſe I never met with; and it is now well aſcertained that the ſhoulders, when they enter the pelvis in the ſame manner with the head, accommodate themſelves to its dimenſions; and before they enter the pelvis, there is always ſufficient room for their paſſage, either in one direction or another, the ſpace formed by the expanſion of the ilia being ſufficiently large; ſo that from this view it can only happen when the head is expelled, and then delivery is always in our power.

CXLIII. Rigidity of the very membranes has alſo not been omitted among the cauſes of protracted parturition; but it may be here more properly explained in a different way. It is mentioned by authors as taking place only after the os tincæ is fully dilated, when the membranes remain entire; and, from obſervation, it ſtands thus. It occurs in torpid habits, where the uterine fibres poſſeſs little elaſticity. On the full dilatation therefore of the os tincæ, the reſiſtance from diſtenſion being in ſome degree taken off, or an acquired ſpace gained, the pains become, from the ſmall tendency in the uterus to contract for ſome time, ſuſpended, or ſo ſlight, as to have no effect even on the membranes. On rupturing then the membranes, the fibres being brought into action, or acquiring a degree of elaſticity, and receiving at the ſame time an increaſed ſtimulus from the body of the child, labour is ſoon completed; but the membranes, on their rupture, diſcover no particular morbid rigidity.

CXLIV. From the cauſes, we proceed to examine the management of this claſs of labours, according to the nature of theſe cauſes deſcribed: this we do by obſerving, that in their treatment a good deal of art is required; and as the chief object is the gaining time, ſome addreſs is neceſſary to enſure the patient of the ſafety of her ſituation, and of that perſeverance in her efforts which is neceſſary for its accompliſhment. To gain the firſt, where early called, do not give into her belief for ſome time that ſhe is in labour; and even when you are at laſt under the neceſſity of admitting it, endeavour to perſuade her to uſe no aſſiſtant exertions to co-operate with the pains, but let her ſtrength be reſerved till the difficulty is in part overcome, when they

will be attended with more effect to expedite the delivery, especially where the cause depends on rigidity of the os tincæ.

CXLV. With respect to the first (CXXV.) if real weakness is ever a cause of protraction, cordials are indicated for its removal; but even in patients under disease, there is always observed sufficient strength, if there is no other impediment, to effect delivery.

CXLVI. In the case of early rupture of the membranes (CXXVI.) the waters must be fully evacuated, before the pains possess any sensible effect; and the treatment consists, previous to this, in either letting off what remains, by introducing a finger in the time of pain, and raising the head, which, on two or three times repetition, or in the space of half an hour, will prove effectual; or, instead of this, opiates may be employed to prevent uneasiness, till the waters are evacuated naturally.

CXLVII. In over-distension (CXXVII.) as in twins, the rupture of the membranes will bring the uterus into strong action; but much judgment is necessary, as was observed, to discern that this is the cause of protraction, before attempting it.

CXLVIII. In the case of fixt irritation of some neighbouring part, the ascertaining the latter will determine the particular treatment (CXXVIII).

1. The most frequent irritation is from suppression of urine. This is a circumstance should be always enquired into; for if the head is any way advanced, it becomes difficult to employ the catheter; often impracticable;

and, morbid ſymptoms ariſing from this ſource, it becomes, at times, neceſſary to expedite delivery by mechanical means, to relieve this affection. If the head is little advanced, an attempt may be made to introduce the catheter, by paſſing a finger between the head and os pubis, to give ſpace for allowing it to proceed. If again farther advanced, the head is to be puſhed into the hollow of the ſacrum; and the preſſure of the urethra being removed by the natural efforts of the woman, an evacuation may, perhaps, take place; yet, if unſucceſsful, the head is ſtill to be puſhed back before the application of the catheter; or if too firmly wedged to admit this, a trial is next to be made with a male catheter, to get beyond the cauſe of obſtruction.

2. Another affection, that at times occurs in irritable habits, is ſpaſm of the abdomen, and that to a moſt violent degree. Its relief is only to be obtained by a liberal uſe of opium in glyſter.

3. Coſtiveneſs is generally reckoned by the women a cauſe of difficult labour, and hence they have always recourſe to injections of a laxative kind. It has the good effect to render the uſe of laxatives leſs neceſſary after delivery.

CXLIX. In this manner we attempt to relieve the firſt ſet of cauſes, or thoſe which produce an impeded action of the uterus itſelf. The ſecond, or thoſe which form a reſiſtance to its efforts, are leſs in our power.

CL. In rigidity of the os tincæ the treatment conſiſts in the introduction of a finger into the orifice before each pain, and rolling it round, in the time of it, ſo as to aſſiſt the dilatation. Some authors, inſtead of

the finger, have recommended the blunt hook; and, where a real callous rigid ſtate prevails, ſuch expedients may be employed with ſome advantage, though the finger is always preferable to any thing elſe.

Where the rigidity is the effect of diſeaſe, and will not yield to the natural efforts, other means will ſtill be required; and we have, in the medical eſſays of Edinburgh, a very remarkable caſe of this kind, by the late Dr. SIMPSON, where the rigidity depending on a cicatrix, from former diſeaſe, an inciſion was found neceſſary to divide the os uteri, and thus the delivery came to be accompliſhed.

CLI. In the caſe of contraction of the parts little can be done. The uſe of oily injections, &c. have been recommended. In theſe caſes, however, where it is a firſt labour, a conſiderable fever, and a burning heat within the vagina, veneſection is then ſtrongly indicated. This remedy was formerly very indiſcriminately uſed, and in France it ſtill continues to be employed in ſituations of labour, where it muſt be detrimental. In this country it has never been a very popular remedy in labour, but it will be attended with the beſt effects in thoſe circumſtances we have pointed out. Many practitioners alſo have recommended it in real rigidity; but, as the latter is more a chronic ſtate, and a natural effect of age, it can have very little influence here; and, if carried far, there is hazard of its producing ſuch a debility, as, if not protracting the labour, at leaſt retarding the recovery.

CLII. In the laſt cauſe enumerated, or narrowneſs of the pelvis, where a diſproportion between the fœtal

head and the natural paſſage takes place, without any particular diſtortion, it is of great conſequence to ſuſpend, as much as poſſible, the action of the uterus, and to allow a long retention of the head in the paſſage. This may be done in two ways, either by preventing, as much as poſſible, the aſſiſtant efforts on the part of the patient, or allowing only the action of the uterus itſelf. And in this way the ſtrength of the patient will be reſerved. Or it may be done more powerfully by the aſſiſtance of opiates, with the ſame reſtriction on the occurrence of pain.

The head in theſe caſes, by ſimply lying in the paſſage, becomes gradually moulded to its cavity; while, on the contrary, if propelled with too much force into it, as it is not capable of overcoming the reſiſtance, the head becomes at once ſo rivetted on ſome of the projecting points, without any tendency to elongation, that it remains fixt, unleſs the ſtrength of the patient be very conſiderable; and as, on the contrary, it is generally exhauſted, an entire ſuſpenſion of pains takes place, or the ſtate of the patient, from being worn out, requires immediate delivery by the aſſiſtance of art. On this account it is of great conſequence to reſerve the ſtrength of the patient, and, by a gradual exertion of the powers of nature, to effect delivery.

CLIII. In this manner would we recommend protracted labours to be conducted, according to the ſeveral cauſes from which they ariſe.

In the caſe of circumvolutions of the cord, enumerated as a cauſe of protraction by authors, (CXLI.), it has been propoſed to introduce a finger laterally, to-

wards the neck of the child, and on it a pair of ſciſſars, ſo as to divide the cord. The objections however to this practice are, that, independent of the difficulty of performing it, if the head is not expelled in a few pains after, the hæmorrhage from the divided extremity of the cord belonging to the child will prove fatal.

CLIV. A cauſe of protracted labour, hitherto omitted, as deſerving a ſeparate conſideration, is, an unfavourable preſentation of the head, including the variety of what have been termed face caſes.

For, though the vertex naturally preſents with the face turned to the hollow of the ſacrum; yet, in certain rare caſes, the face itſelf forms the preſenting part; which is commonly known from its irregular feel: and by the direction of the chin you get acquainted with the particular poſition of the face.

CLV. Face preſentations conſiſt of three varieties:

1. The chin to pubes.
2. To the iſchium; or,
3. To the ſacrum.

In all theſe caſes the labour, though ſlow, is generally accompliſhed by the natural efforts; for, if early called, you can change the direction of the head by puſhing up the chin, and then the preſentation is altered.

Where it proceeds in the original direction in which it preſents, the face of the child is commonly much diſfigured on delivery; but this goes off in a ſhort time; and, in all ſuch caſes, if the preſentation cannot be altered by puſhing up the chin, nothing further is to be attempted; for the old practice of puſhing back the

head, and attempting to deliver by the feet, is highly dangerous, and what no modern practitioner will ever think of. And, though the delivery is here somewhat slower than in the natural labour, yet, if the pelvis is well formed, it is generally accomplished at last without any particular assistance, the head with time moulding itself in the same manner as in the natural presentation. Such cases are very rare, and hardly ever met with above once or twice in a long course of practice.

CLASS III. *Of Instrumental Labours.*

CLVI. This class we define labours, that observe the same progress with the protracted; but where the morbid resistance is chiefly formed by the included bony space, which is ascertained in their progress, either by examination of the space itself, or the state of the fœtal head forced into it.

CLVII. By examination of the space the dimensions of the pelvis can be pretty certainly known. Thus, wherever the finger introduced within the vagina touches easily the sacrum or coccyx, the pelvis is confined in this direction. Wherever again two fingers are not admitted easily under the arch of the pubes a distortion of this part may be suspected. Where the hand introduced by the lateral part of the pelvis is crampt in its passage, the general space of the cavity is defective. Where the finger brought round the head, having already entered the pelvis, feels a considerable space on one side

more than another, a projection of the ſacrum takes place; and where the head, on the commencement of labour, is too eaſily felt, before entering the pelvis, a general ſhallowneſs of the capacity is more or leſs indicated.

CLVIII. By the ſtate of the fœtal head, alſo, a judgment may be readily formed. Thus, if it do not enter the pelvis readily after the commencement of labour, though aſſiſted by much preſſure of pain, if, after having entered, a tumour form on the preſenting part, and if the bones alſo ſeem to overlap, there can be no doubt that the ſpace is confined for its paſſage.

CLXIX. In theſe caſes the uterine action proving ineffectual, and the patient becoming exhauſted from its long continuance, while fever ſupervenes, the labour paſſes from the protracted to the preſent claſs, or requires the aſſiſtance of art to expedite delivery.

CLX. In the early practice of midwifery all protracted labours were referred to this claſs, or removed by the uſe of inſtruments. In this way their application was too general; but the progreſs of the ſcience has gradually leſſened their number, and of the remaining few even limited the uſe. It was from the injudicious application of inſtruments that many practitioners, to conciliate the public favour, have ſet out of late years with the ſpecious pretence of doing all by the hand alone. Every accoucheur, however, who has a knowledge of practice, will readily allow that they are frequently unavoidable, and that the only ſafety of the patient depends on their uſe.

CLXI. The reaſons urged againſt them have been the morbid conſequences attending their employment; but, in modern practice, we find that ſuch conſequences very rarely occur; and on this account we muſt conclude, that thoſe practitioners who oppoſe them, however reſpectable for their abilities, either uſe them improperly, or their conſtruction, as uſed by them, is unfit for the purpoſes intended. Hence their declamations are only proofs of their want of dexterity. At the ſame time it is proper that ſtrong cautions ſhould be given againſt their precipitate application, as it muſt be allowed that there is no practitioner who is dextrous in the uſe of them but muſt have often employed them without any real neceſſity; yet, if expert, little or no danger will ariſe from them, while the duration of labour may be thus conſiderably ſhortened, with advantage to the patient. Hence the rule of Dr. DENHAM, that every caſe in which they are required is to be conſidered as an exception to the eſtabliſhed practice of midwifery, is perhaps going too far, for we have inſtances of patients ſuffering from too long truſting to the efforts of nature, as well as from too early an interference of art.

CLXII. The intention of all inſtruments, then, is the extraction of the child; and the principles on which they perform this are either,—

1. By ſimple detruſion.
2. By compreſſion; or,
3. By actual diminution of the preſenting part.

CLXIII. The firſt of theſe is anſwered by the *vectis* or *lever*.

The ſecond by the uſe of the *forceps*; and,

The third by the *crotchet* and *long ſciſſars*.

CLXIV. In all the inſtrumental labours, before having recourſe to the means employed for delivery, certain preparatory ſteps are neceſſary to be attended to. Theſe conſiſt in producing,—

1. A due collapſe of the adjacent parts affected by delivery; and,

2. Directing the proper poſition of the patient.

CLXV. The firſt is effected by clearing the inteſtines, and by the uſe of the catheter, where any tendency to retention of urine has taken place during the progreſs of labour.

The poſition of the patient ſhould be always ſtudied, to be moſt convenient for the operator. The back is with this view preferable to any other, the breech being brought towards the edge of the bed, and each thigh held as under, by an aſſiſtant placed there for the purpoſe.

CLXVI. Having finiſhed theſe preparatory ſteps, the delivery is next to be attempted. In all labours of this claſs two ſtages may be marked out in their progreſs: the firſt is that of the application; the ſecond is that of the extraction.

CLXVII. The chief circumſtances to be attended to in the former, are—

1. The properly aſcertaining the poſition of the preſenting part.

2. Introducing the hand ſo far, as to be a ſufficient guide to the inſtrument in its application; and,

3. Securing it in ſuch a manner, that its removal may not take place on attempting the extraction.

CLXVIII. The circumſtances to be regarded in the latter, are—

1. That the extraction be gradually performed, reſembling as much as poſſible the efforts of nature; and the latter, if occurring, are to be taken advantage of in aſſiſting the extraction.

2. That the bulk of the preſenting part be carried by the operator, in its deſcent to delivery, as much as poſſible againſt thoſe parts capable of yielding to admit its paſſage; and thus obſerving the different axes of the pelvis and vagina.

CLXIX. With theſe preliminary obſervations on inſtrumental labours, we proceed to their firſt diviſion, or thoſe caſes in which the application of the *vectis*, or *lever*, has been recommended.

1. *Lever.*

CLXX. This is the firſt inſtrument we find invented for the preſervation of the child; all the more ancient being profeſſedly conſtructed with the intention of either tearing it to pieces, or being ſo fixt to the preſenting part, as at any rate to deſtroy its exiſtence. This inſtrument became particularly celebrated in Holland, under the name of the Roonhuyſian ſecret; and was reckoned ſo neceſſary to a ſucceſsful practice of midwifery, that no reputation could be gained by any one, as an accoucheur, without being in poſſeſſion of it. When publiſhed, it was found to be nothing more than the lever; the uſe of which, though proper at times, is ſtill very much limited.

CLXXI. The principle of its action conſiſts in the detruſion of the preſenting part from under the pubes into the hollow of the ſacrum; by which the reſiſtance of the bony ſpace being taken off, and the head confined only by the dilatable ſoft parts, it comes ſoon on the occurrence of pains, which are excited by the irritation of the vectis continuing to be expelled. Thus it acts in two ways:

1. As altering the real poſition of the preſenting part; and,

2. As a mechanical ſtimulus, producing an increaſed uterine action.

CLXXII. The method of uſing the lever is ſimply this. Let the hand be introduced as high as poſſible between the preſenting part and the pubes; on it the point of the lever is to be directed, till it reaches ſo high, that the concavity of its blade is properly applied on the convexity of the occiput. The hand directing it is then to be withdrawn, and an attempt made, by moving the handle to bring down the preſenting part; while the other hand, in order to aſſiſt it, is applied to draw forward that part of the head ſituated at the ſacrum.

CLXXIII. On this inſtrument it may be remarked, that before its publication as the Roonhuyſian ſecret, it poſſeſt a degree of credit equal to the greateſt diſcoveries; but no ſooner was it made known, than it loſt greatly of that reputation it had formerly acquired. The ſimplicity indeed of the contrivance, and ſome inconveniences that appeared to attend its application, were the cauſes of this change; and the forceps ſeemed, therefore, an inſtrument more deſerving attention, as well as more capable of improvement. Thus, from the

ime the forceps came to be employed, moſt of the
riters on midwifery have entered into a compariſon of
ne relative advantages attending the uſe of each.

CLXXIV. The objections urged againſt the lever
re chiefly on account of its fulcrum, or reſt in action,
eing on the pubes; as its power, if ſufficiently ſtrong,
nuſt be proportionally exerted againſt the urethra, or
ladder of urine. On this account, many accidents
ave been known to ſucceed its application; and ſeve-
al practitioners have directed its being introduced, on
ne contrary, from the ſide of the pelvis, or along the
rface of one of the iſchia; but in this ſituation it can-
ot act with the ſame advantage, as the reſiſtance to the
aſſage of the head is chiefly from the tranſverſe dia-
neter of the pelvis.

CLXXV. The objections thus urged againſt the lever
e contend have ariſen more from practitioners when
mploying it, not attending to particular circumſtances
n its form, ſize, and application.

CLXXVI. With reſpect to its ſize, the original
oonhuyſian one was too ſmall, and on that account
reſſed entirely on the ſituation of the urethra, not being
ufficiently expanded to reſt upon the more diſtant parts
f the pubes. It was at the ſame time entirely ſolid, ſo
hat it could not avoid injuring the part on which it
reſſed. We would, therefore, recommend that its
readth be pretty conſiderable, that its blade ſhould alſo
e hollowed for the greater part, ſo that a ſufficient
pace may be allowed for the ſafety of the urethra;
hich, if the practitioner is attentive in his application,
ill eſcape entirely being compreſt by the inſtrument.

CLXXVII. In regard to its form, its blade ſhould poſſeſs a greater curve than the forceps, ſo as to be applied accurately to the convexity of the occiput, that it may not ſlip after being applied; for it is generally more difficult to introduce it than the forceps, the ſpace being more confined, and this difficulty is even increaſed by its curved ſhape: for this reaſon the late Dr. AITKIN has conſtructed what he terms a living lever, which is introduced ſtraight, and, by turning a ſcrew, it then receives the proper curve, which adapts it to the preſenting part; but the fault of this inſtrument is, that what advantage it poſſeſſes over the other in facility of introduction is counterbalanced by its proportionate want of power; for where much force is required, it bends too readily, and thus eaſily loſes its hold, requiring a new introduction.

CLXXVIII. As the chief objection aroſe againſt the lever, from its reſt being on the pubes, modern practitioners have endeavoured, by means of a hole at this part, through which a piece of ſtring is faſtened, by pulling it down here with one hand, while the other is applied to the handle to leſſen its preſſure, and thus avoid the conſequences which its uſe, according to the former method, produced. It is with this improvement that it is, at preſent, much employed by the London practitioners.

The length of the lever is alſo a circumſtance, in order to its ſucceſsful application, requiring attention; for if too ſhort, its power is not ſufficient to bring down the head; and the longer, therefore, it is made, the more ſucceſsful will its application be found.

CLXXIX. For these reasons, we consider the lever s, in many cases, a very useful instrument, and as by no means deserving that indiscriminate censure it has received from many authors. Its application would certainly be by no means proper in high cases of distor-tion, neither will it succeed where the presenting part is still high, and not at least an inch within the pubes; but in those situations where the head has descended low, where the pelvis is well formed, and where the labour is protracted, chiefly by the absence of pain from the exhausted state of the patient, and some rigi-dity of the soft parts, it is an instrument better calcu-lated for delivery than the forceps, as it can be used even without the knowledge of the patient; and its action may be even increased by changing her posture, or placing her on her knees, while her arms are ex-tended round the waist of another person seated for this purpose.

2. *Forceps.*

CLXXX. From the lever, we come to consider the second instrument, the forceps, which has been more generally used.

The first idea of the forceps seems to have been nothing more than a double lever, or an additional blade to the former, if we may judge from the manner in which directions were given to introduce them,—which was, with one blade to the pubes, and the other to the sacrum. The first who brought them into general use, if not their original inventor, was Dr. CHAMBERLAIN; but the particular cases to which their application was

proper were not juſtly determined by him. On this account they were too indiſcriminately had recourſe to, wherever difficulties occurred. This we find confirmed, by the inſtance of their failure in the hands of CHAMBERLAIN himſelf, related by MAURICEAU; which led this author, who was entirely unacquainted with them, to reject them as a very uſeleſs invention. Dr. CHAPMAN was the firſt who gave a plate of the inſtrument; and, by this means, ſubmitted to the deciſion of the public what had hitherto been concealed in particular hands as a ſecret.

CLXXXI. Before the invention of the forceps, the applications had recourſe to, on the ſame principle, were different kinds of fillets; but theſe were ſo difficult in their application, that only a few practitioners, their inventors, could make uſe of them. Afterwards, when the forceps began to be firſt known, but when practitioners did not excel ſo much in their uſe as they have done ſince, and of courſe bad conſequences attended their application, many endeavoured to ſuperſede the neceſſity for them, by different methods of manual aſſiſtance; particularly Dr. DAVENTER and Sir FIELDING OULD.

CLXXXII. Dr. DAVENTER's method conſiſted, on the head's deſcending very low, in the introduction of the left hand into the vagina, towards the coccyx; the woman being previouſly laid on her left ſide, ſo that no preſſure againſt theſe bones might take place; and in the time of pain in thruſting back that bone, to admit of the enlargement of the paſſage, which was to be continued till the head advanced ſo far, that the other hand could be applied to the pubes, to aſſiſt in its extraction.

CLXXXIII. OULD's method differed but little from his of DAVENTER. Inſtead of introducing the hand into the vagina, to force back the coccyx, which both theſe authors ſeem to have conſidered as the chief cauſe of protraction in ſuch labours, OULD recommended the introduction of the thumb into the anus, and fixing it on the point of the coccyx, while the fingers of the ſame hand are applied to the lower part of the ſacrum, and thus a counter-preſſure to the thumb is formed, and the coccyx pulled out as far as neceſſary. When the head is ſtill farther advanced, the fore finger is to be introduced in the ſame way with the back of the hand, towards the ſacrum; and being thruſt in as far as poſſible, on bending it, it may be fixt under the child's jaw bone, near its articulation with the cranium, and thus, along with the mother's efforts, ſome aſſiſtance may be given to forward the delivery.

CLXXXIV. But all theſe expedients will appear to every one converſant in practice inadequate for the purpoſe intended; while, if the exertions made on theſe parts are ſufficient to have any effect, they muſt do miſchief. On this account they are now entirely laid aſide, and can no way ſuperſede the uſe of the forceps.

CLXXXV. As the utility of the forceps came to be eſtabliſhed, practitioners ſoon attempted to render them more complete, and this they did in three ways:

1. By leſſening their original ſize.

2. By rendering the junction of their blades more eaſy when applied; and,

3. By giving them a particular curved form. And in this way a variety of kinds have been invented, in

which more ingenuity has been often displayed by the inventors in their construction than real practical knowledge.

For different figures of them the works of the several authors may be inspected from the time of Dr. CHAPMAN, who gave the first plate of them to the present period, when the rage for alteration in this way seems to have abated; and the only ones necessary in modern practice are the improved ones of Dr. ORME, and the long ones of Mr. PUGH.

CLXXXVI. Without entering upon the comparative merit of the different kinds invented by different practitioners, it may be observed, that one who knows how to deliver with the forceps may deliver with almost any kind that can be applied, whether straight or curved; but, at the same time, in the form of an instrument for any particular use, we should take advantage of every circumstance in adapting it to the shape of the parts to which it is to be applied, as well as in attending to its general form or principle.

CLXXXVII. From these general observations, we proceed to enter upon the particular method of using the forceps, and the situations of labour to which they are most applicable.

In the first place, being merely artificial hands, the use of the forceps should never be concealed from the patient, and the appearance of them will always be rendered less alarming if they are covered with leather. The danger of communicating infection, commonly remarked, is little to be dreaded; and they do not by their

found occaſion that uneaſineſs to the patient which otherwiſe cannot be avoided.

CLXXXVIII. Though the natural preſentation of the head is with the face inclining to the ſacrum, and occiput to the pubes, yet, as we have ſeen in the caſe of protracted labour, this does not always take place. Hence the directions for the uſe of the forceps muſt vary ſomewhat, as adapted to the particular ſituations of preſentation; and theſe have been reduced to three different kinds, or what have been termed varieties, of forceps caſes.

CLXXXIX. The firſt caſe to be conſidered is the natural preſentation, and the ſymptoms here are, "the head having deſcended low down into the pelvis, ſo as to preſs ſomewhat againſt the perinæum; the head itſelf elongated into the conical form, and diſcovering more or leſs a ſoft tumour on the preſenting part; the ſtrength of the patient exhauſted, as marked by the ſtate of the pulſe and general appearance."

CXC. Authors, in mentioning the proper time for the uſe of the forceps, have ſpecified a certain number of hours for the patient being in labour, after the complete dilatation of the uterine orifice, and evacuation of the waters. This time has been generally ſtated to be from 36 to 48 hours; but it is by no means a juſt method of aſcertaining when the forceps are indicated, as many women will ſuffer as much in a few hours as others in as many days; and it is therefore the preſent ſtate of the patient, with a conſideration of the former progreſs, and force of the labour, that is to determine our conduct. For the head may be 48 hours in the pelvis,

where the detention ariſes merely from weakneſs, not any real diſtortion, and yet the child be delivered naturally. At the ſame time, the longer the forceps can be deferred the eaſier will be their application.

CXCI. The ceſſation of the labour pains has alſo been regarded as a mark of the proper time for the application of the forceps; and that, while they continue, we ſhould not have recourſe to them. But this rule, though proper in caſes where from early exertion the patient becomes exhauſted, yet will by no means apply in general: for, though long ſuſpended, they come often to be renewed with ſucceſs.

CXCII. Of forceps caſes, perhaps more than one half occur among women in low life, where exertions are generally too early employed to expedite delivery; and where the ſtrength comes therefore to be ſoon exhauſted, while the head coming to be rivetted on ſome of the projecting parts, from the over ſtraining of the patient, it does not elongate as where a more gradual deſcent of it at firſt takes place.

Firſt Forceps Caſe.

CXCIII. The head then being at the lower edge of the pelvis, the preſentation natural, and the ſymptoms mentioned (CLXXXIX) indicating the uſe of the forceps, they are to be employed according to the following directions.

1. The ſtate of the preſenting part is to be accurately aſcertained, and the ſituation of the ears of the child; over which the blades of the forceps are to be directed, as giving the moſt proper hold, carefully attended to.

2. In applying the blades of the forceps, the hand muſt be introduced by the lateral part of the pelvis, to direct them; and it has been recommended to be carried ſo high as to touch the ear of the child, over which the blade is to be paſt. This rule, however, though generally inculcated, cannot always be put in practice, for the ſpace of the pelvis, being rather deficient, cannot eaſily admit the hand of the operator for any way. Nay, there are ſome caſes in which the forceps are uſed where the hand cannot be admitted at all, and where the blade itſelf can only be inſinuated in the time of a pain, when the ſituation of the preſenting part is a little altered. Beſides, in a proper forceps caſe, like the preſent, the os uteri is ſo far retracted, that there is little or no danger of including any portion of it in the hold; and the introduction of the hand ſo high gives the patient the moſt ſenſible pain, even greater that what attends the reſt of the delivery. On this account the hand ſhould be introduced ſo far only as can be eaſily done.

3. Previous to attempting the introduction of the blades, it has been recommended by practitioners to ſpend ſome time in the dilatation of the external parts; but their contraction is what we are to expect, and which is not to be conſidered as any obſtacle to the delivery; for, though they are naturally elaſtic, they yield to the dilating power as the head advances in its progreſs; and any previous attempts to make them yield more readily, except merely to introduce the blades, is uſeleſs; for, as ſoon as the dilating power is withdrawn from their natural contractility, they will regain their original ſtate. Hence thoſe practitioners who recommend a particular time, as twenty minutes, or half an hour, to be ſpent in dilating the parts, as they call it, may be accoucheurs, but not phyſiologiſts, as they at the ſame time give much

fruitleſs pain to the woman, which might have been avoided; nay, in all thoſe caſes of natural labour, attended by midwives who are very fond of this practice, and of making always attempts at dilatation, inſtead of more ſpace being gained from the dilatation, the parts become rather more contracted, and occaſion greater efforts from the propelling power, to overcome the morbid contractility and inflamed ſtate they hereby acquire.

4. In introducing the blades, the left hand one is to be introduced firſt, and, in introducing it, attention is to be paid to the different axes which the vagina and pelvis form. On this account it is to be puſhed firſt a little backwards, and then directly upwards, keeping the blade cloſely applied to the ſurface of the head, and bearing the handle as much as poſſible againſt the perinæum, to favour its direction through the axis of the pelvis; and it ſhould be carried ſo high, that its locking part be at the os externum.

5. One blade being introduced, it muſt be kept ſteadily in its place by one hand, while the other is paſt to the oppoſite ſide of the pelvis, to direct the introduction of the ſecond blade, which is to be paſt in a ſimilar manner with the former, and the handles being then brought together, an attempt is to be made to lock them. If they unite eaſily at the locking part, the forceps may be conſidered as properly applied, and we may depend on our hold. In this caſe the blades ſhould be at leaſt an inch and a half diſtant from each other. If they do not readily join at the locking part, or if the handles come too cloſe, they are improperly introduced, and ſhould be withdrawn, as they will either ſlip on attempting the extraction, or injure the patient by preſſing on parts againſt which they are not intended to act.

6. In locking the forceps, avoid incloſing any of the

ſoft parts; and, if they are properly applied, it will ſeldom be neceſſary to paſs any ligature round the handles, to ſecure them, as directed by moſt authors.

7. When the forceps are once applied, the extraction ſhould next be attempted, by pulling as much as poſſible in a direction backwards, or againſt the perinæum. If natural pains occur, advantage is to be taken of them, and their recurrence waited for, to facilitate the progreſs of the head, and no attempts are to be made in the intervals to overcome the reſiſtance; but if no natural efforts take place in pulling, the greateſt exertions ſhould be uſed at firſt, as this action of the blades is chiefly then againſt the parietes of the pelvis. As it advances, and preſſes more againſt the ſoft parts, the exertions in pulling ſhould be gradually leſſened, and their direction ſhould be alſo changed, or more forwards, obſerving always the axis of the vagina. For the ſame reaſon, towards the end, as the occiput begins to riſe from the os externum, the direction of pulling ſhould be almoſt entirely upwards to the pubes, to prevent laceration of the perinæum.

8. In the extraction, it is often long before the head yields in the ſmalleſt degree, and we may continue to pull for ten or twelve minutes before being ſenſible of gaining any advantage, but by perſevering it generally yields at laſt; and when once yielding in the leaſt we are certain of ſucceeding, as the difficulty is then generally overcome.

9. In pulling, care ſhould be taken not to ſqueeze the handles together, as, by proportionally compreſſing the head, it is liable to kill the child, and we ſhould bear therefore more upon the locking parts than the blades themſelves.

CXCIV. After giving theſe rules, it is to be obſerved, that the chief difficulty in uſing the inſtrument is in aſcertaining the proper ſituations to which it is applicable, and in introducing the blades ſo as to procure a proper hold; for, in the extraction itſelf, there is little difficulty if the exertions are continued ſlowly and ſteadily.

CXCV. On the introduction of the forceps the patient generally complains a good deal of pain and cramp of the thigh, from the increaſed preſſure which is liable to occur. Theſe ſymptoms very quietly abate; but, as it is neceſſary to ſhow the patient that they do not ariſe from you, you ſhould allow ſome time, before attempting the extraction, after the blades are applied.

CXCVI. The rules for uſing the forceps have been extended by many authors to too great a length, which is rendering the inſtrument much more complex than it really is; for, if conſidered in its proper light, merely as artificial hands, there is no occaſion for viewing their application as a ſubject of ſuch difficulty.

Second Forceps Caſe.

CXCVII. From the natural preſentation we come to conſider the variety taking place where the forceps are employed; or where, inſtead of the former poſition, the head, not having deſcended ſo far, the ears are placed to the pubes and ſacrum; or even, although having deſcended ſo far, the ſame poſition takes place, from the confinedneſs of the pelvis not allowing the head to make the neceſſary change in its deſcent. This poſition is

termed the Second Forceps Caſe, and here the inſtrument is frequently known to fail. To render its application however more eaſy, the poſture of the patient ſhould differ from that recommended for the natural preſentation; for, by placing her on her ſide, it will be found eaſier to introduce the blade betwixt the pubes and head, which is the moſt difficult one to apply.

CXCVIII. Having placed the patient then in the proper poſition, you endeavour to carry the fingers of one hand ſo high as to get betwixt the ſymphyſis of the pubes and the head, on which one blade of the forceps is to be introduced, keeping the handle towards the inſide of the patient's thigh, and thus carrying the blade a little tranſverſely. In the ſame manner, having introtroduced the hand on the oppoſite ſide, or betwixt the head and ſacrum, on it direct the ſecond blade, carrying its handle in the ſame poſition with the former; after which, let an attempt be made to lock the blades, when you will find if they are properly applied.

CXCIX. Before proceeding to the extraction, it will be neceſſary in this caſe to give the forceps a turn, in order to bring the head into the natural poſition, or hollow of the ſacrum, and thus to take advantage of the dimenſions of the pelvis. This, however, ſome authors conſider as unneceſſary; for the head turns gradually as it makes its progreſs through the pelvis; ſo that, though the forceps, when firſt applied, have their blades towards the pubes and ſacrum, they will gradually turn to the ſides of the pelvis, before the head is delivered; and the action therefore of the forceps muſt be firſt and chiefly with that blade towards the pubes, till it comes to a reſt. As ſoon as the head falls into the hollow of the

ſacrum it is then placed in the natural poſition, and the ſame rules are to be attended to as in delivering the firſt caſe.

CC. In theſe caſes, if you fail with the forceps, as may happen, ſome practitioners have adviſed that you ſhould ſtill wait before having recourſe to any further means, for the natural efforts may ſtill perhaps, in the end, ſucceed. This opinion is no doubt dictated by humanity: it is not however a maxim of prudence, or what will guide moſt accoucheurs. Wherever you have recourſe to inſtruments, you muſt deliver. If you fail, it is attributed to your ignorance; and on this account no practitioner ſhould think of uſing them without he is certain of ſucceſs.

Third Forceps Caſe.

CCI. Of forceps caſes two other varieties ſtill remain, which have been marked by authors.

Inſtead then of the face inclining to the hollow of the ſacrum, we find it ſituated in the oppoſite direction, or towards the pubes. In this caſe, if circumſtances ariſe, which render it unavoidable to expedite delivery, the blades are to be applied in the ſame manner as in the natural poſition, and the extraction is to be accompliſhed by bringing along the head in the ſame poſition in which it preſents, without attempting to make any turns to alter its direction, as recommended by ſome authors. In this caſe, however, we ſhall find the forceps frequently ſlip, and it will be therefore prudent to avoid applying them here, whenever it is in our power.

Face Caſes requiring the Forceps.

CCII. The laſt ſituation in which the forceps may come to be employed is in face caſes. Theſe we already obſerved are very rare, and, if preſent in the beginning of labour, may be altered according to the rules formerly laid down: but if the labour is advanced without attempting this alteration, and the head engaged in the pelvis, while circumſtances urge the delivery, the forceps may be applied, with attention to the rules which have been already detailed; though in face caſes, one blade of them, or the lever, may be ſucceſsfully employed to alter the poſition; and where the patient is not exhauſted, the delivery will then follow by the natural efforts alone.

CCIII. Some authors, as BAUDELOQUE, have enumerated an almoſt endleſs variety of forceps caſes. That every point of the two diameters of the head affected by labour, or the cranium and face, may preſent, there is no doubt; but ſuch a minuteneſs can ſerve no good purpoſe; for if the ſituations detailed are underſtood, the rules of delivery will apply to every one elſe.

3. *Crotchet and Sciſſars.*

CCIV. But where the pelvis is ſo contracted, that the introduction of the forceps is unſafe, or where, though introduced, the force required for extraction cannot be ſafely employed, the ſecond method of delivery had recourſe to by practitioners, and directed by an attention to the ſafety of the patient, is the application of

ſuch inſtruments as, acting in a different principle from either of the former, by diminiſhing the ſize of the preſenting part, allow it to be either afterwards expelled by the natural efforts, or, where theſe are not to be waited for, extracted by art.

CCV. Thus protracted labour may be divided into three degrees.

In the firſt, where the powers of nature, though ſlowly exerted, are yet ultimately equal to the accompliſhment of delivery.

In the ſecond, where the lever or forceps are required, but by which the life of the child is ſtill preſerved; and,

In the third, where the cauſe of protraction is ſuch, that, by the contraction of the capacity of the paſſage, the head of the child is not permitted to paſs unopened.

It is this laſt we ſhall now attempt to examine.

CCVI. From examination then of the ſize of the fœtal head, compared with the dimenſions of the pelvis, allowing for the difference which neceſſarily takes place in different children, the ſmalleſt poſſible diameter to which it can be reduced by compreſſion is about three inches. Hence every pelvis, the ſuperior aperture of which is below three inches, cannot admit its paſſage without alteration of its ſize. This, then, may be conſidered as the ſtandard meaſure; but though proper to particulariſe the exact limits, it muſt be allowed at the ſame time to be of very little importance in practice, as the ſtate of the patient, and progreſs of the labour in a given time connected with it, direct entirely our treatment.

CCVII. Wherever, after the complete dilatation of

the os tincæ, and rupture of the membranes, the head continues ſtill above the brim of the pelvis, or deſcends only a little into it, with a ſoft tumour forming on the preſenting part, while the bony ſpace or bulk of it remains very high—ſo ſoon as the patient's ſtrength begins to fail, that is, ſo ſoon as the pulſe, countenance, and other appearances indicate extreme debility, and reſemble thoſe of a perſon worn out with diſeaſe, you are then authoriſed to have recourſe to ſuch means as will diminiſh the ſize of the preſenting part, and allow it to paſs, previous to which, by the introduction of the hand, you will have aſcertained the exact nature and degree of the diſtortion.

CCVIII. The deſtruction of the child, which muſt inevitably take place, is the great obſtacle to this mode of delivery; and it has been uſual on this part of the ſubject for writers to enumerate thoſe ſigns which diſtinguiſh its ſtate in utero; for where dead, the obſtacle to its performance is then removed. But if the neceſſity for this operation is once clearly indicated, what occaſion is there for determining this. Profeſſional duty muſt always riſe ſuperior to every feeling; and this anxiety to determine the ſtate of the child before-hand ſhews that practitioners have often performed the operation when there was no actual neceſſity for it, being determined to this ſtep merely by the apparent death of the child. But this conduct is never warrantable; and, without being unavoidably indicated, is never to be allowed, whatever the preſumption may be. We ſhall not, therefore, as ſome authors have done, endeavour to undervalue the life of the child before birth, to render the appearance of this operation leſs dreadful. The loſs of the child, in every caſe of this kind, is to be conſider-

ed as a ſevere ſtroke; and, without attempting to alleviate it by ſuch modes of reaſoning, it is rather the taſk of humanity to regret with the parent the unavoidable neceſſity which urges it; but ſtill to retain that firmneſs neceſſary to put it in excention. If the former reaſoning is conſidered, by withdrawing the horror which ſhould neceſſarily attend the operation, it is giving practitioners a pretext for performing it when there is no abſolute occaſion; or it is an attempt to blunt the feelings of the man, from a fear of his being incapable of executing his duty in ſuch a ſituation;—on theſe accounts, Dr. Osborne's reaſoning, however ingenious and plauſible, muſt be condemned.

CCIX. The child we find loſe its exiſtence, either during the latter end of geſtation, or in the progreſs of labour.

The ſymptoms which have been regarded as diſtinguiſhing it during the firſt period are,—

1. The ſudden ceaſing of motion, formerly ſtrongly felt, and that commonly with much ſtruggle.

But this ſymptom is attended with much uncertainty; for many women have little or no motion during geſtation; even the action of ſome of the viſcera occaſions ſenſations to be felt that are eaſily miſtaken for the motion of the child.

2. The ſecond ſymptom is ſlight hæmorrhage from the uterus, when this accident takes place, and immediately departing; but this is by no means conſtant.

3. No ſenſible increaſe of bulk perceived from the time theſe ſymptoms commence; and a ſenſe of coldneſs, particularly in the abdomen, communicated to the parent.

4. Putrid exhalations from the vagina in labour, with the diſcharge of meconium on the rupture of the waters, and the head from the time of being firſt touched, poſſeſſing a ſoft puffy feel. But even where theſe ſymptoms have all appeared previous to birth, the child has yet been delivered alive,—and therefore nothing is ſo unconcluſive as deciding on this point; for though ſuch ſymptoms afford a preſumption, yet they by no means convey an infallible proof.

CCX. In the latter period, labour has generally advanced for ſome time before the death of the child occurs, as entirely depending on the degree of compreſſion it ſuffers; and therefore the common ſymptoms of the want of motion and abſence of pulſation in the fontanel cannot eaſily be truſted to; for,

1. Spaſmodic affections, which happen in labour, may at this time be miſtaken for the motion of the child; or the uterus, contracting rigidly round the body, may prevent any motion after the rupture of the membranes has once taken place.

2. When the labour has advanced, at which time the death of the child happens, a tumour being generally formed on the head, and the teguments thickened, the pulſation of the ſinus cannot be felt; nay, even when ſuppoſed to be felt, the pulſation of your own finger, from the reſiſtance of the teguments when preſſed againſt the head, may deceive you, while ſymptoms of putridity do not occur here time enough to give evidence of this ſtate.

Hence, all the circumſtances inſiſted on by authors on this ſubject are at beſt fallacious; and till the child is once expelled, we have no certain evidence of its real ſtate.

CCXI. A frequent effect of the death of the child during pregnancy is a morbid enlargement of the ſize of the head, and that either in conſequence of putrefaction or diſeaſe.—Hence, even where the pelvis poſſeſſes its proper dimenſions, it may be neceſſary to have recourſe to this operation, to admit delivery.—When this enlargement proceeds from putrefaction, the whole of the body is generally emphyſematous, and the ſame means which are had recourſe to for the delivery of the head muſt be likewiſe employed in order to bring away the reſt of the body. Where the head alone is affected, it is generally from hydrocephalus. Children under this diſeaſe are generally delivered without any particular aſſiſtance being required, the texture of the head being ſo ſoftened by the contained fluid as to yield to the preſſure taking place in delivery; but where the collection is accumulated beyond a certain degree, this does not happen, and the labour being protracted beyond a proper length requires immediate delivery.—This diſeaſe, it has been alleged, we can generally detect by the diſtance betwixt the ſutures; but this in labour is impoſſible, as where any degree of preſſure takes place the ſutures are not to be felt, and this will the more readily happen in hydrocephalus, as, from the texture of the head, it yields much more eaſily to compreſſion. It is only therefore from the ſtate of the patient, and the progreſs of the labour, particularly its laſt ſtage in a given time, that our mode of treatment is to be directed. Hence it is a matter of little conſequence on what the cauſe of protraction depends, provided the preſent circumſtances indicate a neceſſity for delivery.

CCXII. After theſe obſervations, we come to conſider the method of accompliſhing this ſpecies of inſtrumental

delivery; and the inſtruments beſt adapted for performing it are the long ſciſſars and crotchet.

CCXIII. Diſproportion betwixt the head and pelvis, though known to the ancients as a cauſe of protracted labour, does not ſeem to have led them to form any juſt indication for removing it. How to account for this we are at a loſs, for the invention of the long ſciſſars is very modern. It would ſeem that they conſidered either the head of the child ſo ſoft as to yield on the application of force to extract it, without any diminution of its ſize, or that the bones of the pelvis would ſeparate, to allow an enlargement for its paſſage. Hence their great object was to obtain a proper hold of the preſenting part for extraction; and with this view hooks of different kinds, knives for making inciſions to fix theſe hooks, and other inſtruments on a ſimilar principle, came to be invented. In peruſing different writers, numberleſs views are met with of ſuch inſtruments.

CCXIV. The great point in every delivery of this kind is the diminution of the ſize of the part, before any ſuch modes of extraction can be ſucceſsful. For this operation, therefore, the long ſciſſars and crotchet we conſider as the moſt proper yet invented; and the blunt hook, though an aſſiſtant to the latter, and ſometimes uſed for it, is almoſt never neceſſary.

CCXV. In forming the long ſciſſars, they ſhould be at leaſt ſix inches in length. They ſhould have ſtops to determine the depth of their perforation, and they ſhould be no ſharper in the points than what is merely ſufficient for perforation. Their ſides ſhould be entirely blunted, and the more they act by tearing than by

cutting is preferable, as the bones of the head are thus the more deſtroyed. It is on this principal the inſtrument has been improved by Dr. DENMAN, and its application rendered ſafer.

CCXVI. The crotchet, again, was originally made ſtraight; but it is now generally formed with a curve, firſt given it by MESNARD, a French accoucheur: but this is by no means ſo neceſſary, as modern practitioners always prefer its application on the inſide of the head, within the opening; and this curve would rather ſeem to proceed on the idea of its application taking place, ſimilar to the forceps on the outſide of the cranium; nay, the curve renders it rather more difficult in the application. It ſhould be alſo longer than it is commonly made; for, the more of lever it poſſeſſes, when applied, it will be found the eaſier to extract.

CCXVII. Having then, from the ſtate of the patient and progreſs of the labour, determined on the propriety of the operation, before proceeding to the ſteps of it, it is prudent to point out to the huſband and friends of the patient the neceſſity that urges you to ſuch a mode of practice, and to prognoſticate at the ſame time an unfavourable opinion of its iſſue.

CCXVIII. The firſt ſtep in this, as formerly detailed in directing the uſe of the forceps, is in adjuſting the poſition of the patient. Much depends on this for the eaſe of the delivery. All authors have recommended it to be on the back, as in uſing the forceps; but by this poſition you loſe a great deal of the advantage you might otherwiſe gain. In all caſes of diſtortion, it was mentioned, it is only a ſmall portion of the head that enters

the pelvis. Where the patient is placed on her back, your hand is introduced in an unfavourable manner to reach the preſenting part, and you cannot get it ſufficiently high without difficulty, to have a full command of it. But where the patient is placed on her knees and elbows you reach the head at once, the pelvis being placed in a direction more favourable to the introduction of the hand, and parallel with it. In theſe caſes too, where the patient is on her back, in making your perforation, you unavoidably preſs more upwards, and conſequently bear ſtrongly againſt the ſymphyſis. In the other ſituation you preſs more directly againſt every part of the pelvis, as being placed more horizontal, and not ſo much againſt any ſingle point. This advantage has been taken notice of by the late Dr. YOUNG in a curſory manner; but he has not inſiſted on it ſo ſtrongly as is neceſſary, and he confines it merely to a few caſes, where he had failed by placing the woman in the common way. It deſerves, however, to be more generally recommended, as much facilitating this operation; and unleſs the patient is ſo much exhauſted as to be unable to bear an alteration of her poſture, it ſhould never be diſpenſed with.

CCXIX. Having thus adjuſted the poſition of the patient, you next proceed to the operation itſelf, which is properly divided into two ſtages, conſiſting of—

1. The diminution of the head; and,
2. Its extraction.

CCXX. The firſt is generally the moſt ſimple. It is performed by introducing one hand laterally through the pelvis till it reach the head. On the direction of this and the long ſciſſars are to be introduced; and before

making a perforation, a ſoft part of the head is to be choſen, if poſſible, particularly the fontanel. If this, however, cannot be diſcovered, the ſciſſars are generally ſufficiently ſtrong for perforating any part. When the perforation is once made, which ſhould be for ſuch a depth into the head, till prevented from paſſing farther by the ſtops, the hand that directed their introduction is to be withdrawn from the pelvis, while the points are prevented from doing any harm by retaining the ſciſſars in the ſituation which they gained on perforating the cranium.

In order to make the opening large, the handles are then to be drawn aſunder, for at leaſt the extent of three inches, by which the head will come to be torn open; and by turning them in every direction, while their handles are thus extended, the cavity of the cranium will have its texture pretty fully deſtroyed. The handles are then to be brought together, in order to ſhut them, without changing the ſituation of their points; and the hand being introduced, to guard the latter, they are to be withdrawn, in the ſame cautious manner as formerly introduced. If the opening made by this perforation is not ſufficient to deſtroy the texture of the head, a ſecond perforation is to be made in ſome adjoining part of the cranium, and enlarged in the ſame manner with the former, ſo that the two may come to communicate. After the opening into the cranium is made, as the adheſions of the brain ſtill keep it from fully collapſing, the latter are to be deſtroyed, by the introduction of a ſpoon, or any blunt inſtrument, within its cavity.

CCXXI. Though the introduction of the long ſciſſars in making the perforation for the depth of their

ops is a general rule obſerved by all practitioners; t in ſome caſes, where, from the violence of the previ- s labour, and the degree of compreſſion the head ſuffers, large tumour forms on the preſenting part, you are bliged to go much farther; and the beſt rule to know you have entered the cavity of the cranium is by the antity that comes to be effuſed by the deſtruction of vaſcular texture.

CCXXII. After the opening is once made, before oceeding to extraction, all the looſe bones muſt be refully ſeparated, which are liable to hurt the patient the delivery, and the opening muſt be covered as uch as poſſible by the remaining teguments of the head ought over it.

CCXXIII. Though it may not be neceſſary in every e to deſtroy entirely the ſtructure of the head, as a all diminution of ſize may admit delivery, yet, as you uncertain what difficulties may occur to the extrac- n, it is proper you ſhould diminiſh it as much as poſ- ie at firſt.

CXXIV. This, then, we conſider as the firſt ſtage of labour, and the only difficulty in this part is the ting properly at the head, for the diminution of its is ſufficiently eaſy. The next ſtage, however, or extraction, is often more perplexing.

CXXV. When the head is once fully opened, it has n recommended, as an improvement in modern ctice, if the patient's ſtrength at all permit, to allow head to collapſe, and to be expelled by the natural

efforts. This, perhaps, is carrying an attention to the efforts of nature too far, and rather tantaliſing the patient, after ſuffering ſo much. Beſides, after operating ſo long as takes place on opening the head, if the child is not removed, the patient ſuppoſes it owing to ſome failure on your part. She becomes apprehenſive; and the pains, for that reaſon, independent of the ſuſpenſion they ſuffer from the operation, are very long, if ever they return.

CCXXVI. Inſtead of this practice, then, the crotchet ſhould be immediately introduced into the opening, on the inſide of the cranium, and fixt, if poſſible, on ſome projecting point, which may give it a proper ſecurity, and prevent its ſlipping, the foramen magnum being particularly recommended. When it cannot be fixt there, it is to be done wherever it is practicable, though it very often ſlips. Some practitioners have conſidered this as an advantage; for the head they tell you becomes more lengthened out; but if we reflect on the conſequences that may ariſe from this ſlipping, we ſhall be induced to think otherwiſe; while, if the head is ſufficiently diminiſhed at firſt, there will be leſs neceſſity for truſting to ſuch an advantage.

CCXXVII. In introducing the crotchet, it muſt be always guided in the ſame manner with the long ſciſſars; and while pulling, the hand muſt likewiſe be kept in the pelvis, both to aſſiſt the extraction, and to prevent any danger happening from the accidental ſlipping of the crotchet. When ſlipping, it is to be withdrawn, the ſeparated pieces of bone being removed, and introduced anew, in the ſame guarded manner as at firſt.

CCXXVIII. Proceeding on the practice here laid down, wherever there is ſpace allowed for the introduction of the hand to open the head, there is almoſt no caſe but what you will ſucceed in, if you take time and are cool in your proceeding. It is alſo amazing what the parts, habituated to the previous preſſure during the labour, will bear; and there is ſeldom much danger, after ſuch deliveries, where no lacerations have taken place.

CCXXIX. In ſome caſes of this kind, the whole bones of the cranium will be torn away, before the head will yield, or you can procure a proper hold with the crotchet; and even, when the head yields, the ſame difficulty that prevents its paſſage hinders likewiſe the progreſs of the ſhoulders; and, therefore, after the head has been completely torn to pieces, it has been found neceſſary to fix the crotchet under the clavicilla, or in the thorax, to procure the extraction. Theſe caſes, however, are more rare; but it ſhews that general rules will not apply in the uſe of inſtruments, and that the conduct of the practitioner muſt be directed by the circumſtances of the caſe. The great point, in all ſuch ſituations, is not to loſe temper, and to lay it down, as a fixt maxim, never to forſake your patient, if once you begin to operate, till ſhe is delivered.

CCXXX. After opening the head, ſome practitioners have adviſed the uſe of two crotchets, in the manner of the forceps, proceeding on the idea of their being fixt on the outſide of the head; but if the application of one crotchet in this way, as was formerly the

practice, was found frequently unſafe, how much more muſt two be, applied in this manner.

CCXXXI. In deſcribing the uſe of the crotchet, ſome authors have endeavoured to limit the time of a delivery by it to the ſpace of two hours. Such rules, however, are ridiculous. Every accoucheur knows that he is often able to perform it in half the time; and, on other occaſions, that it may require a much longer period. Beſides, it is not to be ſuppoſed, that any practitioner will chooſe to keep his patient a ſingle minute longer in pain than he can avoid. This maxim, therefore, though probably juſt, at times will have very little attention paid to it at the bed-ſide.

CCXXXII. From the unavoidable cruelty that attends the uſe of the crotchet, in ſacrificing the life of the child, different propoſals have been made to ſuperſede the neceſſity for it in future deliveries; and this has been attempted to be done in three ways, either—

1. By the management of the patient, during pregnancy, ſo as to prevent a complete evolution of the child, or retain it of an imperfect growth.

2. By a premature occurrence of labour, while its ſize is yet ſmall; or,

3. By the enlargement of the pelvis itſelf, to admit its paſſage, of the ordinary ſize.

CCXXXIII. The firſt is attempted by frequent ſmall bleedings during geſtation, an abſtemious regimen obſerved by the mother, and other modes of inanition. Such authors, however, as have propoſed this method, have not reflected on two circumſtances which ſhew

he inefficacy of such a mode of treatment. In the rst place, the smallest and most debilitated women ave frequently the largest children, which demonrates that the growth of the fœtus does not depend on he state of the mother; and, secondly, the nourishment derived from the placenta, or the temporary appenages of the uterus. Hence, it must be their state, not hat of the general system of the patient, which must etermine the increase of the fœtus; and their state it is ot in our power to alter, while the debility induced y such a mode of treatment, during pregnancy, renders the patient incapable of bearing the fatigues of labour, or that method of assistance which may be necesary to the expulsion of the child.

CCXXXIV. The bringing on premature delivery as been often proposed, and, in some cases attempted, hough not with that success which, from superficial consideration, we might expect. It proceeds on that bservation of children frequently surviving, when orn in the 7th or 8th month, while the ossification of he head is then so loose, as well as its size smaller, hat it can bear a degree of compression at least one hird more than at full time, and the patients have een known to recover equally well as after a delivery full gestation. But if we reflect on this proposal, many objections may be offered to it.

1. In the first place, we cannot ascertain the exact eriod of gestation, and hence the period when this deivery may be properly attempted is uncertain.

2. The size of children, in different pregnancies, vary uch in the same subject; and they are frequently orn in the 7th or 8th month equally vigorous as at the ull time.

3. The ſucceſs of delivery, at a premature period, is oppoſed by ſeveral circumſtances; for,

4. The extenſion of the uterus has not fully taken place, conſequently a reſiſtance muſt be formed by the action of the cervix to the action of the fundus, rendering the labour tedious and painful.

5. The early excluſion of the waters, with this view, before the uterine orifice has been in the leaſt dilated, will increaſe the former difficulty; and,

6. The child itſelf, from the tediouſneſs of the labour, and its own imperfect ſtate, may ſuffer ſo much by the increaſed action of the uterus, neceſſary to effect it, as to terminate its exiſtence in the courſe of delivery, while, to the patient herſelf, there is always danger of conſiderable hæmorrhage, which may render it neceſſary, for her ſafety, to haſten the delivery, without regard to the ſituation of the child.

CCXXXV. For the reaſons then detailed, as the ſucceſs of this practice, in the moſt favourable circumſtances, is precarious, from our uncertainty of the ſize of the fœtal head, and the exact degree of diſtortion in the pelvis, and as real danger for the moſt part attends it, it is a ſtep that cannot, with any degree of prudence, be imitated; and though it may have ſucceeded in a few caſes, they by no means deſerve to be followed; or it requires a previous knowledge of the circumſtances of the caſe, much greater than what can be uſually acquired by the common attendance on labour.

CCXXXVI. Conſidering theſe methods as ineffectual to ſuperſede the neceſſity for the uſe of the crotchet, an attempt has been farther made to enlarge the capacity of the pelvis with the ſame view.

Operation of the Symphyſis Pubis.

CCXXXVII. The ſeparation of the ligaments of the pelvis in labour was an opinion long entertained by the firſt accoucheurs; and which, ſtill to this day, with many modern practitioners, gains credit. The ancients conſidered it as depending on a general relaxation of the whole ligaments of the pelvis previous to labour. The moderns, who favoured this opinion, have confined it to the ligaments which form the junction of the pubes, and conſider it as occurring during the efforts of delivery. Reflecting, then, on theſe circumſtances, which were known to former anatomiſts, and particularly on the opinion of the ſeparation of the pubes, Mr. SIGAULT, a French ſurgeon, firſt from theory, propoſed that this natural ſeparation ſhould be extended in caſes of diſtortion, by a diviſion of the ſymphyſis in time of labour. This propoſal was firſt made to the Royal Academy of Surgery, but for ſome time rejected. Whatever cruelties might be exerciſed on the child, practitioners were hitherto averſe of extending theſe to the parent; and while the invention of crotchets and inſtruments of all kinds met the approbation of the profeſſion at all times, they heſitated giving a ſanction to an attempt which threatened entirely the life of the mother. Mr. SIGAULT, an enthuſiaſt in his diſcovery, and convinced of its practicability from his frequent performance of it on the dead ſubject, where he informs us no leſs than two inches of enlargement were gained, eagerly ſought an opportunity of ſubmitting it to the teſt of real practice. A caſe at laſt occurred of this kind. A woman, who formerly had had difficult labours, and been delivered of dead child-

ren, anxious to preſerve her offspring, readily embraced a propoſal, the danger of which, from the repreſentation of Mr. SIGAULT, was trifling; while its ſucceſs gave in future a proſpect of more eaſy deliveries. The operation was accordingly performed, and a living child extracted. A ſpace of two inches and a half was gained, according to Mr. SIGAULT's report, by the diviſion; but the recovery was tedious, and ſhewed that the operation was not without danger. This had been formerly hinted at by the Royal Academy of Surgery, and to obviate it, experiments had been made by profeſſor CAMPER, of Holland, on animals, where the diviſion of the ſymphyſis was completely healed in eight days.

CCXXXVIII. In ſpite of the tedioufneſs of SOUCHOT's recovery, this operation was conſidered as a new improvement by the academy. Nay, they even went farther; and liable to extremes as they had formerly condemned it without trial, they now over-rated its merit on a very inſufficient proof. The conſequence of their applauſe was the conveying a favourable idea of the operation through many parts of Europe. Thus it has been performed upwards of twenty-five different times. But in the greater number of theſe caſes, the proper indications for the operation were not pointed out; and the operation, therefore, was more a matter of choice than neceſſity, ſo that its merit was by no means proved by theſe caſes.

CCXXXIX. This operation, when firſt hinted at by Mr. SIGAULT, he conſidered only as capable of ſuperſeding the uſe of the crotchet; but the ſucceſs of SOUCHOT's caſe led him ſoon to entertain too high an opinion of it; and its merit was accordingly extended ſo far, as to be

onſidered as ſuperſeding the neceſſity for the Cæſarian peration, and capable of admitting delivery in any tuation of diſtortion whatever. But it is only after me years that the true merit of an invention can be certained, when that enthuſiaſm is over that diſtinuiſhes the reports of its favourers, and when envy has o longer any intereſt to detract from its real utility.

CCXL. When this operation was firſt applauded y the encomiums of the Royal Academy, ſeveral auors appeared againſt it, actuated more by private que than from a real eſtimation of its intrinſic merit. became, indeed, at Paris a party work; and we can ruſt, therefore, leſs to the accounts of the French riters than thoſe authors who have tried it in different ther parts of the continent; and, from their obſervaons and experiments, our eſtimate of the operation is follows:

1. Even allowing that the ſuperior aperture of the elvis is enlarged by the diviſion, it does not take place that extent, as to admit the head to paſs; where the elvis is in any degree diſtorted, both as from the figure f the head it does not derive any advantage from a illing enlargement of ſpace, which, were it more cirular, it would do, and alſo as the diviſion cannot be xtended far, without endangering the ſacro iliac ligaents, and occaſioning lameneſs.

2. Suppoſing it even adequate to ſuperſede the uſe of e crotchet, the uncertainty of the life of the child, afer the head has been ſome time compreſſed in the elvis, at which period of labour only its performance warrantable; and the conſequences that may reſult rom the operation, and which have appeared in all the aſes of it hitherto very ſerious, render it an expedient

ſo unſafe, and at beſt precarious, that it can never but be viewed as a piece of wanton cruelty.

CCXLI. The method of performing this operation is very ſimple. It was done by SIGAULT, by dividing the teguments and linea alba, beginning at the upper and central part of the ſymphyſis pubis, with a common biſtoury; after which, introducing his forefinger as a direction, he cut through the ligaments and cartilage; immediately on the completion of which, the two oſſa pubis, with a peculiar noiſe, ſpontaneouſly ſeparated.

CCXLII. In Britain, this operation has happily never been performed; and that owing much to the early diſapprobation of it by the late Dr. HUNTER, whoſe remarks tended to place its merit in a very low eſtimation, as a ſuccedaneum for the Cæſarian operation; and, in any other light, it is never to be thought of. The favourable opinion which authors firſt entertained of it aroſe from the reflexion that the moſt frequent ſpecies of diſtortion depends on the contraction of the tranſverſe diameter of the pelvis at the brim, or from pubes to ſacrum; and the diviſion of the ſymphyſis, therefore, promiſed, by removing this in part, to leſſen the difficulty; but, though leſſening it in part, in caſes of high diſtortion, where alone this operation is warrantable, it is ſtill entirely ineffectual for admitting delivery; and independent of this alſo in ſuch ſtates of the pelvis, its proper elliptic form becomes greatly changed, by which its relation in general, as well as at the place of diſtortion, to the head, is altered, when compared with the natural ſtandard figure. It is an overſight of theſe circumſtances which renders many ſtill ſanguine in their expectations from the performance of this operation.

CCXLIII. To favour this operation, the conſequences of it alſo have been repreſented as very ſlight; but allowing that in one or two caſes they were ſo, whereever, on dividing the ſymphyſis, the head then does not eaſily deſcend, a farther attempt muſt be made to extend the opening by the ſeparation of the thighs, by which the adjacent parts of the pelvis muſt neceſſarily be more or leſs torn, or at leaſt ſeparated from their connexions, independent of the accidents that may happen in the diviſion of the ſymphyſis itſelf, by the incautious uſe of the ſcalpel. Hence will ariſe incontinence of urine, lameneſs, and other painful effects of this operation, which of themſelves are ſufficient to occaſion its being rejected by every practitioner of humanity. Nay, allowing that the head can paſs by the diviſion of the ſymphyſis, the ſoft parts, without the protection of their former bony connection, muſt ſuffer unavoidably from its deſcent, and that even to ſuch a degree as to prove fatal.

The laceration of the urethra itſelf is one of thoſe accidents which, to every practitioner of experience, cannot be too ſtrong an argument againſt any operation of this kind, even on its moſt favourable circumſtances. When happening at times after the uſe of the crotchet, from the acrimony of the urine ſuch a degree of inflammation is continued, as prevents it from almoſt ever healing; and it is one of theſe opprobria of the accoucheur which is reckoned the moſt perplexing that is met with in the courſe of practice. In the preſent caſe, the inflammation is particularly increaſed by the expoſure of the cavity of the pelvis to the external air, by which the ſurface of the wound, inſtead of ſhewing a tendency to unite, acquires the ulcerative diſpoſition continuing to extend, while the inflammation of the adjacent

parts rapidly proceeds. An acute fever, as a conſequence, is produced, which either proves fatal, or the parts, after a courſe of time, becoming callous, the effect of their ſtate on the ſyſtem in general gradually abates,—and the patient ſurvives, reduced by the diſeaſe to the moſt uncomfortable ſituation that can be well imagined.

CCXLIV. When we examine the hiſtory of the different caſes in which SIGAULT's operation has been performed, it is ſurpriſing to find one half of them on ſubjects in whom no real neceſſity for its performance occurred, and in whom, had time been allowed, the natural efforts would have been ſufficient for the delivery. Nay, we find in the hiſtory of SOUCHOT's caſe, by SIGAULT himſelf, that he performed the operation previous to the commencement of labour,—a ſtep, which even allowing the operation to be juſt at this period, is not warrantable, that he then introduced his hand into the os uteri, broke the membranes, and delivered the child by the feet. He does not mention any particular difficulty he met with in the extraction of the head; and as every practical accoucheur knows, that even in a well-formed pelvis the extraction of the head, in a footling caſe, is often troubleſome, while the ſpace acquired by the diviſion is now aſcertained to be very trifling, one of two things muſt have occurred here, either the child muſt have been very ſmall, or the pelvis muſt have been very well formed.

With reſpect to the firſt of theſe, it is obſerved by ſeveral authors, that the child was uncommonly ſmall; and in regard to the ſecond, it is a known fact, that ſeveral of the ſubjects on whom this operation was per-

formed were afterwards delivered naturally; and conſequently we are led, from the hiſtory of this operation, to infer, that obſtetrical knowledge muſt either be in a very rude ſtate on the continent,—or as this is not the caſe, that a ſtrong prejudice in favour of novelty has miſled the judgment of ſome of the firſt accoucheurs of the preſent day. The only writers who have favoured this operation in Britain have done it from theory, and from performing it in the dead ſubject, a ſituation where any force can be applied to extend the diviſion; but as the enthuſiaſm for this operation has now ceaſed,—and it is as ſtrongly reprobated by the accoucheurs of Paris now as it was formerly extolled,—it muſt ſink ſoon into oblivion; yet it may be always conſidered as an ingenious attempt, deſerving the applauſe of ſociety, had its merit not been over-rated by the partiality of party, and carried farther than what humanity could warrant.

CCXLV. The late Dr. HUNTER, though early averſe to this operation, and reprobating its general principles, has mentioned one ſituation, a proof of the very candid manner in which he had examined it, in which he ſuppoſes its performance may be of ſervice.

This is in thoſe caſes where the diſtortion is ſo conſiderable as to render the Cæſarian operation unavoidable. In ſuch caſes, he imagines, if the diviſion of the ſymphyſis is early performed, ſo that part of the head, which, from the narrowneſs of the ſpace, would not at all deſcend, is allowed to enter by this ſmall enlargement, it may then be reached by the introduction of the hand, and the delivery completed by the uſe of the long ſciſſars and crotchet. This, however, ſeems in a manner indi-

rectly favouring the operation; the impropriety of which Dr. OSBORNE has considered, in a late publication, with much justice.

Dr. OSBORNE's *Improvement.*

CCXLVI. Since the merit of SIGAULT's operation has thus come to be exploded, in order to have still an expedient for superseding the necessity for the Cæsarian section, the idea of which is always dreadful, an attempt has been lately made to extend the utility of the crotchet; and by an attention to the dimensions of the pelvis, and to the advantage that may be taken of these, hitherto not so much observed to establish its success, even in cases where, till now, the Cæsarian operation was deemed unavoidable. This is carrying it a step beyond what had been hitherto imagined practicable, the merit of which is due to Dr. OSBORNE. We shall first examine the principles of Dr. OSBORNE's practice, and then consider the fact by which it is supported.

CCXLVII. Every pelvis, Dr. OSBORNE remarks, the capacity of which falls short of two inches at the brim, has been considered hitherto as unavoidably requiring the Cæsarian operation to be performed. Being successful, however, in a late case, where the distortion was equally great, Dr. OSBORNE infers, that the Cæsarian operation, if a similar mode of practice is attended to in such situations, will seldom, if at all, be found necessary; and in the greater number of cases in which we have the history of its being performed, the crotchet might have been found successful, if employed in the manner he directs.

CCXLVIII. The first and leading circumstance of Dr. OSBORNE's practice is the early diminution of the head.

With respect to this, it may be observed, that in all cases of common distortion, where the crotchet is usually employed in practice, if this was attempted at the commencement of labour, according to Dr. OSBORNE's advice, there is much reason to believe, from what we meet with daily,—viz. succeeding deliveries being accomplished naturally, where the crotchet, in the same subject, had been formerly employed,—that the practitioner, to facilitate delivery for himself, would often sacrifice the life of the child, which might have a chance if delay was permitted, though appearances of being born alive should be against it. Where again the distortion is still more considerable, and does not exceed the dimensions reckoned necessary for the Cæsarian operation, though the early opening of the head may be more allowable; yet still some objections offer against it.

The great difficulty to the use of all instruments is where the hand is not allowed to be their guide; either from the space being too confined for its introduction, or the head being too high to be reached by it. In a pelvis, of the kind described by Dr. OSBORNE, if you begin the diminution of the head at the commencement of labour, you have both these difficulties to encounter; while the head, from its very moveable state at the time, though somewhat retained by compression of the abdomen, is very apt to slip on attempting the perforation from your instrument. If then you delay till the labour is somewhat advanced, and the pains, which are uncommonly strong at first in these cases of extreme

diſtortion, have preſſed part of the head a little within the pelvis, it is then ſecured; and though you have not the advantage of the introduction of your hand to guard the inſtrument, you can ſtill make the perforation with more ſafety.

The reaſon urged by Dr. OSBORNE, that by this means, before the extraction be neceſſary, putrefaction of the child's body, rendering it ſofter and more compreſſible, will take place, by no means deſerves much attention. Every practitioner knows the great difficulty in every labour depends on the delivery of the head. Our chief aim then ſhould be, to render the delivery of it as eaſy as poſſible; and when once we are in poſſeſſion of it, we have it always in our power to deliver the body in any ſituation.

CCXLIX. The ſecond circumſtance on which the ſucceſs of Dr. OSBORNE's practice depends, is the total removal of the cranial bones, previous to the extraction; ſo that the baſe of the head alone remains to paſs through the pelvis. It is certainly proper, in every caſe where it becomes neceſſary to open the head, that its ſize be completely diminiſhed; but, in caſes ſuch as Dr. OSBORNE deſcribes, I muſt confeſs it will be no eaſy matter to do this, and much more ſo at the commencement of labour, as Dr. OSBORNE directs. The principle however on which he proceeds is very juſt; for if, as he reports, the whole cranium can be in ſuch circumſtances removed, and the baſe only allowed to remain, the bulk of the head here will not exceed an inch and a half; and by taking advantage of the dimenſions of the pelvis, in bringing along what part of the

head remains, we ſhall be able, in very unfavourable ſituations of diſtortion, to effect delivery.

CCL. The third circumſtance recommended by Dr. OSBORNE, as eſſential, is the period of time intervening betwixt the diminution of the head and the extraction.

This has been recommended of late years in all crotchet caſes; and by it, indeed, a chance is given for the head deſcending farther into the pelvis; and it is more with this view, than that a putrefaction of the child's body may take place, that it requires attention; for in the longeſt time which can be allowed for this proceſs, it will be inſufficient, as the body of the child is firmly compreſſed by the uterus, and the excluſion of the air, the great ſource of putrefaction in theſe caſes, takes place in a great degree.

CCLI. The laſt circumſtance inculcated in Dr. OSBORNE's practice is an attention to the direction of the head, when opened, in paſſing through the pelvis. This is to be conſidered as a real improvement, and of which much advantage ſhould be taken in every caſe of diſtortion; for ſince the baſe of the head, when diminiſhed, meaſures only one inch and a half, and ſince the greateſt width of the pelvis at the brim extends betwixt the ilia, if the head, when leſſened ſo far, has its baſe turned to one ſide, thus introducing its ſmalleſt diameter betwixt the pubes and ſacrum, ſo as to paſs entirely laterally, the extraction will come to ſucceed, though not to be accompliſhed in the uſual way.

CCLII. Such are the principles of Dr. OSBORNE's practice in extreme diſtortion. His method is certainly

an improvement, and ſhews to what lengths a knowledge of the dimenſions of the head and pelvis may be applied, with a view to overcome difficulties in labour; yet the caſes requiring ſuch a mode of practice will be ſo very few, that perhaps the chance of the patients will be equally great by the Cæſarian operation as by the crotchet; and it is only therefore avoiding the appearance of cruelty, while we have reaſon to believe the iſſue will be much the ſame. In proof of this you will find, on peruſing Dr. YOUNG's Lectures, ſeveral caſes where, though the limits of the pelvis were not ſo ſmall as thoſe mentioned by Dr. OSBORNE, yet, from the violence neceſſarily employed, even by that experienced practitioner in the delivery, the patient did not long ſurvive. Hence, we muſt conclude, though Dr. OSBORNE has been lucky in the cure he deſcribes, yet it by no means admits ſuch a general application of the practice as he would wiſh to inculcate.

CCLIII. One thing muſt ſtrike every practical accoucheur very much, on the peruſal of Dr. OSBORNE's eſſay,—the eaſe with which he decides on the dimenſions of the pelvis, in the caſe which is the ſubject of his practice. Now, in examining the pelvis, we can judge only from three circumſtances :—

1. From the ſpace the fingers poſſeſs when introduced.

2. From the portion of the head entering the pelvis itſelf.

3. From aſcertaining the dimenſions of the preſenting part, which paſſes through the pelvis in the extraction.

With reſpect to the firſt, if the fingers, when intro-

duced, are not retained in the ſame ſtate after being brought out, you can only gueſs at the dimenſions, not fully aſcertain them. Even the portion of the head entering the brim is a bad rule, as the degree of offification will occaſion it to vary, at different deliveries, in the ſame patient. The laſt, therefore, or the dimenſions of the preſenting part, that has paſt through the pelvis, is perhaps the moſt certain; though circumſtances in the head itſelf may occaſion difficulties, while the pelvis itſelf is not ſo much diſtorted as we would be led to imagine from theſe difficulties. The beſt proof of our not being able to aſcertain exactly the dimenſions of the pelvis, during delivery, may be drawn from the different reports of authors on the operation of the ſymphyſis, on the ſpace gained, where the dimenſions of the pelvis, previous to the operation, were apparently much the ſame; and hence too we cannot be too delicate in forming a judgment of the conduct of any practitioner, where we are employed in ſucceeding deliveries; for a patient that has been delivered originally with the crotchet, and which the then circumſtances may abſolutely require, may be afterwards delivered without ſuch aſſiſtance.

CCLIV. But in ſpite of all theſe expedients detailed, the Cæſarian operation may ſtill, in particular circumſtances, be found unavoidable; and, on this account, an acquaintance with its hiſtory becomes highly proper.

Cæſarian Operation.

CCLV. The ſituations requiring the Cæſarian operation, as uſually pointed out by authors, are either—

1. Extreme diſtortion:

2. Rupture of the uterus; or,
3. Sudden death of the mother.

CCLVI. With reſpect to the firſt, where the ſuperior aperture of the pelvis does not meaſure one inch and a half, and where the inferior opening alſo is equally diſtorted, ſo that no room is afforded for the introduction of the hand, the Cæſarian operation muſt be performed; which conſiſts of a longitudinal inciſion through the teguments and ſubſtances of the uterus, with a view to extract the fœtus and its connecting parts.

CCLVII. The origin of this operation is uncertain, and its title we cannot even fix, whether derived from the manner of performing it, or from the firſt child, as contended by ſome authors, Julius Cæſar, to whom it gave birth. The firſt caſes of it that we find recorded are in many reſpects ſo fabulous, that they cannot receive, at the preſent day, any very great degree of credit. From comparing, however, all that has been written on the ſubject, we have many inſtances well authenticated of its ſucceſs; and on that account, however deſperate a means of relief it may be, rather than doom the patient to certain death, we are authoriſed in trying it. In all the caſes in which it has been performed in this country, it has failed, though conducted with every attention, in order to enſure its ſucceſs. It has been much decried by many of the firſt writers on midwifery, who, from motives of humanity, as well as confirmed by its very general fatality, have endeavoured to prejudice mankind againſt its ever being put in practice. But, however juſt in part the reaſoning of theſe gentlemen may be, it is the part of the phyſician in every ſituation, however deſperate, to graſp at thoſe

means which afford the ſmalleſt proſpect of relief; and, as the death of the patient is in theſe circumſtances inevitable, a greater chance is given where it is performed while the patient is yet alive, of the child's being ſaved, than where it is delayed till afterwards.

CCLVIII. The cauſes to which the failure of this operation may be perhaps reduced, are—

1. The exhauſted ſtate of the woman before its performance; and,

2. The irritation produced by the external air on ſuch a large expoſure of the internal viſcera.

CCLIX. To avoid the effects of theſe cauſes then as much as poſſible, certain cautions have been recommended by ſome writers, which conſiſt in—

1. An attention to its early performance, as immediately after the rupture of the membranes; but this we are by no means authoriſed to do, as we are uncertain how far the natural efforts may advance the head, and whether the crotchet may not ſucceed.

2. That no epidemic diſeaſe attack the ſituation in which the patient is confined.

3. That the uterus itſelf be in a healthy ſtate previous to the occurrence of labour.

4. That the conſtitution of the patient be not broken down by previous diſeaſes.

CCLX. From theory, it may be ſuppoſed that the fatality of this operation cannot ariſe from the wound of the uterus; for there is a great difference betwixt a wound made in it and any of the other bowels. It poſſeſſes naturally little ſenſibility, ſimilar to all parenchymatous matter; and the moment it is freed of its con-

tents it returns to its natural ſtate, or contracts with a power ſufficient to ſhut up the orifices of the veſſels, ſo that the hæmorrhage cannot be very conſiderable. Hence in the external inciſion the chief danger muſt be placed. It is ſurpriſing, when the general fatality of this operation is ſo conſpicuous, we ſhould have accounts, in the early writers, of its having been performed repeatedly on the ſame ſubject.

CCLXI. Previous to this operation, certain preparations are neceſſary to be obſerved; as clearing the the bowels of the patient, that ſhe may be as little diſturbed as poſſible for ſome days after its performance, emptying the bladder of urine, and in general paying the ſame attention to the particulars of her ſtate as where a principal operation of ſurgery is to be undergone.

CCLXII. To perform this operation more eaſily, the patient ſhould be placed on a table, or a ſmall couch, in a half lying poſture. The abdomen is then to be laid bare, and all the apparatus neceſſary for the operation is ſimply a ſcalpel, pair of ſciſſars, and a needle threaded to take up any veſſels that may appear in the external inciſion. The place where this inciſion ſhould be made has been diſputed by authors, and it has been done in various ſituations, ſo as to be termed *lateral*, *tranſverſe*, and *umbilical*. The lateral has been the moſt frequent, and the left ſide preferred, as the liver, if enlarged, does not here intervene. The inciſion is begun about half way from the umbilicus to the ſpine of the ilium; though the beſt rule is, without regarding the particular height at which you begin it, to leave ſo much room as to extend your inciſion for eight inches, which will make it ſufficiently large for the extraction.

The reaſons urged againſt this lateral inciſion are,—

1. That accidents are more liable to happen from an opening in this ſituation.

2. There is a greater depth of muſcles to paſs through than where it is performed at the linea alba.

3. At this part there is a danger of cutting ſome branches of the epigaſtric arteries, particularly if your inciſion is carried a little obliquely.

4. From the muſcular ſubſtance divided here, retracting to a greater length, the inteſtines more readily puſh out; and,

5. The opening here is not exactly parallel with the longitudinal axis of the uterus.

CCLXIII. The tranſverſe inciſion has been ſeldomer performed, and does not ſeem ſuch a favourable mode of making the opening as the two others.

CCLXIV. The umbilical inciſion is conſidered by many authors to poſſeſs great advantages over all the others. It conſiſts in dividing the linea alba from the umbilicus, almoſt to the oſſa pubis, taking care, however, to avoid the epigaſtric artery. The ſuperiority alleged to attend the diviſion of the ſituation of the parts in this ſituation is,—

1. That there is leſs depth of ſubſtance to paſs through.

2. That in the diviſion there is little or no muſcular ſubſtance, which is moſt liable to retract.

3. That the diviſion of this ſubſtance, or the ligamentous, is leſs painful; and,

4. The uterus itſelf immediately appears at the opening, without any intervention of the inteſtines, which are here leſs apt to be protruded.

But, though ſuch advantages are gained, other writers urge ſtrong objections againſt the umbilical inciſion; which are,—

1. That the inciſion of the uterus here is more apt, after the operation, to be retracted, or not to be placed oppoſite to the external one, by which the retention of the diſcharge in the abdomen is favoured; and,

2. The ſituation of the bladder of urine, being at this place, favours very much the ſame inconvenience. On theſe accounts the inciſion ſhould rather be carried a little above the umbilicus, than extended down fully to the oſſa pubis. And hence, alſo, the lateral inciſion may be with equal propriety adopted as the umbilical; for more will depend, perhaps, on the management, than on the place of the operation.

CCLXV. The inciſion, wherever begun, is to be carried on ſlowly, till the peritonæum is laid in view; and, before attempting to open it, any veſſels are to be taken up, and an effuſion into the abdomen prevented as much as poſſible. On this account it will, perhaps, be proper, that ſome time ſhould intervene before dividing the peritonæum. The reſt of this operation is to be conducted with the ſame precaution as in hernia. A ſmall perforation is at firſt to be made into the peritonæum; into it a finger is to be carried, and, taking it as a director, the opening extended as far as neceſſary, or the length of the external inciſion, with a pair of ſciſſars. As ſoon as this is done, it has been recommended, before making the internal inciſion, by ſome authors, with much propriety, by the preſſure of the hands of an aſſiſtant to circumſcribe the ſituation of the uterus on each ſide; which will likewiſe have the ef-

ect to prevent in ſome meaſure the deſcent of the in-
ſtines.

CCLXVI. When the external inciſion is finiſhed, the uterus comes diſtinctly into view, and its different colour from that of the contained parts readily marks it. There is little danger of confounding it with the bladder of urine, particularly if you are attentive to the ſtate of the diſcharge before the operation. The uterus is to be opened in the middle of the ſurface which it preſents; but this opening is to be very ſmall, or only ſo much as to allow the eaſy introduction of the finger; for, from the dilated ſtate of its veſſels, if divided to any extent, fatal hæmorrhage would enſue, even before the extraction of the child. Immediately through this ſmall opening of the uterus the whiteneſs of the body of the child is diſcovered; for the membranes are generally broken long before you perform this operation. The extraction of the child then is the next ſtep, and it is neceſſary for this purpoſe that the inciſion of the uterus be now ſomewhat extended. In doing this, caution muſt be uſed to avoid the ſituation of the placenta, and, alſo, that no time intervene betwixt the inciſion of the uterus and extraction of the child, that its contraction may not once ſtop the hæmorrhage. Having introduced the finger then, with two or three cuts the inciſion is enlarged, and the child taken up as quickly as poſſible by the feet. If the labour, as is generally the caſe, has continued long before the operation is employed, part of the head will perhaps be locked in the brim of the pelvis, and it requires ſome force to diſengage it. A finger may therefore be introduced within the vagina, with a view to puſh it up; though perhaps Dr. OSBORNE would

conſider ſuch a caſe as capable of being delivered by the crotchet.

As ſoon as the child is removed, the uterus contracts with great rapidity, and the placenta is at once forced off, which becomes extracted at the ſame opening. The operation is then finiſhed, by the removal of any clotted blood effuſed in the proceſs; and the after-treatment becomes the next, and moſt important, part of the buſineſs.

CCLXVII. From the ſtate of the parts, two circumſtances in the management here ſhould direct our practice.

1. The firſt is to promote the adheſion of the divided parts; and,

2. The ſecond to circumſcribe the incipient inflammation.

CCLXVIII. To effect the firſt, an accurate re-union of the lips of the wound ſhould be attempted. Different methods of doing this have been propoſed. Sutures are the moſt certain method, and the quilled one has been generally employed here. The effect of all ſutures however, we find, to be unavoidable pain, and increaſe of inflammation. Beſides, the ſize of the uterus diminiſhes very quickly after the operation, ſo that, in the courſe of 24 hours, it is ſituated within the pelvis, or pretty much reduced to its natural ſtate. Hence the danger of its being protruded at the opening is not ſo great, if attention is paid till this take place; and, therefore, the very principal reaſon for the uſe of the future may be in a great meaſure diſpenſed with. The tegu-

nents alſo of the abdomen, from the diſtenſion of geſ-
ation, are ſo much extended, that their retraction will
not occur to that degree as to render the application of
future neceſſary; and we have many inſtances where,
fter the operation, no future was applied, and yet no in-
convenience aroſe from the protruſion of parts. To
trike a medium therefore, or to confine ſufficiently the
ips of the wound, without giving that pain a future
occaſions, the application of bits of ſticking-plaiſter may
e propoſed, which, if confining it for 24 or 36 hours,
will be ſufficient, as from the collapſed ſtate of the parts
he danger of protruſion is then over. When the ſides
re thus brought together, to favour their retention ſtill
more, the uſual dreſſings, as employed in caſes of large
wounds, are to be had recourſe to; and in this way a
endency to the re-union of the united parts, forming the
firſt indication, is afforded.

CCLXIX. But the ſecond circumſtance, or the circum-
cribing the incipient inflammation, is perhaps the moſt
important,—as on the neglect of it, it is to be feared, the
atality of the diſeaſe certainly depends.—The ſpreading
f inflammation in the preſent caſe has been conſidered
s ariſing chiefly from the acceſs of the external air into
he cavity of the abdomen, which, in the operation, muſt
ake place in a certain degree. That the inflammation may
e conſiderably increaſed by this, there is no doubt; but
ven in thoſe caſes where every attention was paid to its
xcluſion, the termination of the diſeaſe has been equal-
y fatal as where no ſuch cautions were obſerved. We
annot, therefore, attribute it ſo much to this circum-
ance as ſome authors have done,—eſpecially when we
now, that in peritonitis, where no air is admitted, there
often the ſame fatal termination as after the Cæſarian

operation. To account then for the fatality of the preſent operation, we obſerve, that when any point of the ſurface of a cavity becomes inflamed, it poſſeſſes, independent of the admiſſion of the air, a tendency to ſpread; and the conſequence of this laſt is its termination, either in adheſion or ſuppuration. The former is the moſt favourable termination; and with this view, an accurate reſtriction of the divided parts, as formerly recommended, which favours adheſion, ſhould be ſtudied; for if once ſuppuration takes place from the exhauſted ſtate of the patient, and the long continuance of irritation on the ſyſtem, in conſequence of this proceſs, death muſt unavoidably enſue. Yet the quantity of diſcharge which neceſſarily ariſes from ſuch a large wound, as both that in the uterus and teguments, muſt almoſt always prevent adheſion; and it is therefore more this circumſtance, perhaps, of the formation of matter within the cavity of the abdomen, or the extravaſation of fluids, preventing an early termination of the diſeaſe by adheſion, that is to be conſidered as the cauſe of death, than the mere temporary admiſſion of the air in the operation,—the one forming an accidental, the other a continued irritating cauſe; while, in the inflamed ſtate of the cavity, the abſorbents are unfit for removing any portion of the extravaſated fluid before this termination takes place. Hence the neceſſity for the removal of every extraneous matter from the abdomen before the lips of the wound are placed in contact, and of occaſionally removing the dreſſings, that a diſcharge from the abdomen, preventing the formation of pus, may ariſe; and though the admiſſion of the air is thus endangered, it will be found leſs troubleſome than matter formed in the cavity of the abdomen.—The late writers on this operation have paid very great attention to this laſt circumſtance, and that

with a boldneſs, and even ſucceſs, which ſhews that the admiſſion of the air is not juſt ſo fatal as commonly ſuppoſed.

CCLXX. Having thus conſidered the ſteps of the operation, and its effects on the ſyſtem to which its fatality is owing, we may remark that in Edinburgh it has been performed no leſs than ſix different times.—In the laſt of theſe but one the indications for the operation were wanting,—for it depended on the conſtriction of the ſoft parts, not the ſtate of the pelvis. In the early accounts of its hiſtory you will find it frequently performed with a raſhneſs, which nothing but ignorance could excuſe. But though not indicated by diſtortion, accidents happen in the progreſs of labour, at times, which render this operation, as formerly remarked, neceſſary, and that chiefly with a view to the ſafety of the child :—

Theſe are, *rupture of the uterus*, and *ſudden death of the mother*.

CCLXXI. Rupture of the uterus is an accident, inſtances of which have occurred to every practitioner of extenſive experience; and ſome have even met with a very great number of them. The occurrence indeed of this accident we ſhall not be ſurpriſed at, when we conſider the manner in which the action of the uterus takes place in labour. By its contraction, every part of its cavity is ſtraitened, or forms a reſiſtance to its contents. This reſiſtance, however, is leſs at the orifice than in any other part, and the action of the other parts is likewiſe aſſiſted by the abdominal muſcles, and diaphragm, which render the effect of their contraction more powerful on the orifice.—If then the orifice is uncommonly rigid, or præternaturally contracted, ſo as to

poſſeſs an equal reſiſtance with the action of the other parts, the labour either cannot proceed, or ſome part of the uterus that is weaker than the orifice, from the action of the other parts bearing againſt it, will give way, and a rupture of it then be produced. The place of the uterus, at which that moſt commonly happens, is the neck,—for the fundus is protected from the ſuperior reſiſtance it acquires, by the addition of the abdominal muſcles, and other aſſiſtant parts, co-operating with it.

CCLXXII. The cauſes of this accident are all unknown to us, and we ſhall only repeat them as enumerated by authors.

1. The firſt ſet of cauſes is, thoſe which produce difficult labour,—as diſtortion of the pelvis, and morbid contraction of the external parts.

But theſe we know occur in a thouſand caſes, without rupture of the uterus.

2. Violent and irregular contractions of the organ itſelf, as in caſe of convulſions; and if this ſymptom occur along with diſtortion, ſo as to prevent the termination of delivery, it certainly may have very powerful effect.

3. The exceſſive bulk of the child's head locked in the pelvis; and,

4. Accidental injury of the uterus itſelf, from ſtrokes, &c.

Theſe cauſes then occurring where the uterus is previouſly in a diſeaſed ſtate, may occaſion this accident to happen; but we can have very little ſuſpicion of it till it take place; and even admitting we have ſuſpicion of it, we are not authoriſed, on ſuch ſlight grounds, to at-

tempt immediate delivery, without other circumſtances in the caſe indicate the propriety of it. Hence it is of more conſequence to be able to aſcertain the ſigns of this accident, when it has really happened, than to know its cauſes.

CCLXXIII. The ſigns commonly enumerated, are

1. The ſudden diſappearance of the head, or preſenting part, formerly eaſily felt.

2. Exceſſive pain of the abdomen, fixed particularly in one place.

3. Remiſſion of the throes of labour, formerly violent.

4. Reaching and flooding; and,

5. Weak intermitting pulſe, with tendency to deliquium.

It is however the ſudden diſappearance of the preſenting part, if once certainly felt, and the ſtate of the pulſe, we are more to truſt to than any other,—for the others may all occur in the courſe of a natural labour, independent of this accident.

CCLXXIV. In the late Dr. YOUNG's Lectures there are three caſes mentioned of this accident, and in all of them the labour pains were uncommonly triffling, ſo that it could not be referred to any violent action of the organ, but was evidently the effect of diſeaſe.

CCLXXV. Where this accident occurs for the delivery of the child, the Cæſarian operation has been propoſed; but ſome objections may be urged againſt it, from the ſtate of the patient, and more eſpecially as the child does not deſcend completely, for the moſt part, into

the abdomen; ſo that ſome of its members being entangled in the laceration, will allow the introduction of your hand to get at the feet, when the delivery may be more properly completed in this way. Beſides, wounds of the uterus are mentioned by authors as not always fatal, and a greater chance therefore is given to the patient if the extraction is made in this way, than by a new inciſion through the abdomen. The delivery, however, muſt be very quickly made, as by keeping the wound extended the patient will ſink in a few minutes from the internal hæmorrhage, and ſhe commonly indeed dies under your hands. Hence it has been propoſed by ſome authors, to delay any attempts at delivery till the death of the mother takes place, and that the Cæſarian operation ſhould then be performed as quickly as poſſible. But however humane this practice may be, it is not giving her any chance of recovery; and when the ſmalleſt hopes remain, however unfavourable circumſtances may appear, it is certainly the duty of the practitioner to take advantage of them, and to leave nothing undone which may contribute to ſave the patient.

Where the rupture again occurs in the more advanced progreſs of labour, or where the head is fixed in the pelvis as ſoon as this accident takes place, the forceps are to be employed to make the extraction as quickly as poſſible; and the hand being then introduced to bring off the placenta, you will be able to aſcertain the extent of the rupture. But the great loſs is, that it is only by the death of the patient the accident is for the moſt part aſcertained; for the diagnoſtics are ſo uncertain, as either not to ſtrike practitioners at the time; or the patients being attended by women, they are not ſenſible of the danger when the accident occurs.

CCLXXVI. To this ſubject, Mr. CROATZ has paid particular attention, and has endeavoured to mark thoſe previous ſymptoms in the courſe of the labour that point out this accident as going to happen. He remarks, that in ſuch women, the abdomen, upon examination, feels very prominent, and much diſtended, the vagina drawn upwards, and the orifice of the uterus uncommonly high. The pains at the ſame time are extremely violent, without any intermiſſion, and the labour is very inconſiderably advanced by them. But all theſe ſymptoms may occur in the courſe of labour, without any ſuch accident taking place; and therefore the enumeration of ſuch ſymptoms ſerves only to frighten a practitioner in his attendance, and more eſpecially if his patient has been in a delicate ailing ſtate.

CCLXXVII. In theſe rare caſes, termed *extra-uterine*, where the fœtus is originally placed without the uterus, the Cæſarian operation is more properly indicated than in a rupture of the organ. But this ſubject is afterwards detailed; and as the ſymptoms of it are obſerved to be ſomewhat equivocal, it ſhould never be performed but where nature ſeems to point it out, by inflammation of part of the abdomen, tending to abſceſs, when the enlargement of the diſeaſed part will give an opening to the body contained, to leave the cavity of the abdomen.

CCLXXVIII. The laſt ſituation in which the propriety of the Cæſarian operation is pointed out, by ſudden death of the mother, is a frequent occurrence; but it often takes place after delivery, than during the former period. It ariſes from the mother being worn out with previous diſeaſe, or from the former accident of the

rupture of the uterus occurring, and not being ſuſpected, Wherever it happens, the Cæſarian operation, inſtantly performed, offers certainly the only means of ſaving the child. As yet it is not aſcertained how long a child may ſurvive the death of the mother; and till this is done, we cannot be to early in attempting the extraction. It is needleſs to perform it here with all the cautions which are neceſſary to be obſerved in the living ſubject. Some authors have alleged, that deliquia may at times impoſe on us, and that ſome ſpace of time ſhould intervene after the death of the mother, before having recourſe to this operation. But deliquia very rarely occur in the courſe of labour, except in caſes of flooding; and therefore there is a ſtrong preſumption of our not being deceived. Beſides, the eye, in the caſe of death, very ſoon acquires always a dull collapſed appearance, and even the previous diſeaſe to which the patient has been ſubject will render it leſs doubtful. Though the ſooner then we have recourſe to the operation, the better; yet, even at the diſtance of many hours, we ſhould not deſpair of ſaving the child,—for it has been ſucceſsful, even at the diſtance of twelve. A prejudice in this particular caſe luckily prevails in its favour; and this is even extended to the greater part of geſtation, eſpecially after the ſixth month, when it is thought always proper that the child ſhould be removed.

CCLXXIX. On the whole, this operation is ever in the living ſubject a deſperate reſource; and, by Dr. Osborne's calculation, the proportion ſaved by it is only one out of ten, though performed by the firſt ſurgeons, and conducted in the moſt guarded manner. Every attempt therefore merits well of ſociety, that aims in the ſmalleſt degree at ſuperceding the neceſſity for employing it.

CLASS IV. *Manual Labours.*

I. Thoſe labours we term manual, where, from ſome other part than the head preſenting at the uterine orifice, aid, or manual aſſiſtance, is found for the moſt part neceſſary to effect the delivery.

II. That the head inclines naturally to be the preſenting part in all caſes we endeavoured to prove, from its ſhape, its ſpecific gravity, and its acting moſt equally in dilating the uterus by an uniform and gradual preſſure, which, where too conſiderable, admits, by the mode of its formation, ſome diminution, in conſequence of a powerful reſiſtance of the containing parts. At times, however, from ſome irregularity in the contraction of the uterus, or the conſequent rupture of the membranes, before the head is engaged in the paſſage, particularly in diſtorted caſes, where it does not eaſily enter, ſome other part of the child deſcends inſtead of it; and the varieties of ſuch preſentations, termed *præternatural*, may be reduced to four; the *footling*, *natal*, *tranſverſe*, and *brachial*.

III. To extend the diviſions of this ſpecies of labour farther, as many have done, is of no importance, from comprehending no variety in the management; and, though every point of the body may occaſionally preſent at the uterine orifice, yet this information can ſerve no uſeful purpoſe, except where it directs to a difference of treatment; and, as many of the poſitions enumerated by authors are very rarely met with, it is burdening the memory to recollect the particular rules applicable to

them, while the four diviſions mentioned are ſufficient to convey a general knowledge of the methods that may be employed in every poſſible variety occurring.

IV. Manual labours, like the inſtrumental, may be properly divided into two ſtages,—the preparation for delivery, and the operation itſelf.

V. The former conſiſts in,

1. Determining exactly the poſition of the child.

2. Rendering the ſtate of the uterus favourable to the delivery; and,

3. Directing the poſition of the patient as moſt convenient for the operation.

VI. With reſpect to the firſt, all the ſigns of præternatural preſentations before the rupture of the membranes are uncertain; nor can it be determined till we are able to know, by the feel, the preſenting part. In all ſuch poſitions too, beſides the preſenting part, we ſhould endeavour to aſcertain the form in which the child is placed in the uterus, by the external feel; for where placed in a longiſh form, the uterus contracts to the ſame, and forms a greater reſiſtance than where it is placed in a more rounded figure, and where, of courſe, the hand can be more eaſily inſinuated.

VII. In regard to the ſecond, or ſtate of the uterus, in moſt caſes of manual delivery its relaxation ſhould be procured as much as poſſible, and a ſuſpenſion of action for a time attempted. The moſt favourable time, when the relaxation of the uterus is greateſt, is immediately on the rupture of the membranes, before its contraction can take place round the body of the child; but where

we have not an opportunity of taking advantage of this time, an artificial relaxation of the organ muſt be induced before attempting the delivery. For this purpoſe a large opiate muſt be adminiſtered, and the delivery promoted, when the atonic ſtate, or ſuſpended action of the uterus, commences. This practice was firſt recommended by the late Dr. HUNTER. The doſe muſt be very large, and even 120 drops are but moderate.

VIII. On the laſt circumſtance, or poſition of the patient here, we may obſerve, that it muſt be varied in the two ſtages. In the former, where the introduction of the hand into the uterus becomes neceſſary, the ſide ſhould be employed, or, which is preferable, the patient ſhould be placed on her knees and elbows, by which the contents of the uterus will act leſs againſt the os tincæ, and thus give leſs interruption to the introduction of the hand. In the operation, however, of delivery, in all præternatural poſitions, the back ſhould be preferred,—as the head, being the laſt part expelled, and the ſtate of the labour not admitting time for it to take its natural turns, by this poſition the extraction is more in the power of the operator.—

IX. Theſe then are the ſeveral circumſtances to be obſerved in the firſt ſtage of this ſpecies of labour; and thoſe of the ſecond conſiſt—

1. In the proper method of introducing the hand; or what is termed *turning*, with the view of rendering the poſition of the child favourable to expulſion; and,

2. When turned, in effecting the delivery by the lower extremities.

X. The rules for turning are very eaſy. The great

point is to know accurately the ſituation of the lower extremities before attempting it; and for this purpoſe the hand ſhould be applied firſt externally, on the abdomen, to aſcertain the poſition of the body, the parts of which will readily be felt through the teguments; and, when aſcertained, you are then directed what hand to apply to get at the feet; for, if lying on the oppoſite ſide of the uterus, your hand, when introduced, muſt be again withdrawn, which is troubleſome, and turned to the oppoſite ſide.

Footling Caſe.

XI. The delivery of the lower extremities, or what is termed a *footling caſe*, may be conſidered in this ſpecies of labour in the ſame light as natural labour in head preſentations. Its management, therefore, ſhould be well underſtood, and the chief difficulty in it conſiſts in the extraction of the head. When the membranes are broken, at which time only one can aſcertain this ſpecies of labour, if footling, it may be diſtinguiſhed by the heel, and want of the thumb; and we ſhould be accurate in obſerving theſe circumſtances, as the hand is ſo ſimilar in its general feel.

XII. This diviſion of manual labour may be conſidered almoſt as natural; for, if the parts are well formed, patients in this ſituation are frequently delivered without any particular aſſiſtance. Among the ancients, the reducing the preſenting part to the natural poſition, or the head, was the moſt general method. Failing of the head, they delivered by the feet, but reckoned it always a hazardous ſituation; and where they did deli-

ver in this way, they were exceedingly ſcrupulous that both ſhould be brought into the paſſage before attempting extraction. In theſe caſes, however, it is often difficult to bring down the ſecond foot; and in attempting it, the patient ſuffers a good deal of pain, while the delivery can be completed with equal eaſe with one foot.

XIII. The management of this preſentation is to be conducted as follows. The feet are to be allowed to advance as far as poſſible by the natural aſſiſtance of the pains; but when the head, deſcending into the pelvis, forms a reſiſtance, a warm cloth is to be wrapt round the limbs of the child; while, at the recurrence of each pain, ſome force is employed in pulling gently from ſide to ſide; and when, by this means, ſhifting always the hold as the body comes to be protruded, the breech appears without the labia, as it is neceſſary for the extraction of the head, the back of the fœtus ſhould be to the pubes of the mother, a turn greater or leſs, according to the ſtate of preſentation, muſt be given, in order to reduce it to this ſituation.

When the breech is delivered, the body being ſmaller, eaſily deſcends for the length of the ſhoulders; but a reſiſtance ariſes from them, to leſſen which it is proper to bring down the arms; and, as they are generally placed in a direction along the ſides of the head, to perform this the body of the child muſt be ſupported on the arm of the operator, and carried as much as poſſible to one ſide of the labia. The other hand is then to be directed to the oppoſite ſide, where the greateſt room for its introduction is by this means allowed, and the fore finger being placed over the ſhoulder, while the middle one and thumb are below it, the arm is to be

brought out by making a turn with it along the child's breaſt, and inclining its elbow to the coccyx of the mother. If, however, the fore finger cannot be paſt, when introduced over the ſhoulder, farther efforts muſt be uſed for bringing the body lower, before an attempt is made to reduce it.

After the reduction of one arm, the body of the child is next to be carried to the other ſide of the labia, and ſupported in a ſimilar manner as on the former, on the other arm of the operator, while the hand that ſupported it on the firſt ſide is to be introduced to bring down the ſecond arm of the child, which is now rendered more eaſy by the reduction of the firſt.

When both arms are thus brought down, and in doing it, that one (if a turn has been already made with the body to reduce the head to a proper direction with the ſacrum) on the ſide from which the turn was made is to be preferred, the extraction of the head muſt be ſpeedily attempted from the danger the cord ſuffers in conſequence of compreſſion at this part of the delivery; and this extraction is to be made by placing two fingers of one hand on each ſide of the child's neck, while the other ſupports its breaſt; a finger of which, if neceſſary, may be alſo introduced within its mouth: and the poſture of the operator is then to be changed, for, riſing up, he endeavours to diſengage it, by pulling in a direction the reverſe of the former, from ſacrum to pubes.

XIV. Though this method in general ſucceeds, yet the ſame difficulties which hinder the advancing of the head in inſtrumental caſes may detain it after the body in a footling preſentation; and theſe difficulties in the

latter are even increaſed by want of time to accommodate itſelf to the paſſage. According, therefore, to the variety of cauſes which prevents its extraction, different means muſt be uſed for its delivery; and as it ſometimes proceeds from contraction in the orifice of the uterus, the latter may, by the introduction of the hand, be dilated; or when, from the head not following the turn which is made on the protruſion of the breech, to place it in its natural ſituation, it muſt be altered by puſhing it up, and bringing it down in a different direction. If this ſhould fail, the forceps may be in ſuch circumſtances employed, and the former rules for their application will be equally proper here. But in ſome of theſe caſes, where difficulties occur to the extraction of the head, it has been even ſeparated from the body,—an accident that frequently happened to the early practitioners, who were not ſo attentive in obſerving the direction of its paſſing through the pelvis. On this account you find in moſt of the publications on midwifery a ſeparate diſſertation on this ſubject. In modern practice it never occurs, and would be conſidered as marking great miſconduct in the operator. Should it unluckily happen, however, from the body being in a putrid ſtate, the rules to be obſerved in extracting it may be made more ſimple than what are detailed in the authors who treat of it. If the dimenſions betwixt it and the pelvis agree, when placed in the natural poſition, which you can do with your hands, the pains, if continuing, will expel it. But if no pains come on, it is then to be extracted with the forceps, a preſſure being made on the abdomen in order to ſecure it during their introduction. Should, however, a great diſproportion prevail between its ſize and that of the pelvis, the long ſciſſars and crotchet muſt then be employed, after keeping it firm for their application by the former means.

This then comprehends the firſt ſpecies of manual labour. It deſerves particular attention, as the reſt are all reduced to it in the courſe of delivery.—The next we come to is the *natal* or *breech* preſentation, which, after the head, is moſt frequently met with.

XV. This preſentation is not to be aſcertained till after the rupture of the membranes; for the preſenting part, while incloſed, gives much the ſame feel with the head; nor is the knowledge of it of any conſequence, unleſs the pelvis be diſtorted; for, if ſo, by not allowing it to paſs, it muſt then be reduced to the former, or the footling preſentation, and the ſaving ſome portion of the waters will render this more eaſily accompliſhed.

The expulſion of the meconium with the waters has generally been mentioned by authors as a leading ſign of this preſentation. It depends, however, on the deſcent of the body ſo far, before the rupture, that the abdomen is compreſſed by the pelvis; and hence a natal preſentation may occur without this ſymptom.

When the membranes are ruptured, it is diſtinguiſhed by the cleft betwixt the buttocks, and the parts of generation.

XVI. Two methods of delivery have been recommended in this caſe, and each claims the ſanction of very reſpectable practitioners.

The one is, to reduce it as ſoon as aſcertained, by puſhing up the preſenting part, introducing the hand into the uterus, and bringing down the feet to a footling preſentation.

The other is, to allow it to proceed in the preſenting poſition.

The only argument in favour of the former of them is, that you always occaſion a painful and tedious labour, as the preſenting part greatly exceeds in bulk the ſize of the cranium. This, however, is obviated by the ſtructure of the preſenting part, which admits more readily of compreſſion than the cranium; and of births preſenting in this way, we find alſo at leaſt eight out of twelve delivered without any uncommon difficulty; and the only ſituations where it may fail, or meet with difficulty, is in the caſe of a firſt labour; while, in both footling and breech caſes, if occurring in a firſt labour, it may be obſerved the children are generally loſt, though in the ſame ſituation in a ſubſequent delivery no difficulty will occur. In all breech caſes therefore, unleſs in a firſt labour, or where the pelvis is diſtorted, if allowed to advance the ſpace required for the paſſage of the buttocks, will eaſily admit the expulſion of the head.

XVII. For theſe reaſons detailed a general rule ſhould be laid down in all natal caſes, to allow the preſenting part to proceed. As ſoon as aſſiſtance can be given, a finger is then to be inſinuated under each groin, and gently brought forward in time of a pain, till the thighs come to be diſengaged, when it is reduced to the former, or a footling preſentation, and the rules pointed out for delivery in it will be equally applicable here.

Inſtead of the finger, where the groin is too high for its application, or the pelvis too narrow to admit it, many authors have adviſed the uſe of the blunt hook; but,

as you cannot be certain of the exact force the thigh will ſafely bear, and, if injuring it, you cannot know it *quickly* when you employ the inſtrument, the finger is on theſe accounts to be preferred.

XVIII. This then comprehends ſhortly the management of the two firſt ſpecies of manual labour, and a mixture of them often takes place by the preſentation of one foot at the uterine orifice, while the other is laid along the belly of the child.

If the ſecond foot cannot be reached eaſily, or is difficult to be brought down, the extraction is to be made with one, in the ſame manner as if both preſented; for the birth of the ſecond being effected by the protruſion of the breech, it is reduced to the firſt, or a common footling delivery; and in the variety of the two firſt ſpecies of manual labour nothing farther is required but to aſſiſt the effect of the pains in the manner recommended, allowing generally the preſenting part to be expelled, and avoiding, before the arms are reduced, hurrying the delivery.

XIX. The third ſpecies of manual labour, or the *tranſverſe*, comprehends any part of the body of the child, as the back, belly, or ſide, preſenting at the uterine orifice; and the delivery here requires one preliminary ſtep, not neceſſary in the former poſitions, of altering the ſituation of the child previous to the delivery.

XX. The membranes here are commonly ruptured very early; and, before their rupture, no part of the child can be felt; after, the cord is often found prolapſed, while the os uteri becomes leſs dilated than before, and the pains depart for ſome hours, frequently

ſome days, returning afterwards with increaſed ſtrength. The woman alſo, in ſuch caſes, it has been remarked, complains much of her ſide, as being affected with unuſual pain.

XXI. The moſt common variety of this ſpecies of preſentation is the belly; and, as the hand can be eaſily introduced, and the feet taken hold of, there is little difficulty in this preſentation, as it is ſoon reduced to one of the former ſpecies.

XXII. The laſt ſpecies of manual-labour, or the *brachial*, is juſtly conſidered as the moſt difficult to be met with. In this caſe the arm preſents at the uterine orifice, and is puſhed into the vagina for the length of the ſhoulder. It is eaſily known from the feet by the feel of the hand, particularly the length of the thumb and fingers, and, as the child cannot be expelled in this ſituation, it is neceſſary that the hand be introduced into the uterus to occaſion the retraction of the preſenting part, by bringing down the feet as moſt favourable for delivery. The difficulties, therefore, that occur to this operation, form a very important object of attention.

Theſe difficulties depend on,—

1. The ſtate of contraction in the uterus;

2. The ſituation of the feet, or their diſtance from the uterine orifice; and,

3. The preſence of pains oppoſing the introduction of your hand.

XXIII. With reſpect to the firſt, we find the uterus, ſoon after the evacuation of the waters, acquire a rigid contracted ſtate, unfavourable to extenſion; and, according

to the ſituation of the body of the child, it aſſumes either a globular or longitudinal form, and it is much eaſier to turn in the former caſe than in the latter, though the contraction of the organ is equal.

XXIV. With reſpect to the ſecond, or ſituation of the feet, they are generally, in this caſe, placed at the very fundus uteri; and there are very few arm preſentations where it does not require us to go to the very bottom of the uterus before we can reach them.

XXV. With reſpect to the third, or the preſence of pains, it is remarked in this preſentation that the pains are at firſt generally very violent; and they are at the ſame time, from the irritable ſtate of the uterine orifice, excited on the leaſt attempt to introduce the hand, ſo that, to the natural contracted ſtate which takes place after the evacuation of the waters, there is added a ſpaſmodic contraction from its irritability.

XXVI. Before, then, attempting to turn, theſe difficulties we muſt endeavour to remove as far as poſſible.

As the contraction of the uterus is the principal one, it ſhould be performed as ſoon as the waters flow off, which are a conſiderable advantage, particularly if any portion is retained in the ſuperior part, as they keep the uterus in a ſlippery extenſile ſtate.

Before turning, alſo, the ſituation of the feet muſt be accurately aſcertained, and this we do by conſidering the hand that preſents, whether it be the right or the left, which is known by the direction of the thumb and palm, and alſo by the external feel of the uterus itſelf.

If ſpaſm occur on attempting examination, the next ſtep is the overcoming the irritability of the uterus, which we do by the exhibition of a large opiate; and we begin our attempts when it ſeems to take effect, and the patient is diſpoſed to ſleep.

XXVII. After having removed theſe difficulties, the patient being properly placed, as formerly recommended, we begin the operation by paſsing the hand quickly through the vagina in a conical form; for in paſſing here it gives pain, till it reach the os uteri. It is to be paſt into the latter betwixt the preſenting part and pubes, as it is moſt eaſy to come at the feet in this way. It is to be then carried, when introduced, as high as poſſible, till a foot is reached, and an attempt is then to be made to bring down the latter into the vagina. When brought down, it is to be held by the hand introduced, till a piece of tape or ribband is paſt over the ancle, directed by the fingers of the other hand, which, when tightened, forms a nooſe, and is to be kept firm without the labia by being rolled about the palm of the ſame hand that directed its application, and the hand introduced is then to be paſt to the preſenting part, puſhing it up to the fundus, by which the child is brought round, and the preſentation reduced to a footling caſe. If, when the hand is introduced into the uterus, the action of the organ is excited, we ſhould proceed no farther till it ceaſe; nor attempt to counteract its efforts, for there is then danger of the rupture of the uterus. If both feet can be laid hold of eaſily, we ſhould endeavour to bring them down; but if we are in poſſeſſion of one, we are always able to finiſh the delivery; and, unleſs the other is at hand, it is uſeleſs to give ourſelves much trouble to ſearch for it. When the feet are brought into

the paſſage, we then attempt the extraction, with one hand pulling by the nooſe, while the other takes hold of the feet. If the preſenting part does not then retract, or the body turn round, it is owing to its being jammed in the ſuperior part of the pelvis; and by paſſing the hand to the ſhoulders, and raiſing them up to the fundus uteri, the reſiſtance to the extraction of the feet will be removed.

Before bringing down the foot we lay hold of into the vagina, we ſhould be certain it is a foot; and it is neceſſary, therefore, to proceed ſlowly,—for if it prove the hand, the difficulty of introducing the hand of the operator into the uterus will be afterwards increaſed.

XXVIII. We are informed by many practitioners, that they have been often three hours before reaching a foot in arm preſentations, after the introduction of their hand into the uterus. Though it is often a troubleſome operation, if the preliminary circumſtances recommended have been attended to, this will almoſt never happen, and the half of the time, if not leſs, will be ſufficient. Such practitioners would ſeem fond of magnifying difficulties; and they may be aſked, if they were ſo long, what they could mean by ſuch conduct; for it could only proceed from two circumſtances, either the poſition of their patient not allowing them to get the hand high enough, or they muſt have been conſtantly endeavouring to oppoſe the action of the uterus, forming the chief obſtacle to their getting ſufficiently high, and the organ being at laſt worn out by their efforts, they came to ſucceed. But would it not have been much better to induce this atonic ſtate at once by more gentle than me-

hanical means. Such difficulties, therefore, were much
ne effect of their own mode of procedure.

XXIX. But if this ſpecies of manual labour has con-
nued to proceed for long after the evacuation of the
aters, before an attempt is made to deliver, the preſent-
g part comes down to that extent into the vagina, and
the ſame time becomes ſo impacted in the paſſage, that
e introduction of the hand paſt it, in order to be ad-
itted into the uterus, is not poſſible. In this caſe, then,
n attempt is to be made by fixing the forefinger and
umb in the axilla of the child, in the form of a crutch,
puſh the ſhoulder towards the head, and the latter
ain towards the fundus uteri, ſo as, by degrees, to raiſe
e body of the child till we have ſufficient room.

XXX. In ſome caſes, however, it is impoſſible to do
is, or our efforts may be ſo violent as to prove fatal to
e patient. It was formerly the cuſtom in theſe ſitu-
ons, as they judged immediate delivery here always
ceſſary, to remove altogether the preſenting part, by
eſting the arm from the ſocket, or fixing the crotchet
the ſhoulder, ſo as to accompliſh the ſame end. This,
wever, is never allowable, and is to be rejected entire-
from modern practice. Nay, when one arm was re-
ved, they did the ſame to the other, then fixt the
tchet ſomewhere in the thorax, ſo as to bring down
aſt the lower extremities of the child; and, in this
, after much toil and ſeparating great part of it, they
ceeded in effecting delivery.

XXXI. But in ſuch caſes a new and more agreeable
le of practice is now recommended by the authority
Dr. DENMAN, and his obſervations form an import-

ant improvement in conducting labours of this kind. In arm preſentations he obſerves, where the preſenting part is impacted, and the action of the uterus very violent, ſo as to endanger the life of the mother if we attempt to turn, that the preſenting part is puſhed down till it can proceed no farther. It is then fixt, and, the action of the uterus continuing, the lower extremities which are moveable are puſhed down by it towards the pelvis. As this takes place, the preſenting part comes again to riſe or be retracted, and, at laſt, the breech comes to fill up the uterine orifice,—the child turning, as he terms it, on its own axis, and coming at laſt to be completely delivered by a *ſpontaneous evolution*. In all caſes, however, of this kind, from the violent action of the uterus to effect it, the children are expelled dead. Hence, it is only where we cannot pretend to ſave the child, where the introduction of the hand cannot be effected, or where, if introduced, the attempts of turning might prove fatal to the mother, this practice is to be truſted to; and, as the women themſelves reckon turning in ſuch ſituations of labour always neceſſary, this mode of conduct in the practitioner will ſeldom be admitted. Dr. DENMAN, however, has much merit in making the obſervation, as he gives us a reſource which is both agreeable to humanity and the ſafety of the patient. Dr. DENMAN's obſervations have been alſo confirmed by the caſes of ſome late writers.

XXXII. Such is the general treatment of manual labour (detailed from I. to XXX.). It is needleſs to extend the rules, as many authors have done, to too great length. The whole management conſiſts in changing the poſition of the child when unfavourable, or turning, and afterwards in delivering by the feet.

In footling delivery the chief difficulty lies in the ex-

raction of the head, and the rules to be obſerved in ef-ecting it are ſimply theſe:

1. If it does not readily yield, the force applied muſt e gradually increaſed till it is ſufficient to overcome the ifficulty.

2. In employing force, it muſt be uniform, command-d, and exerted at intervals.

3. If it does not deſcend with all the force we can afely apply, we muſt intermit, and give the head time o collapſe.

4. When reſumed, it muſt be exerted in every direc-on, backward and forward, and from ſide to ſide alter-ately.

5. When the head once begins to deſcend, the diffi-ulty is overcome, and time may be taken to the reſt of he extraction.

6. Though the head ſhould remain hours in this ſi-uation, we ſhould not have recourſe to the uſe of in-ruments early.

CLASS V. *Anomalous Labours.*

I. By the laſt ſpecies of labour, or the *anomalous*, we nderſtand all thoſe, which, from being complicated with ertain morbid circumſtances, do not enter properly in-the former diviſions.

1. *Flooding.*

II. The firſt and moſt important in the arrangement theſe is what has been termed *flooding-caſes*: for every ppearance of uterine hæmorrhage, after the fifth month geſtation, it is agreed by all practitioners, is to be con-lered as highly dangerous, the enlarged ſize of the ve-

ſels threatening then, if continuing, the life of the patient. Nay, there are even ſome inſtances of death ariſing from this cauſe more early; but, as theſe caſes are very rare, they lead properly to no general concluſion.

III. The appearance of theſe floodings is very various. In ſome they are preceded by or are attended with uterine pains; in others there is not the ſmalleſt threatening of their attack. Where the diſcharge is moderate, they have been known to continue three weeks, or even longer, without reducing very much the ſtrength of the patient, or rendering delivery neceſſary. But in general their effects are more ſudden, and the ſymptoms they produce very quickly alarming. Sometimes they are temporary, flowing for a ſhort time, and then diſappearing; when, after an interval, they return with increaſed violence. In theſe caſes every attack, though apparently ſlight, is to be judged highly dangerous; and we are not to form an opinion where it frequently recurs from its apparent effects; for the patient, though ſeemingly not ſo much exhauſted, generally ſinks unexpectedly, eſpecially on attempting delivery, and that without any alarming increaſe of flooding during the operation. Hence, in theſe ſituations, it ſhould be begun early.

IV. The cauſe of uterine floodings in the pregnant ſtate depends *always* on the *ſeparation* of the placenta; and its ſituation in the uterus is the *only* direction we have, with reſpect to its remote cauſe, and the prognoſis to be formed.

V. The natural ſituation of the placenta we find to be at the fundus uteri. The ſtretching of this part firſt

commences; and, by the time that a proper adhesion between it and the placenta has been formed, the extension of that surface to which it is applied has fully taken place. Hence the separation of this connection can only arise from certain causes increasing the action of the fundus, so as to influence the circulation between it and the placenta, producing, of course, a rupture of some vessels.

But late observation has shown, that the situation of the placenta is *not always* towards the fundus. It is often placed farther down at the neck, and even at the orifice itself. As the adhesion then between the placenta and contiguous surface is found in these cases unfavourable, where the parts have not received their extended state, this connection must come to be affected as they begin to stretch; and a *partial separation* occurring, flooding will ensue.

VI. From these observations, then, two different species of hæmorrhage in advanced gestation are to be remarked, which, by symptoms, we may ascertain.

In the former species it is generally preceded by *some active* cause, such as occasions abortion in the early state; and to this the patient herself commonly traces it.

In the latter, however, it occurs without *any previous* cause, as arising merely from the natural stretching of the uterus.

The former is generally attended with slight pain from the first appearance of flooding, which increases in its progress.

In the latter, pain never occurs originally, but only ariſes in the advanced ſtage, or is brought on by the attempts of the operator himſelf in delivery. The flooding is alſo leſs violent in the time of pain in the former, while, in the latter, it is increaſed by it.

VII. The firſt to whom we are indebted for any juſt obſervations on gravid hæmorrhages is Mr. Puzos, who remarks, that we ſhould in general form a bad prognoſis; for of thoſe ſeized with floodings at this period, more than one half die. This, however, is to be attributed to circumſtances of treatment as well as ſituation. But though Mr. Puzos obſerves, in a general way, that ſuch floodings ariſe from the ſeparation of the placenta, he has not remarked its difference of ſituation in particular caſes, by which our prognoſis is directed. This laſt circumſtance has been principally enforced, and its application pointed out, by Mr. Rigby, who remarks, that authors are divided with regard to the practice in ſuch ſituations; for ſome, we find, adviſe in every inſtance immediate delivery, while others are for waiting till nature is nearly exhauſted, and then for having recourſe to the aſſiſtance of art. As in many caſes, then, this method of truſting to nature is effectual, Mr. Rigby wiſhes to fix ſome criterion, by which we may judge in what particular ſituations this is proper; and in what others, again, art is to be immediately employed. This, he thinks, is to be determined by our knowledge of the ſituation of the placenta; for where it is improperly attached towards the neck, or inferior parts of the uterus, as the action of the organ muſt always increaſe the flooding by increaſing the ſeparation, nature ſhould never be confided in for the ſucceſs of delivery,—but recourſe immediately had, by art, to the

removal of the uterine contents. To detect then this ſituation of the placenta, the hand is adviſed, in every caſe of flooding, to be introduced within the vagina; and when introduced, a finger muſt be paſt within the uterine orifice, which, if carried up ſome little way, will aſcertain whether the placenta be towards that ſituation. The paſſing the hand in theſe caſes gives little pain, from the relaxed ſtate of the parts.

VIII. When the ſituation of the placenta is thus detected, or finding from no marks of it within reach, ſuppoſing it occupies its proper place towards the fundus, the termination of the accident, in this caſe, is to be truſted to nature; which is done by enjoining ſtrictly a horizontal poſture; by cold applications to the uterine region; by refrigerants internally, in liberal doſes, where the ſtomach can bear them; and mild nouriſhment in ſmall quantity. If ſtrong, and the flooding commences with conſiderable fever or pyrexia, ariſing evidently from an external cauſe, early veneſection is likewiſe admiſſible.

IX. By this treatment, the hæmorrhage will often ſubſide; and where yielding, the greateſt attention is to be paid, that the patient do not ſoon return to motion, as a relapſe is always endangered, and each ſucceeding return is to be eſteemed more alarming.

X. When an improper attachment of the placenta is diſcovered, both from the ſymptoms mentioned (LI.) and alſo from examination itſelf, the evacuation of the uterine contents is the *only* means then to be depended on; the circumſtances to be attended to, as neceſſary to its ſucceſs, are—

1. The proper time when ſuch an operation is to be begun.

2. The prognoſis to be formed by the operator, before attempting it from examination; and,

3. The mode of delivery itſelf.

XI. With reſpect to the firſt of theſe, the attempting it early, or while no urgent circumſtances enforce its neceſſity, is by moſt practitioners reckoned unadviſable. At the ſame time, it may be delayed too long. A judgment cannot be formed from the quantity diſcharged; for the appearance in this way, eſpecially if on clothes, is very fallacious, and the real quantity may be very inconſiderable. We judge entirely from its effects on the patient; and unleſs ſeized with fainting, quick feeble pulſe, indiſtinct viſion, &c. few practitioners reckon themſelves warranted to attempt it more early. It is a nice point, however, to hit the proper time, when it may be ſucceſsfuly performed; and this knowledge is only to be gained by frequent attendance on ſuch ſituations; for many women will be much reduced, in whom, from peculiar conſtitution, there will be little tendency to faint; and others, who are naturally delicate and nervous, in whom the balance between the ſolids and fluids is very nicely poiſed, will faint very early, before any conſiderable quantity is loſt. The pulſe therefore muſt chiefly direct us; and it is better, where circumſtances favour, to begin delivery too early, than defer it too long; and perhaps there are more patients loſt from this laſt circumſtance than the former.

XII. In forming a juſt prognoſis of the event before delivery, we are directed by examination; and to this a good deal of attention ſhould be paid. If the uterus

feel very ſoft and relaxed, though it ſhows the eaſe with which delivery may be effected, yet there is danger of its not poſſeſſing ſufficient tone to contract itſelf, ſo as to ſtop the hæmorrhage after delivery. Hence, in a diſſertation by Dr. DOUGLAS, of London, it is remarked that he never ſaved a caſe, where the os uteri, on examination, had too ſoft a feel, and did not give ſome reſiſtance to his attempts of dilatation. There is, however, a conſiderable difference between that reſiſtance, which is the mere effort of tone in parts, and that morbid rigidity which may be more properly arranged under diſeaſe. In this laſt caſe, or where the os uteri appears hard and contracted, preventing, without the greateſt difficulty, any entrance to the hand, the prognoſis formed may be even more unfavourable, from the increaſed difficulty of accompliſhing delivery, than where it diſcovers the directly oppoſite ſtate.

XIII. In regard to the mode of delivery, the laſt circumſtance to be obſerved, there are *two methods* practiſed, which have both their advantages in particular ſituations. The one may be properly named *natural*, the other *artificial*.

XIV. To point out the propriety of the firſt, it has been obſerved by moſt experienced practitioners, that where pains, however ſlight, occur in caſes of flooding, delivery is generally eaſily effected, and the patient ſurvives the diſcharge, however conſiderable. On this obſervation Mr. PUZOS has endeavoured to inculcate the propriety of imitating nature, and, as all hæmorrhages of advanced geſtation are to be conſidered, when the ſeparation between the ſurfaces has taken place, as paſſive, to reduce them, if poſſible, to an active ſtate, by

exciting uterine action. This is to be done in different ways:—

1. With a view to induce the commencement of labour; and,

2. When commenced, to accelerate its progress.

XV. The former is effected either—

1. By a sudden application of cold to the fundus, immediately inducing its contraction; and unless suddenly applied, it will have no influence.

2. By irritation of the os uteri, bringing into consent the rest of the organ. This irritation is performed by the introduction of a finger within the os uteri, and rolling it round for a certain time, repeating it at intervals, by the continuance of which slight pains come soon to be produced. But, in order to be successful, some circumstances are to be attended to.

XVI. The circumstances to be attended to, for the success of this operation, are:—

1. That the os uteri be not so far weakened, as to be incapable of receiving a stimulus, which is the case where the flooding has gone on to any extent; and,

2. As little or no violence is here employed, it may, with great safety, be early had recourse to. In half an hour the effects of this method are conspicuous, and we can determine if delivery will be in this way accomplished.

XVII. These then are the different methods of inducing a commencement of labour; and its progress may be accelerated by the application of the same stimulus to the os tincæ, where pains have naturally occurred, and are too weak to have much influence; or

or as ſoon as the dilatation has a little advanced, it will be performed more effectually by the perforation of the membranes; thus evacuating the waters, and admitting a more general contraction of the organ. As ſoon as the waters are diſcharged, where the patient is not very much exhauſted, the delivery is commonly very quick, and their evacuation therefore is a great point to be had in view in all caſes of hæmorrhage; as even where the placenta is unfavourably ſituated, ſtill the flooding is, for ſome little time, generally checked by it.

XVIII. The advantages that ariſe from this natural mode of delivery are very juſtly pointed out by Mr. Puzos, in his compariſon of the natural and manual claſſes of labour, the other method recommended in this ſituation.

In all manual labours, or in order to change the poſition of the fœtus, the natural power of the uterus muſt be counteracted. In flooding caſes, however, this power or action we already find too weak. Hence, after the placenta in theſe caſes is removed from the efforts employed in delivery, joined with its natural weakened ſtate, there is great danger of its not contracting at all, and of the hæmorrhage ſtill continuing. In the other caſe, by merely aſſiſting the natural efforts, its powers are increaſed, which can likewiſe, without any harm, be early begun, ſo that the patient here has a greater chance. As the contraction of the uterus proceeds gradually in this way to expel the child, we are alſo certain, on delivery, it is ſo far contracted as to ſtop the hæmorrhage; but unleſs begun early, it may be laid down as a rule, that the natural method cannot be truſted to. If in a firſt labour alſo, as we are uncertain

of the ſtate of the external parts to admit delivery, its ſucceſs is doubtful; and wherever difficult labours have occurred formerly from the confinement of the bony ſpace, it would be highly reprehenſible.

XIX. For theſe reaſons pointed out, in ſpite of Mr. Puzos's obſervation, that a greater number of women die after delivery by the artificial method, the latter is to be preferred, as giving us the delivery at once in our power.

XX. The chief circumſtances requiring attention in the artificial delivery, to render it here ſucceſsful, are—

1. In conducting the different ſteps of it as ſlowly as the ſituation of the patient will allow; and,

2. In ſupporting the patient under it; for being attended with ſome degree of violence, the latter, in her weak ſtate, requires to be rendered as bearable as poſſible.

XXI. With a view to this laſt circumſtance, then, cordials ſhould be liberally employed, as a temporary additional ſtrength is abſolutely requiſite, even though in the interims the flooding ſhould be a little increaſed. It is generally deliquium which, in this ſituation, proves fatal. The preventing it, therefore, for a certain time, till delivery is completed, is highly neceſſary; and even after delivery: for, as every increaſe of circulation muſt muſt induce a primary increaſed action of the ſolids, the contraction of the uterus after delivery will be promoted by this very means.

XXII. The method of performing here the artificial

delivery, or reducing it to a footling caſe, whatever preſentation may occur, is ſimply this:

Let the patient be placed in the uſual ſituation of delivery on her left ſide; or if a young practitioner, for the more eaſy acceſs of the hand, ſhe may be placed in the ſame way as in inſtrumental labours, on her back, with her thighs extended. A roller is then to be put looſely round the abdomen, and an aſſiſtant with ſome cordial is to be ready at hand. The operator, then kneeling before the bedſide, introduces his hand lubricated, firſt gently ſtretching the os externum and vagina, and removing from the latter any coagula, with which it is generally filled, preventing his approach to the os uteri, and rendering it often difficult to be felt. When the os uteri is reached, let a finger be inſinuated into its orifice, which will generally be found ſo open from its lax ſtate as to admit its introduction. When once introduced, roll it round, ſo as to increaſe by its irritation the dilatation of the aperture, in conſequence of which the reſt of the fingers will come to be gradually admitted, and the hand at laſt paſs into the uterus. When the hand is thus paſt, the fœtus, with the incloſing membranes, will be found. Before rupturing them, let the preſenting part, which will be eaſily felt, be turned to the *feet*, and, then evacuating the waters, let the feet be brought into the vagina. As ſoon as the membranes are broken, the flooding, from the contraction of the uterus, generally abates, and labour-pains, though perhaps trifling, commence, and there is then no occaſion to precipitate the delivery, for a ſudden evacuation of the contents of the uterus proves very often fatal. Let the operator, therefore, reſt a little, and ſome cordial in the interim be adminiſtered to the patient; while the roller round the waiſt is then to

be tightened, and the preſſure of an aſſiſtant's hand applied alſo to the abdomen. The delivery is afterwards to be completed in the ſame manner as directed in footling preſentations; and, after the extraction of it, time is to be allowed as uſual for the contraction of the uterus and complete ſeparation of the placenta.

XXIII. From what has been delivered on flooding caſes, the concluſions to be drawn, are—

1. That whenever the pulſe begins to turn feeble, with coldneſs of the extremities, and indiſtinct viſion, delivery is then, perhaps, too late to ſave the patient.

2. Where the flooding is accompanied with ſome ſlight pains, theſe are to be encouraged; for the ſtronger or more active the action of the uterus, the greater chance there is of its contents being naturally expelled.

3. Opiates are never to be exhibited in caſes of flooding, a practice often employed,—as, by weakening the power of the uterus in their ſecondary efforts, they favour the increaſe of hæmorrhage.

4. Wherever a flooding occurs, without the ſmalleſt previous pain, or any ſenſible external cauſe, delivery will, in the end, be found abſolutely requiſite.

5. Of flooding caſes, we are to conſider two-thirds, at leaſt, as proving fatal.

XXIV. Theſe floodings have been hitherto treated which precede labour. They happen, however, frequently during the progreſs of labour itſelf; and unleſs very violent, we ſhould not attempt to expedite the delivery. They are oftenеſt met with in tedious caſes, towards their termination, and there is danger here of their continuing alſo after delivery. This circumſtance ſhould be attended to, and precautions taken.

XXV. Floodings, when not fatal of themſelves in geſtation, often lay the foundation of a number of maladies which affect the conſtitution for life. It is ſurpriſing, however, with women, how ſoon a loſs of blood is repaired, and which in the other ſex would have never been got the better of. The complaints which generally ſucceed profuſe floodings are—

1. Violent complaints of the head.
2. Irregular uterine health.
3. Future abortions; and,
4. Œdema of one of the extremities, ſometimes general dropſy.

The firſt conſiſts, generally, of violent pain or conſtant giddineſs, and they are always worſt in the night. They commonly laſt two or three months, unleſs the patient is of a nervous habit, and naturally prediſpoſed to them, when they continue much longer. The only palliatives are time and opiates; for, as the conſtitution comes to be repaired by a generous diet, they gradually depart.

With reſpect to the ſecond, there are inſtances of the patient being for years without the appearance of the menſes, or ſubject to fluor albus, which is always a very diſagreeable complaint; and conception here never takes place till it is removed.

The remaining conſequences of theſe floodings were formerly treated under their proper head.

2. Convulſions.

XXVI. The ſecond diviſion of this ſpecies of labour

comprehends thoſe caſes complicated, with convulſions—an accident even more fatal than the former.

Every appearance of convulſions in labour is to be conſidered as alarming. Their attack is generally ſudden; and the ſymptoms preceding them are violent pain of the head (chiefly the forehead), ſtaring or wild motion of the eyes, which appear red and turgid, and general fluſhing of the face.

XXVII. The cauſes of this affection in labour may be reduced to three heads.

1. Morbid irritability of the os tincæ. Hence it is frequent in a firſt labour, and in this caſe a proof of it: the vagina too feels ſo painful and irritable, as hardly to bear examination.

2. Over diſtenſion of the uterine cavity. Thus it often occurs in caſe of twins, and affords, even before the delivery of the firſt, a proof of them.

3. Preſſure on ſentient parts ſympathiſing with the brain. It is for this reaſon it is not uncommonly met with in præternatural caſes.

XXVIII. Our prognoſis in ſuch caſes is determined by an attention to three circumſtances,—their *frequency*, *duration*, and *effect*.

With reſpect to the firſt, many have never more than a ſingle paroxyſm without any repetition; others have them frequently in time of labour, as twelve in the courſe of eighteen or twenty in the twenty-four hours, and that even without any danger; ſo that leſs ſtreſs is to be laid on this circumſtance, and even the more ſo if the patient has been formerly ſubject to the diſeaſe, or

to hyſteria in a violent degree. It is ſurpriſing they often obſerve a periodical recurrence, or regular diſtance between the paroxyſms, ſo that you can count on the repetition of their attack within a few minutes.

In regard to the ſecond circumſtance, or their duration, we obſerve that in ſome they laſt a much ſhorter time than in others. The ſymptoms alſo are in ſome leſs exquiſitely marked, and approach more to the nature of hyſteria, while in others the paroxyſm is often ſo violent as to prove fatal at once.

The third circumſtance, or their effect on the ſyſtem after the paroxyſm is finiſhed, has been moſt generally attended to in forming a prognoſis. Thus we find, that recollection in many returns as ſoon as the paroxyſm is ended, or at leaſt in a few minutes afterwards. In others the ſenſes ſeem altogether ſuſpended, when the patient either continues in a ſtate of ſtupefaction, or delirium ſucceeds. In this laſt ſituation they generally, though not always, prove fatal.

XXIX. A prognoſis may alſo be drawn with reſpect to their influence on the labour itſelf. Thus, where ſlight, the labour-pains are generally aſſiſted by them, or rendered more effectual. Where very violent, again, the child is either ſuddenly thrown off in a paroxyſm, or the uterine efforts are entirely ſuſpended.

XXX. For the treatment of convulſions in labour, two methods prevail, which in different ſituations are both equally proper.

The firſt is merely palliative, and truſts entirely to

nature, after obviating ſymptoms for the accompliſhment of delivery.

The other conſiſts in aſſiſting the palliative treatment, by the application of mechanical means, as ſoon as in our power to facilitate the progreſs of labour.

XXXI. In executing the former, three indications come to be formed.

1. The firſt is to leſſen primary irritation in the original affected part, which, being the uterus, we attempt it by a full doſe of opium in glyſter, at once taking off its irritability; and its effect in leſſening the action of the uterus, in theſe caſes, where turning is required, ſufficiently points out its propriety.

2. The ſecond is to remove diſtenſion from the ſyſtem in general, and particularly from the ſeat of the diſeaſe, which is beſt performed by copious veneſection; and,

3. The third is to excite a more powerful and ſudden irritation in the ſame ſituation. This is beſt and expeditiouſly executed by the application of cold water to the face, according to the practice of Dr. DENMAN. The ſame thing has been propoſed by bliſters, the uſe of ſternutatories; but theſe, on many accounts, are unſafe, and the application of cold bathing will be found more ſucceſsful.

XXXII. This mode of treatment detailed is pointed out in thoſe ſituations where the convulſions appear along with labour as a conſequence, and nature may be generally truſted to finiſh the proceſs. But where convulſions precede the appearance of labour, our prognoſis is generally leſs favourable; and along with the former

treatment, as ſoon as the forceps can be applied, we have recourſe to their aſſiſtance to finiſh the delivery.

XXXIII. Formerly it was the cuſtom in ſuch caſes, before the uſe of the forceps was known, to attempt expediting the delivery by turning, as appears by conſulting the authors before the time of Dr. SMELLIE; but the conſequence of this practice was, that, from the violent irritation produced, though they accompliſhed delivery, yet the convulſions continuing, generally proved fatal.

3. *Prolapſed Funis.*

XXXIV. The third diviſion of anomalous labours, conſiſts of thoſe caſes, where the funis is prolapſed before the head. It depends on the early rupture of the membranes, from the waters being in too great quantity, and preſſing down with too much force, before the head is ſo engaged in the paſſage as to prevent the deſcent of any other part. The conſequence of this deſcent, from the compreſſion of the cord, muſt be the death of the child, by intercepting the circulation between it and the placenta, which, till it is once expelled from the uterus, remains ſtill neceſſary to continue its exiſtence.

XXXV. In managing this kind of labour, two methods have been recommended; either,

1. The replacement of the cord behind the preſenting part; or,

2. The total alteration of the preſenting poſition, to remove the danger of preſſure.

XXXVI. With reſpect to the firſt, it can only be performed when the prolapſed part is early perceived, when the head is not rivetted within the paſſage, and when the cord retains ſtill its natural warmth and pulſation. In this ſtate the head is to be prevented from advancing farther in the time of a pain; and as ſoon as it departs, and the uterine preſſure is taken off, an attempt is to be made to carry the cord beyond the head, retaining the hand in the paſſage, to ſupport it when once replaced, till the action of the uterus, preſſing forward the preſenting part, engage it ſufficiently in the paſſage, ſo as to hinder the future deſcent of any other part.

XXXVII. With reſpect to the ſecond, though it is recommended by many authors, it can only be employed with ſucceſs at the time the water flows off, and the head is not engaged in the paſſage; for if the latter is allowed to deſcend before the hand can be got beyond it, or ſo far into the uterus as to reach the feet, a ſufficient degree of preſſure on it will have taken place to intercept the circulation, and then the circumſtance which the turning was intended to prevent has already happened,—ſo that in this way it comes to be of no ſervice to the child, and will eſſentially hurt the mother. Theſe difficulties of turning occurred to many authors,—a new practice was preferred, where the replacement of the part cannot take place; viz. to expedite the delivery according to the preſentation, by means of the forceps. But whoever is acquainted with the uſe of the forceps muſt allow, that, in the greater number of caſes, before the extraction can take place, the circulation from the compreſſion of the cord for a conſiderable time muſt have ceaſed.—Wherever therefore the replacement of the cord cannot be effected, the death of the child may be

always expected; and the wrapping the prolapsed part, according to the idea of some, in a warm cloth, will not have the smallest influence upon the circulation.

4. *Plurality of Children.*

XXXVIII. The last division of anomalous labour includes a plurality of children; and till the expulsion of the first, we have no certain signs by which we can determine the presence of more than one, whatever authors may pretend by their enumeration of them.

XXXIX. The signs commonly mentioned, as distinguishing a plurality of children, are—

1. The vast distension of the uterus: though an unusual quantity of water may produce this, where there is but one.

2. A sort of cleft or hollow in the middle of the abdomen; but this does not always happen; for their membranes lie generally so close, that they form but one round tumour; yet there is frequently a sensible difference of the abdomen from what takes place in any former pregnancy.

3. The motions of the child are more troublesome and frequent than in case of a single child; but we find the motions of children so various in different pregnancies, that no stress can be laid upon this.

4. The labour is generally premature, or wants some weeks of the proper term which the woman used to observe in former pregnancies. But nothing is so various as the calculation of women, with respect to the time of gestation; and I have known them mistaken in several months. If, however, a woman who has borne children

takes her reckoning from the attack of ſome particular complaint, occurring at a certain period of geſtation, and finds, on the commencement of labour, that ſhe wants ſome weeks of her proper time, without any evident cauſe to account for it, a good deal of dependence may be laid on this circumſtance.

5. The laſt ſymptom of twins mentioned is the complaints of pregnancy, more ſevere than in any former geſtation; but this may be influenced by a number of conſtitutional circumſtances, not ſo apparent.

XL. Theſe are the ſeveral ſymptoms that give ſome ſuſpicion of twins before delivery; but after the expulſion of the firſt child, more certain marks then occur,—which are,

1. The bulk of the abdomen, not conſiderably decreaſed, and having a degree of hardneſs to the touch.

2. Great difficulty in attempting to extract the placenta, which does not yield; and,

3. The continuance of the pains, for the moſt part pretty ſtrong.

XLI. For the delivery of twins two methods are recommended;—the one, immediately to have recourſe to it on the expulſion of the firſt; the other, to leave it to nature, and wait the contraction of the uterus, and a return of pain, to accompliſh it.

XLII. The arguments in favour of the firſt are,—the eaſe of completing it, and the uneaſineſs of the patient from her former ſufferings, with the conſequences that may ariſe from leaving it, as dangerous, &c. For theſe reaſons, the favourers of nature have generally given up their waiting for a return of her exertions; and, in all caſes of twins, the practice at preſent is, after the expul-

ſion of the firſt, the hand is to be introduced into the uterus, and the membranes of the ſecond broken. If the preſentation is right, and the head beginning to be forced down by the pains, it ſhould be allowed to advance in that direction; but if no pains have occurred after the delivery of the firſt, or, the patient being exhauſted, they do not ſeem likely to occur before the membranes are broken, the child is to be turned, and the lower extremities placed towards the vagina, when it is reduced to a footling caſe, and then we have the full command of the delivery.

XLIII. It is needleſs, as ſome authors have done, to particulariſe caſes of twins; it is ſeldom that they come both in the natural poſition; and where either of them preſents unfavourably, the ſame rules will here apply as formerly directed for ſuch deliveries in the caſe of one. There is only this caution to be obſerved, if the preſentation of the firſt is unfavourable, and you have occaſion to turn, when your hand is introduced into the uterus, as the membranes of both are ſometimes ruptured at the ſame time, be cautious that you do not miſtake a member of the one child for that of the other, as they are generally placed, where this rupture of both their membranes happens at once, in a confuſed manner.

XLIV. In extracting the placenta of twins, both cords are to be joined together, and graſped in one hand; and if not eaſily ſeparated from the uterus before employing violence, the hand is to be introduced into its cavity as uſual, though a longer time is in this caſe to be given if allowable, and not prevented by the attacks of flooding from the ſlow contraction of the organ in conſequence

of over diſtenſion; for the inactivity or inertia of authors is here a very common and evident cauſe of retention.

XLV. Beſides twins, a greater number of children are, at times, met with; but theſe are very rare, and the ſame rules will apply for their delivery as in caſe of twins. The delivery will, indeed, be eaſier here, as according to their number they are in general proportionably ſmall *.

5. *Extra-Uterine Labour.*

XLVI. Under this head of anomalous labour may, perhaps, be conſidered the termination of *extra-uterine* conception. When the fœtus remains in the ovarium, though it never acquires the ſize of one formed in the uterus, yet it has been known to equal in bulk the regular production of five or ſix months. After this, when the death of the mother did not happen from its burſting the ovaria, it has gradually decayed, and in a number of years, perhaps fifteen or twenty, on the expiration of the patient, its former exiſtence has been diſcovered by diſſection, conſiſting then only of a few bones.

* Many years ago, when aſſiſtant to Dr. HAMILTON, profeſſor of midwifery in the univerſity of Edinburgh, the author had the good fortune to meet with a caſe of four children at a birth.—The ſubject of it was a woman paſt forty years of age,—ſhe never had had any children before, and was at this time, when he firſt ſaw her, ſix months gone; but had the appearance, from her ſize, of one at full time.—After delivery, three of them ſurvived twelve hours, and the other was born dead. They were all very ſizeable for their time.—This caſe is related by Profeſſor HAMILTON, in his Outlines of Midwifery. The patient was viſited by Dr. STEWART of Edinburgh, and ſeveral other medical gentlemen at the time.

XLVII. This ſpecies of conception is generally during life miſtaken for ſchirrus, or dropſy of the ovarium. It is in this ſituation previouſly marked by the common ſymptoms that attend pregnancy. The uterus alſo enlarges to a certain degree; and at a certain period, or the term of reckoning, ſomething like labour-pains are felt to commence. They continue for a time, and then entirely ceaſe. Afterwards morbid ſymptoms only occur at times in the ſeat of conception, or in the ovaria.

XLVIII. The ſame conſequences have followed conceptions remaining in the tube, as in the ovaria; and they are likewiſe marked by the ſame train of ſymptoms: nor has the abdomen itſelf been wanting as a ſeat for the rudiments of the fœtus, in its paſſage from the ovaria. In the abdomen the production has been known to equal in ſize a fœtus produced in the uterus itſelf. The woman feels commonly in this caſe the motion of the child at the uſual period, though the cervix uteri and os tincæ, remain pretty much the ſame, on examination, as in the unimpregnated ſtate,—the fundus being the diviſion chiefly affected in extra-uterine conceptions. At full time, ſomething like the effort of labour takes place here, by an uncommon ſtirring on the part of the child; after which there remains only a ſort of conſtant weight and heavineſs in that place; and often, in a ſeries of years, by making a paſſage for themſelves, its members come to be expelled through ſome part of the abdomen, or even at the rectum; and the tendency to this expulſion is marked by the occurrence of pain and inflammation at theſe parts, with the preſence of hectic fever. When the fœtus is known to be in this ſituation,

delivery may be accompliſhed by means of the Cæſarian operation, of which a remarkable inſtance is recorded in the ſecond volume of the Medical Commentaries; where twins were ſucceſsfully extracted, and the patient completely recovered, though previouſly reduced to the laſt ſtage of emaciation. Farther caſes are to be found of this ſpecies of conception in the different periodical publications.

BOOK IV.

OF CHILD-BED.

II. BY delivery, a new habit of body is evidently induced, different from what prevails during the former period of pregnancy; and this habit may be defined *a peculiar ſtate of debility*, with an *increaſed action* of the ſyſtem, as diſplayed by the pulſe, and various ſymptoms of irritability.

II. That this ſtate of debility muſt be conſiderable, is plain, when we conſider,—

1. The very great degree of relaxation the removal of the uterine contents muſt produce, the expanſion of which completely fills the abdomen, and for ſeveral months impedes the functions of the principal organs.

2. The ſuddenneſs of this removal, before the ſyſtem is prepared for ſuch a change; and hence the tendency to ſyncope, which ſo often takes place.

3. The great diſcharge of blood which follows the removal of the placenta, and acts as an additional power in increaſing this ſtate.

III. This ſtate of debility, from its rapid production, we find poſſeſs an inſtantaneous effect on the pulſe. It, for the moſt part, immediately riſes, and in ſome caſes

continues above 100 beats in the minute, for ſeveral days, and that without any particular ſymptom of diſeaſe. It then becomes in an oppoſite extreme proportionally low, and is often, in the courſe of a fortnight after delivery, under 60.

IV. With the pulſe the nervous ſyſtem becomes alſo affected. All the ſenſes are uncommonly vivid, and the mind is eaſily agitated by the ſlighteſt impreſſions, which have at this time a powerful influence. Hence the tendency to mania which is to be remarked in many patients in child-bed, although perfectly free from any appearances of it at all other times; and the watchfulneſs which ſeveral women experience for many days and nights together. Hence alſo the powerful effect which the leaſt ſurpriſe or fright is apt to occaſion, and which has been known in certain caſes to produce death.

V. This ſtate of the nervous ſyſtem (deſcribed IV.) is alſo increaſed by the continuance of pain itſelf. Though the removal of the placenta frees the uterus of its contents, yet it is ſome time before the fibres, extended for ſuch a length of time, regain their natural contracted ſtate; and for this purpoſe their action is exerted in a ſlight degree, forming what are called *ſecondary* or *after-pains*. They generally come on in a few hours after delivery. They alternate with intervals of eaſe, like the former. They are commonly worſe every ſucceeding delivery, being very ſlight at firſt, depending on the degree of weakneſs in the tone of the organ. Their duration ſeldom in any caſe exceeds three days, though they are often to many women more diſtreſſing than the pains of labour.

VI. Though this is the general opinion entertained on the cauſe of after-pains, yet ſome objections may be be offered to it; for,

1. They do not occur in a firſt labour, where, though the uterus is conſiderably elaſtic, ſtill it cannot regain its original ſtate at once.

2. Nor do they come on for ſome time after delivery, when the irritability of the uterus is then greateſt, and its contraction moſt powerful. The cauſe, therefore, impelling this uterine contraction, may be more aſcribed to the natural circulation of the organ returning after the violent collapſe that emptied its veſſels completely on the birth of the child; and they continue therefore till once this regular circulation is eſtabliſhed.

VII. Theſe pains (V.) are attended with a diſcharge of fluid, which continues to flow ſlowly for ſeveral days, and is termed the *lochia*, or *cleanſings*. For two or three days, ſometimes longer, it retains the red appearance. It becomes then more ſerous, and acquires at laſt a greeniſh caſt. This diſcharge is moſt profuſe in relaxed weakly patients, and departs ſooner in the more vigorous and robuſt. Its quantity may be rated from lb.ſs. to lb.i. and upwards. The ſize of the placenta, or extent of uterine ſurface it covers, has an effect in the quantity diſcharged at firſt. Women themſelves are very attentive to the flow of this diſcharge, and conſider the quantity as having an effect on their recovery. It is certain, that in all caſes of puerperal diſeaſe this diſcharge is more or leſs affected, and its ſtate, therefore, deſerves perhaps more conſideration than is generally paid to it. As its amount, however, as well as the continuance of it, vary ſo much in different ſubjects, we can form no certain judgment with reſpect to it.

VIII. About the time it begins to loſe its red appearance, or often ſooner, the breaſts are felt ſwelled and painful, from the diſtenſion of the milk; previous to which, if the quantity is conſiderable, or the evolution of the breaſt difficult, ſome ſlight ſymptoms of fever occur; but theſe, when the child is applied, and the flow brought to take place, ſoon depart. This application of the child ſhould never be later than 24 hours after delivery, and ſhould not be carried far at firſt; and for two or three days the previous ſymptoms of debility, to the feelings of the patient, rather increaſe.

Management of Child-Bed.

IX. Having thus aſcertained the ſtate of body which prevails in child-bed, its proper treatment becomes the next object of attention: and, proceeding on the ſymptoms enumerated, three indications come to be formed, with this view:

1. The firſt and leading one is to counteract debility, which is preſent in ſuch a ſtrong degree.

2. The ſecond is to remove pain; and,

3. The third is to prevent, as far as poſſible, the attack of any diſeaſe incidental to the puerperal ſtate.

X. To perform the firſt, ſome cordial, as a temporary expedient, is generally adminiſtered; and, as a more permanent application, in adjuſting the dreſs of the patient, a roller is brought round the belly with ſome degree of tightneſs, to imitate the former tenſe ſtate of thoſe parts.

XI. For the ſecond, an opiate is generally employed, and continued every night till the pains ſubſide. Theſe pains, however, aſſume at times the form of perma-

nent ſpaſm, which may be known by applying the hand externally to the abdomen, when the knotty irregular feel of the uterus will be diſtinguiſhed. The treatment, beſides the opiate, requires then the further aid of fomentations, and an attention to the ſtate of the inteſtines, till the ſpaſm is relaxed.

XII. To execute the third indication, the chief means are, a regular attention to the ſtate of the primæ viæ, and the regulating the diet of the patient. As coſtiveneſs is a natural complaint of pregnancy, to prevent its continuance in child-bed after the ſecond day, a glyſter, or mild-laxative, if neceſſary, ſhould be regularly adminiſtered,—as, the magneſia, cream of tartar, &c.: and this repeated every other day till the tone of the bowels is recovered.

XIII. The proper diet in child-bed is a ſubject which has much divided practitioners at different periods. It is now ſufficiently clear that women have hitherto been kept too ſpare; and, in directing it, regard ſhould be had to three circumſtances:

1. The nature of the labour.
2. The patient's habit of life; and,
3. Her intention with reſpect to nurſing.

XIV. With reſpect to the firſt, if the labour has been protracted, or means employed to aſſiſt it, which may have induced a tendency to inflammation, it will then be moſt prudent, for at leaſt the firſt week, to confine the patient ſtrictly to a vegetable diet.

In regard to the ſecond, if accuſtomed to live well, and of a delicate or nervous habit, from the firſt day

animal food, in a certain proportion, may be allowed; and that either in a ſolid or fluid form, as moſt agreeable.

XV. On the third circumſtance it is to be obſerved, where nurſing is not intended, the ſame reſtriction ſhould take place in the uſe of a vegetable diet, as after a difficult labour; and this further reſtriction ſhould be joined to it—a rigid abſtinence from the uſe of liquids, as much as poſſible, for ſome time.

XVI. When theſe circumſtances are duly attended to, the recovery of the patient proceeds without interruption; and, about the third, fourth, or fifth day, the patient is firſt taken up, to have her bed adjuſted, and her linens changed, the evening being preferred on this occaſion. She is generally next day, as a matter of precaution, confined entirely to bed. After that period, ſhe is daily allowed to ſet up for an hour or two in the evening. After the firſt week ſhe generally ſits up to dinner, reclining above the bed afterwards; and in this way gradually lengthening her time out of bed, in the courſe of three weeks in ſummer, and four in winter, ſhe is able to go abroad; previous to which, cuſtom has introduced the exhibition of a doſe or two of phyſic, as a neceſſary precaution.

Diſeaſes of Child-Bed.

XVII. This then forms the management of child-bed in its moſt favourable circumſtances: we are next to conſider it as a real morbid ſtate, when complicated with diſeaſe.

XVIII. The diſeaſes of child-bed may be divided

into thoſe which are the immediate conſequence of delivery, and thoſe which form merely an accidental occurrence.

XIX. The former conſiſt of either temporary affections or partial injuries.

The latter of fevers, whoſe attack at this period gives a peculiarity to their ſymptoms.

XX. The temporary affections, which at times ſucceed delivery, and prove embarraſſing to practitioners, are faintings and hæmorrhage.

Temporary Affections.

Faintings.

XXI. Faintings here are of two kinds, either the ſimple hyſteric deliquium, or the actual ſyncope.

In the former the pulſe continues to be felt, the heat of the body and reſpiration are little altered, and a temporary ſuſpenſion of the fit is procured by volatiles.

In the latter, an alarming coldneſs enſues; conſiderable oppreſſion and ſuffocation prevail; the pulſe is indiſtinct; no intermiſſion occurs; and an hour or two decides the fate of the patient.

XXII. In forming, therefore, a prognoſis, the ſtate of the pulſe and reſpiration are to be our guide; for where they are little effected, no danger attends.

XXIII. The treatment here conſiſts in promoting the vigour of circulation, by a ſupine poſture and compreſſion, as already directed; by the free admiſſion of air; by the uſe of mild cordials internally; and by the occaſional application of volatiles to the noſe and head; and where there is ſuſpicion of hæmorrhage being the cauſe, a proper examination ſhould take place by carrying the finger within the os uteri.

Hæmorrhage.

XXIV. Puerperal hæmorrhage is diſcovered chiefly by the debility induced, as indicated by the ſtate of the pulſe, and other ſymptoms. It is, in every caſe, alarming; but where protracted beyond ſix or ſeven hours, has ſeldom proved fatal.

XXV. Its cauſes are either the circumſtances of the previous delivery affecting the ſtate of the uterus, or improper regimen accelerating the circulation—the firſt depend on either an atony of the organ preventing its contraction, or diſtenſion of its cavity from coagula. Theſe coagula are particularly apt to be formed where the os tincæ retains more power of contraction than the fundus.

XXVI. From the rapid effects of hæmorrhage here, its progreſs muſt be checked by the ſpeedieſt means, of either inducing general deliquium, or exciting contraction of the uterus. The firſt is effected by raiſing the patient inſtantly to the upright poſture, till fainting enſues. The ſecond is performed by different ways of applying cold to the uterine region, as daſhing cold water ſuddenly

on the abdomen; applying cloths, dipt in cold oxycrate, to the back; injecting cold water, with a bag and pipe, into the uterus; and theſe failing, by mechanical irritation of the organ itſelf; introducing, for this purpoſe, a finger into the os uteri, and rolling it round, ſo as to excite its contraction.

XXVII. When the hæmorrhage is ſomewhat abated, opiates, in ſmall doſes, are to be adminiſtered, that no ſickneſs may enſue, and nouriſhment is to be thrown in, in the mildeſt form.

Partial Injuries.

XXVIII. Partial injuries are a frequent conſequence of delivery, and equally ſucceed a natural and eaſy labour, as thoſe of the more complicated ſpecies.

Swelling of Genital Parts.

XXIX. The firſt of theſe to be noticed is a ſlight ſwelling of the genital parts, the uſual effect of a tedious labour, or a firſt child; it is generally attended with a ſlight ſuppreſſion of urine, which continues for ſome days.

XXX. The treatment of this complaint depends on the uſe of fomentations and emollients, and the occaſional introduction of the catheter, ſhould the exhibition of an injection fail; or in place of the catheter, a finger being paſſed into the vagina, the uterus may be raiſed up, and thus, the preſſure being taken off the neck

of the bladder, the urine will probably flow; but in no caſe, if it fail, ſhould the ſuppreſſion be allowed to exceed eighteen hours, without the uſe of the catheter.

Laceration of Bladder of Urine.

XXXI. A more formidable degree of this complaint is found at times to ſucceed inſtrumental labour; and inflammation, with laceration of ſome of the ſoft parts, takes place: much depends on the particular ſeat of the injury for the iſſue of the complaint; if either the inflammation or laceration affect the anterior part of the vagina, or neck of the bladder, it forms, in the ſequel, one of the moſt melancholy complaints that can attend humanity, as a conſtant dribbling of urine takes place for life.

XXXII. This injury ſeldom diſcovers itſelf for eight or ten days after delivery; but it may be ſuſpected previous to this actual diſcharge of urine, whenever a ſuppreſſion continues above twenty-four hours after delivery, attended with a ſenſe of a particular ſoreneſs and pain in one ſpot.

XXXIII. The diſeaſe is, in every caſe, to be conſidered as incurable; for the bladder being prevented from diſtending, it naturally thickens, and forms afterward a ſtronger reſiſtance than natural to diſtenſion, by the acrimony of the urine; the parts alſo, as it continues, become callous, and thus the proſpect of recovery is entirely loſt. To palliate other ſymptoms, and leſſen the ſtrong urinous ſmell which the patient acquires, fre-

quent bathing of the parts is neceſſary; while, for the cure itſelf, the indications pointed out are,

1ſt, To form a preſſure againſt the lacerated part, preventing the exit of the fluid.

2dly, To prevent any irritation on the bladder, in conſequence of diſtenſion, by ſoliciting a regular diſcharge; and,

3dly, To aſſiſt, by internal remedies, the powers of the ſyſtem; to repair this laceration of the part. The firſt of them has been attempted by a variety of different applications, particularly the ſpunge peſſary, ſoaked in a Saturnine ſolution, and fitted to the part. When failing, the preſſure of the gravid uterus itſelf, in a future pregnancy, has been known to ſucceed; the ſecond indication is anſwered by the occaſional uſe of a bougie; and the third conſiſts in a proper exhibition of the bark, and other tonics, with the application of the cold bath, &c.

Incontinence of Urine.

XXXIV. An incontinence of urine is alſo known to ſucceed delivery, from ſimple atony of ſphincter. It is to be diſtinguiſhed from the above complaint, chiefly by examination, and the paſſing a catheter, which will be found bare at the ruptured part.

In the treatment, little is to be done but obſerving cleanlineſs, by a thick compreſs applied on the pudendum, to ſoak up any moiſture, and frequently changing it, till the tone of the part is reſtored.

Laceration of Perinæum.

XXXV. The laceration of the perinæum is, at times, a conſequence of labour, particularly when rapid; and in a firſt caſe, when the pains are uncommonly ſtrong, or the preſentation in a more bulky form than uſual, as the face or breech. When the laceration is ſideways, there is little danger, and, by a cloſe contact of the thighs, a re-union, in a ſhort time, is effected; but when laceration is backwards, and extends to the rectum, a more ſerious evil ariſes in the diſcharge of the fæces, through the laceration. The treatment, however, is the ſame; and cleanlineſs is particularly to be attended to.

Rupture of the Uterus.

XXXVI. From the ſame injury that affects theſe external parts, the uterus itſelf is not exempted, at times, in conſequence of delivery. A rupture of the uterus has been frequently induced by the forcible efforts of the operator in turning caſes.

Such accidents cannot fail to prove generally fatal, though ſome inſtances of unexpected recovery have occurred. So ſoon as this injury is diſcovered, delivery ſhould be expedited as ſoon as poſſible, and every means of obviating pain and inflammation attempted.

Inverſion of the Uterus.

XXXVII, Another accident, no leſs fatal than a rup-

ture of the organ, is its inverſion. It is always the effect of violence in pulling the placenta, particularly where the cord is inſerted at its middle; for if violence is then uſed, and the adheſion of the placenta to the uterus ſtrong, ſo as not to yield, and this exertion is made during the ſtate of atony, which prevails in the uterus immediately after the birth of the child, it will firſt come to be dimpled; and the woman, employing her efforts from the irritation of the operator in pulling, this will proceed till the fundus is completely drawn through the external orifice.

XXXVIII. When this is effected, no return of the protruded part can be made, which is cloſely graſped by the contraction of the neck round it. The patient is generally ſeiſed with faintings, and death commonly enſues in a very ſhort time. To prevent this accident, no attempt ſhould at any time be made to remove the placenta till the contraction of the organ feel to the hand of the operator in the form of a round hard ball, immediately above the pubes.

Cows are very ſubject to this accident, of the inverſion of the uterus. If ſoon replaced, they recover; and, in order to retain it, a ligature is placed on the pudendum.

Inflammation of the Uterus.

XXXIX. Inflammation of the organ is an affection that at times attends the child-bed ſtate. It conſiſts in a fixed throbbing pain in that part of it which has been injured, attended with a conſiderable degree of fever,

and it continues often for ſeveral months, before it appears, by ſwelling and hardneſs, to point to ſome particular ſpot.

XL. This affection commonly commences about the fourth or fifth day after delivery, often conſiderably later; it is ſeldom fatal, though apt to remain long.

XLI. Its treatment conſiſts in the general means of obviating inflammation by veneſection, as indicated by the pulſe, by warm fomentations of the abdomen, and, ſhould a tendency to a ſuppuration be diſcovered, by the application of poultices to that particular part, while its termination is farther haſtened by the internal uſe of bark and opium.

Prolapſus of the Uterus.

XLII. The laſt effect of delivery to be noticed is the prolapſus uteri, or deſcent of the organ. It is moſt liable to occur in women in low life, who are obliged, in conſequence of their ſituation, to riſe early, after delivery, while the parts are yet in a very relaxed ſtate; it exiſts in various degrees, from which it has received different appellations, and has at times been known entirely protruded beyond the external parts.

XLIII. The ſimple prolapſus moſt uſual occurs. It is diſtinguiſhed by the appearance of the os tincæ at its inferior part; and, previous to this, it is preceded by a ſlight degree of uterine pain or bearing down, which gradually increaſes, and produces more or leſs difficulty, and even ſuppreſſion of urine.

XLIV. The cure of this complaint is attended with ſome difficulty, and three circumſtances tend to counteract it.

The firſt is the weight and preſſure of the organ itſelf, which poſſeſſes a tendency to gravitate downwards.

The ſecond is the relaxed ſtate of the vagina, which is unable to give it any ſupport; and the third is the ſlight reſiſtance of the ſphincter at the os externum.

XLV. In young ſubjects, the reduction of prolapſus is eaſily effected, and it yields to confinement, to a horizontal poſture: the uſe of ſtyptic waſhes frequently applied, and general tonics, as the bark, ſteel, and cold bathing. But when the diſeaſe has continued long, the deſcent of the uterus complete, and the patient in advanced life, this ſimple treatment is ineffectual, and recourſe muſt be had after its reduction to mechanical means for its ſupport. This conſiſts in the uſe of different kinds of peſſaries, as afterwards taken notice of.

Fevers.

XLVI. We have now examined the firſt claſs of child-bed diſeaſes, which are the immediate conſequence of delivery. The ſecond, or the various forms of fever, that occaſionally attack this ſtate, merit next our attention.

Weed.

XLVII. The moſt frequent of this claſs is the ephemera, or weed, which may be defined a fever, ſudden in its attack, marked by a violence of rigour, and in every reſpect reſembling the fit of an intermittent.

XLVIII. Like the intermittent, the fit is terminated by a profuſe ſweat, which, if properly managed, proves the criſis of the diſorder; but if exceeding, in continuance, twenty-four hours, it frequently paſſes into continued fever.

XLIX. This affection is liable to be induced by the ſlighteſt irregularities in regimen, expoſure to cold, evacuations, paſſions of mind, &c. When removed, it is very liable to ſuffer repeated returns during the puerperal ſtate.

L. The treatment conſiſts ſimply in promoting the acceſſion of the ſweating ſtage, on which its termination depends. This is to be done by ſome additional increaſe of heat during the cold fit, which is to be continued until the hot one commences: it may be then removed; and, on the appearance of the ſweat, this diſcharge is to be kept up for four or five hours, when the complaint will be removed. After its removal, the uſe of opiates will be proper to counteract that increaſed irritability of the ſyſtem which is its natural conſequence.

Lacteal, or Milk Fever.

LI. Next to the weed falls to be noticed the lacteal, or milk fever. It generally appears from the third to the ſixth day after delivery, the moſt critical period of child-bed; the breaſts ſwell, and become diſtended, and the effect of this is a general irritation of the ſyſtem, diſplayed in a reſtleſſneſs, ſtartings in ſleep, pain of the head, and ſhooting of the breaſts. The duration of

theſe ſymptoms is from twelve or twenty-four to forty-eight hours.

LII. The removal of theſe ſymptoms depends on the proper unloading of the breaſts, and that either by ſuction, or elſe preventing the determination to them.

LIII. Suction is of two kinds,—the wet and the dry.

The firſt conſiſts in the proper and timely application of the child, which ſhould be done early, or at leaſt ſo ſoon as a ſhooting or diſtenſion is felt, and endeavouring, till a proper quantity is removed, to relax the breaſt, by lubricating applications, as axunge, or cream rubbed upon it.

LIV. But when ſuckling is not intended on the part of the woman, the determination to the breaſt ſhould be prevented, by early enjoining an abſtemious regimen, eſpecially with regard to her drink, and keeping the body open by the uſe of mild laxatives; by this means the milk will ſoon be carried off, either by the inteſtines or ſkin. At times, however, from the violence of the local ſymptoms in the breaſt, it is found neceſſary to unload it, in order to procure a temporary relief; and this is done either by wet ſuction, by means of a child or a puppy, or elſe a grown perſon, who has been in the habit of it. But in general, in this caſe, dry ſuction is preferred, which conſiſts in the uſe of glaſſes and inſtruments of different kinds; but from the preſſure they produce on the breaſt, they are not ſo ſafe as the former method.

LV. Such is the common treatment of the milk

fever, when the local affection of the breaſt is ſoon relieved; but when the diſtenſion is ſo great as to excite inflammation, the latter frequently paſſes on to ſuppuration, the termination of which is various, and exhauſts the patient in a high degree. For a detail of this *vide* Volume Second, page 130.

LVI. The ſame morbid ſtate that thus affects the breaſts is found alſo to affect the nipple, and for an account of it the ſame reference may be made to Volume Second, page 262.

Miliary Fever.

LVII. After the lacteal, comes to be mentioned the miliary fever, which may be defined a fever attended with particular anxiety or dejection, and pain of breaſt, with a ſouriſh ſmell, and remarkable prickling of the ſkin, terminating at laſt in an eruption of red or white ſpots.

LVIII. This diſeaſe, though occaſionally ſymptomatic, and the effect of a warm regimen, is by no means always ſo. It clearly appeared epidemic in the tenth century, at Leipſic; and we may therefore infer, that a peculiar contagion, generated under certain circumſtances in child-bed, produces it.

LIX. Authors have, alſo, divided it into two ſpecies, the mild and the malignant; and to the laſt only does the ſpecific nature of the diſeaſe belong.

In the firſt kind, the pulſe continues generally ſtrong,

or partakes ſomething of an inflammatory nature. In the latter, the pulſe is quick and weak, reſembling the ſtate of typhus, and the eruption is preceded and attended by a putrid diarrhœa.

LX. The prognoſis in this fever is regulated by the appearance and number of the puſtles. In the mild ſpecies they are of a red colour, but in the malignant white. By the appearance of the former, a relief of the ſymptoms takes place; but in the latter, an increaſe of the diſeaſe follows the eruption, accompanied with a loſs of ſpeech and ſtupor, which oftens proves fatal in the ſpace of twelve or twenty-four hours.

LXI. In the treatment of this fever, a cool regimen is particularly indicated; and in the mild ſpecies little elſe is neceſſary to produce recovery: but in the malignant, the ſame plan muſt be purſued as directed for the treatment of typhus; for which *vide* Volume Firſt, page 301.

Puerperal Fever.

LXII. The laſt diſeaſe that claims our attention in child-bed is the puerperal fever, which may defined a fever whoſe acceſſion is very early after delivery, generally the ſecond or third day, attended with a quick irregular pulſe, remarkable proſtration of ſtrength, great affection of forehead, and general ſoreneſs and tenſion of the abdomen.

LXIII. The peculiar ſymptoms of the diſeaſe are—

1. The abdominal tenſion, pain, and ſoreneſs, which

riſe to the moſt exquiſite height, without, however, any hardneſs being felt, and frequently there is even no fullneſs.

2. The fœtid diſcharge of the lochia (or cleanſings).

3. Little or no delirium, but a conſtant watchfulneſs and dread of death; and,

4. A number of deceitful remiſſions, the firſt of which takes place in twenty-four hours after the attack, and theſe remiſſions always uſher in an aggravation of ſymptoms.

LXIV. The cauſe of this diſeaſe would ſeem to be a peculiar contagion, affecting the puerperal ſtate alone; for it has appeared at times epidemic, when no caſes of typhus has occurred at the ſame period. This contagion was not taken notice of till about 50 years ago; but ſince that time it has appeared epidemic in a number of places: particularly at Paris in 1746 and 1762; in London in 1761 and 1772; in Edinburgh in 1773; and in Dublin in 1774 and 1787.

LXV. Though in general fatal, ſome inſtances of recovery take place, and that by a criſis on the eleventh day. The diſcharges attending the criſis are,—a ſweat, diarrhœa, and more rarely external abſceſſes of the abdomen.

LXVI. Our opinion here ſhould always prognoſticate, if not a fatal, at leaſt a doubtful event; and the more ſo, that the diſeaſe is liable to ſuch deluſive remiſſions. Even where the gangrenous ſtate of abdomen has taken place, an entire ceſſation of pain is apt to miſlead, though the feeble irregular pulſe, and pale dejected countenance, point out, inſtead of relief, the rapid approach of the fatal termination.

LXVII. The chief morbid appearances of this fever, diſtinct from thoſe of common putrid fever, are diſplayed in the abdomen. A diffuſed inflammation pervades the peritonæum, and the omentum is found entirely diſſolved, ſometimes gangrenous; collections of a ſerous and gelatinous fluid are alſo found within the abdomen, often to the extent of ſix or ſeven pounds, in which the uterus floats. The inteſtines are all highly inflamed, and the ſmall ones diſtended with wind. The uterus is of its proper ſize, and, when cut into, is without diſeaſe.

LXVIII. The abdominal affection then forms the peculiar characteriſtic of this fever, and the fatality of this affection we are to look for in the particular ſtate of the parts affected by child-birth.

LXIX. Theſe parts are the uterus and omentum; and from the effect of delivery, which conſiſts in the operation of a mechanical ſtimulus upon them, their ſtate muſt naturally be a tendency to inflammation. In the former, however, or the uterus, this is ſomewhat diminiſhed by the hæmorrhage unavoidably ſucceeding the expulſion of the child, and its continuance for ſome time after; but in the latter, or the omentum, from the want of activity in its veſſels, and the accumulation of their contents by the obſtruction of its circulation during the preſſure from gravidity, this ſtate continues the ſame; and when affected by the general irritation attending the operation of the febrile cauſe, an actual inflammation occurs, which gives a new acceſſion of violence, and adds the characteriſtic ſymptoms to the general diſeaſe.

LXX. This inflammation diffuſes itſelf quickly over the affected membrane, and various ſympathetic ſymptoms ariſe in the contiguous organs, and produce ſuch a violent irritation, as is incompatible with the continuance of life, even without any farther local derangement, or the progreſs of the inflammation, proceeding an effuſion of pus, from ſome part of the inflamed membrane, takes place into the abdominal cavity, when, in the ſame manner, a fatal termination enſues.

LXXI. From this cauſe, then, of a contagion, perhaps ſomewhat ſimilar to typhus, acting upon the ſyſtem, united with a peculiar local affection of a part, the theory of the diſeaſe may be deduced, and its general fatality accounted for. Both theſe circumſtances are confirmed by the diſſections of it detailed (LXVII.), and by its well-known contagious nature.

LXXII. The treatment of puerperal fever has been more varied than that of the two other ſpecies of putrid fever juſt deſcribed. From the appearances, on diſſection, denoting inflammation, an attempt has been made here to cure it by large and repeated bleedings on the firſt attack, in the ſame manner as in the preceding diſeaſe, and theſe have been ſaid to be ſucceſsful at times. Ipecacuanha has been alſo uſed as a ſpecific here. It is given in a doſe of 15 grains, exhibited at twice, with an interval of an hour an a half betwixt each. This medicine is attended both with vomiting and diarrhœa. It is repeated in the ſame manner the following day, if the ſymptoms do not remit, and even continued to the third or fourth. After procuring a favourable remiſſion in this way, wine is then to be thrown in, and ſym-

ptoms of irritation obviated by the uſe of opium. The treatment being, in other reſpects, conducted on the ſame plan with that of putrid fever; though a prejudice prevails here, with ſome, againſt the uſe of bark.

LXXIII. From the inveteracy of the infection of this diſeaſe, which has been found frequently to baffle every mode of rooting it out, for ſome time, by fumigation, ventilation, and even white waſhing of the infected place, every means of prevention ſhould be employed, and particularly the immediate removal of all puerperal women from its vicinity.

BOOK V.

PROGNOSTICS OF MIDWIFERY.

I. WE have thus conſidered the three claſſes of diſeaſes peculiar to the pregnant, the parturient, and puerperal ſtates, which form the ſubject of midwifery; but in the exerciſe of his profeſſion an accoucheur is frequently called upon to decide certain queſtions in a ſummary way; viz. the exiſtence of virginity, conception, the ſtate of labour, and child-birth.

II. Theſe points are chiefly aſcertained either by an inſpection of parts, or elſe by touching; and in detailing this operation, we ſhall connect, under one view, what has been delivered at large in the preceding work.

III. Touching is performed by the introduction of the fore finger, of either hand, which is generally preferred, into the vagina, the patient being previouſly placed in bed, on her left ſide, with her knees drawn up towards her breech, to facilitate its entrance. When introduced, it is to be directed firſt backwards and then upwards, towards the centre of the pelvis; by which the ſituation of the uterine orifice will come to be detected. Previous to the operation, the finger ſhould be anointed with ſome unctuous ſubſtance, leſs to prevent

pain than to guard againſt the danger of infection when any accidental leſion may have taken place.

IV. The purpoſes of examination we have mentioned to be various. To aſcertain pregnancy in its early period is a matter of conſiderable difficulty, and on this account practitioners, when required, have generally declined giving their opinion for ſome time, till the augmentation of the uterus has rendered it in ſome meaſure undoubted. When, therefore, in the early months, we are compelled, from the anxiety of the patient, to give an opinion, every circumſtance that can favour the ſucceſs of the operation muſt be attended to.

V. The circumſtances that require attention for the ſucceſs of touching in the early months are,—

1. The poſture of the patient, which ſhould be upright, inſtead of lying on her ſide, as the uterine orifice is generally, during geſtation, beyond the reach of the finger.

2. A collapſed ſtate of the inteſtines, by which the uterine tumour, however ſmall, will come to be more diſtinctly felt; hence the morning has been preferred for this operation; and,

3. The additional application of the hand externally to the uterine region, which will detect the ſtate of the body of the uterus, and aſſiſt, by its preſſure, the orifice deſcending lower into the pelvis.

Hence, in any tumour of the abdomen, where the os uteri can be eaſily touched, if, on applying the hand externally, and moving, at the ſame time, the neck of the uterus with the finger within the vagina, the tumour does not ſeem affected with the motion of the neck,

there is in this caſe no pregnancy, but a morbid enlargement, not affecting the uterus.

VI. From the os tincæ then not being affected by early pregnancy, we judge chiefly at this period by the feel of the abdomen. In its natural ſtate the uterus is hardly felt through it; ſo, wherever it is diſtinct, and the os tincæ at the ſame time rather beyond reach, pregnancy may be ſuſpected.

VII. There are two circumſtances from which women themſelves, in the early months, judge of their pregnancy; the firſt is, the abſence of the menſes; and the other (a more certain one in women who have borne children) is ſome peculiar circumſtance, often an abdominal complaint, felt at a certain period, and which diſplays great regularity in its recurrence.

VIII. From the feel then of the uterine orifice alone, little information is to be drawn; for though a great regularity prevails in the enlargement of the higher parts, yet that of the neck is leſs to be depended upon in the exact progreſs of its diſtenſion: hence, though it has been mentioned by all authors, that, during pregnancy, the os uteri is more contracted than uſual, the neck ſhorter and thicker, and the orifice turned more towards the rectum; yet nothing varies ſo much as the natural ſhape and ſize of theſe parts; for in ſome the orifice is very cloſe, independent of pregnancy, while in others it retains always a patulous ſtate, and the length of the neck is always ſubject to the ſame variety.

IX. From theſe conſiderations, an opinion on the

exiſtence of pregnancy, from examination, ſhould generally be ſhifted by an accoucheur as long as poſſible; and, when under a neceſſity of giving it his judgment, ſhould be directed by a conjunction of circumſtances; as,—

1. The general habit of the patient, or the preſence of thoſe characteriſtic circumſtances which mark moſt ſtrongly the female conſtitution.
2. The former ſtate of uterine health.
3. The preſent morbid ſymptoms; and,
4. The examination itſelf.

X. Touching is employed in the latter end of pregnancy, for the purpoſe of aſcertaining,

1. Whether labour is commenced.
2. The ſtate of its preſentation; and,
3. The nature of the labour itſelf.

XI. The firſt of theſe is judged of from the os tincæ falling low into the pelvis, from the pains having a ſenſible effect towards its dilatation, and from the orifice having little or no prominence remaining; hence, wherever the os uteri is prominent, and at the ſame time cloſe ſhut, you may decide on the woman not being in labour, whatever degree of pain ſhe may ſuffer.

XII. The ſtate of preſentation is learnt from the manner in which the membranes form, and from the feel alſo of the preſenting part itſelf through them; for, as the uterine orifice dilates, the weight of the waters forces the membranes through it. When they appear in the regular form of an elaſtic round bag, it is a favourable ſign. When they want a good deal of their elaſticity, even in time of a pain, then the paſſage is

confined, and the preſenting part does not allow their coming forward. When they appear long, ſoft, and, as it were, like a gut, it is a mark of an unfavourable preſentation, the uniform preſſure of the head being wanting to hinder the membranes from falling down more on one ſide than on the other. An opinion from the gathering of the waters can only be formed during the preſence of pain; while the preſentation again is chiefly to be judged of during its abſence, or as the preſſure of the water recedes, when nothing but the thin coat of the membranes is interpoſed. The head is generally diſcovered by its round form and hardneſs. If very minute in your examination, the fontanelle may even at times be felt.

Wherever there is a want of that reſiſtance which the head always gives us, the preſentation is then unfavourable, the rupture of the membranes ſhould be watched with the greateſt attention; and advantage immediately taken of that time to put matters in a proper train for delivery. Where, however, the breech preſents before the rupture of the membranes, it is often a difficult matter to decide whether this part is not actually the head; but it is of little conſequence, as, on the breaking of the membranes, the fact will be eaſily aſcertained, when it is time enough to enter on the mode of delivering.

XIII. The laſt ſpecies of information derived from touching in labour, is the nature of the labour itſelf; and this is determined,

1. By the ſpace of the bony cavity.

2. By the appearance of the os tincæ; and,

3. By the apparent reſiſtance of the other ſoft parts. Whenever the finger, introduced into the vagina, touches

with eaſe the ſacrum or coccyx, the pelvis is faulty in that direction. Where two fingers are not admitted eaſily under the pubes, a diſtortion of that part may be ſuſpected. Where the hand, introduced by the lateral part of the pelvis, is cramped in its paſſage, the general ſpace of the cavity is defective. The ſame may be learnt by the early over-lapping of the bones of the head on its preſenting in labour. Where the finger, brought round the head, having already entered the pelvis, feels a conſiderable ſpace on one ſide more than on the other, a projection of the ſacrum takes place: and where the head on the commencement of labour is too eaſily felt before entering the pelvis, a general ſhallowneſs of capacity is more or leſs indicated.

XIV. The appearance of the os tincæ again, as well as of the pelvis, is a circumſtance on which moſt practitioners of experience greatly rely. If ſituated towards the pubes, it is remarked, as the uterus is then more towards the external orifice, and has deſcended lower, the labour, where no morbid reſiſtance occurs, is more expeditious than when it originally preſents towards the ſacrum. If the uterine orifice is ſoft and dilatable, with its edges thin and flat, and the patient's pains ſeem to have much effect, a quick labour may be expected; while, on the contrary, if the orifice is with difficulty reached, if it feels dry and rigid, and thickens in its progreſs, forming into a tumid ring round the preſenting part, the reverſe may be expected. If the pains alſo continue for ſome time regular and ſtrong, and the orifice is ſtill hardly to be reached, an unfavourable preſentation may be looked for; the more extenſive preſſure from the incumbent parts drawing it from ſide to ſide, and the part itſelf not falling eaſily into

the cavity of the pelvis, like the head; the oſſification alſo of the head itſelf, when the membranes are ruptured, and it forms the preſenting part; enables us to judge ſomewhat of the nature of the labour.

XV. The laſt circumſtance enumerated, as directing our opinion in labour, is the ſtate of the ſoft parts themſelves; if the parts are dry and rigid, poſſeſſing little ſecretion of natural mucus, a tedious labour is then to be expected. If the parts, independent of the ſecretion, poſſeſs a good deal of elaſticity, as commonly happens in a firſt labour, the ſame inference may be drawn.

XVI. But, independent of pregnancy at all, it is by the touch alone a diſeaſed ſtate of the uterus can be determined, and proper means of relief applied in thoſe different organic affections to which it is ſubjected. Thus, where there prevails in a woman of advanced life a long continued flooding, or one frequently recurring with a degree of niſus, or occaſional down-bearing pain, though a polypus of the uterus may indeed be ſuſpected, it is only by the touch it can really be aſcertained. In the ſame way, when a woman at this period of life feels a weight in the uterine region, with occaſional lancelating pains, a ſchirrus may be ſuſpected; and when, on touching, the os uteri ſeems painful on preſſure, it is then beyond a doubt.

XVII. We have thus detailed the chief circumſtances which regulate our opinion on touching during pregnancy and labour. The diſeaſe for which pregnancy is moſt liable to be miſtaken is dropſy, eſpecially when encyſted. Dropſy of the uterus itſelf is a very rare complaint, and can only happen when ſome obſtruction,

from diſeaſe, occurs at the os tincæ: but even here it requires a particular ſtate of the organ in order to be induced; hence it is generally ſymptomatic of ſchirrus; and as this laſt affection is ſeldom confirmed till after the age of child-bearing, it can never almoſt, although alleged by authors, be miſtaken for pregnancy. Dropſy of the ovarium, however, is more common; and being generally long before it arrives at any conſiderable ſize, little pain is felt from it until this period.

It firſt begins with a dull pain on one ſide: to this is ſoon added a ſenſe of weight. Theſe ſymptoms continue to increaſe, when the thigh and leg of the ſame ſide come to be affected. As menſtruation becomes always in this caſe irregular, and as the ſubjects of the diſeaſe are frequently young, pregnancy becomes a natural ſuſpicion, and it is impoſſible for ſome time to know the difference; for the increaſed thirſt, and paucity of urine, is leſs common here than in the other ſpecies of dropſy. On this account our opinion muſt be ſuſpended, till, from the continuance of the ſymptoms beyond the proper period, it comes to be diſtinguiſhed as ariſing from a morbid cauſe.

XVIII. The laſt ſpecies of information which the profeſſion of the accoucheur is often called upon to decide, is whether at any former period pregnancy may have taken place, or even, independent of pregnancy, whether the female is ſtill in what may be termed the virgin ſtate.—Nothing is more fallacious than the pretended criterions of authors to aſcertain theſe points.—Where, however, an accoucheur is profeſſionally called upon, he is under the neceſſity of paſſing an opinion; and practitioners of experience, conſcious of its difficulty, have

inclined therefore always to the favourable ſide, that they may not, on any equivocal proof, include the innocent with the guilty, or by their deciſion condemn, where room only is afforded for ſuſpicion.

XIX. The ſigns of previous delivery enumerated by authors are chiefly drawn from the ſtate of the parts affected; they conſiſt of—

1. A ſlight ſwelling, or relaxation of the genital parts.
2. Conſiderable dilatation of the vagina.
3. The uterine orifice, ſoft and patulous, with its edges divided into flaps.
4. The appearance of cicatriſation over the external ſurface of the abdomen, and mammæ; and,
5. The length of perinæum.

Many others are mentioned, but theſe are chiefly to be depended upon; but at the ſame time the examination ſhould be made a few days after delivery; for theſe appearances become ſoon ſo indiſtinct, that they cannot be truſted to,—and it is only by their occurring all together, that our judgment can, with accuracy, be directed.

XX. Where, in other caſes, a woman has died under this ſuſpicion, and a greater length of time has elapſed than what the former ſymptoms are confined to, if diſſection is allowed, an infallible criterion is afforded, by examining the ſtate of the ovum, and aſcertaining the exiſtence of that cicatrix which is found to mark the ſituation of the corpus luteum.—This circumſtance it is now known, for certain, is never diſcovered in any but thoſe who have previouſly conceived. Hence no miſtake can ariſe in determining an opinion here.

XXI. The ſymptoms of virginity which have been ſo largely entered into by moſt writers are ſtill more fallacious than thoſe now detailed, as marking the previous exiſtence of pregnancy; they are chiefly drawn—

1. From the firmneſs of texture of the external parts.
2. From the exiſtence of the hymen; and,
3. From the diſcharge of blood on the firſt attack.

XXII. On theſe ſymptoms it may be remarked, that with regard to the mere tenſion and firmneſs of the parts this will be much influenced by the natural ſtate of conſtitution; for where the female is robuſt, even after violation, they will for ſome time retain their elaſticity, which we find even occaſionally the caſe in proſtitutes. Beſides, by the uſe of aſtringents, the natural tenſion of the parts, when loſt, may be regained, and that even to ſuch a degree, that a caſe is mentioned by SAVIARD, where the vagina of a girl was ſo contracted, as hardly to admit the ſize of a writing quill: this practice, however, is not ſo often to be met with in this country; but in ſome others it is frequently employed. The parts alſo, from uterine diſeaſes, where the health of the female ſuffers, frequently looſe their proper firmneſs and tenſion, without the ſmalleſt ſuſpicion of any violation of chaſtity.

XXIII. The ſecond ſymptom of virginity, or the exiſtence of the hymen, is no way to be truſted, when it is ſo readily ruptured by accidental circumſtances in infancy, that it ſeldom remains entire to the age of puberty. Beſides in different women its extent varies, and therefore it may exiſt without the huſband's detection, unleſs very attentive in his examination.

XXIII. The laſt ſymptom, or the flow of blood on the firſt attack, has been often ſpoken of; and though con-

ſidered even by the Jewiſh legiſlature as a proper teſt of this ſtate, it is equally fallacious with the former; for if the parts are, from morbid cauſes, in a relaxed ſtate, they will not give that reſiſtance which occaſions the flow; and even if menſtruation has happened immediately preceding coition, ſo that the veſſels are depleniſhed, no diſcharge will frequently enſue, though the parts retain their natural ſtate: nay, ſuch is the effect of diſeaſe upon the parts, that an artful woman may often impoſe upon the moſt experienced of the other ſex,—and for her own purpoſes feign to have ſuffered violation, which we ſhall find it difficult, from inſpection, to contradict. Hence, as Mr. BUFFON juſtly obſerves, Virginity is more to be conſidered as a moral virtue, exiſting in the purity of the female mind; and thoſe ſuperſtitious ceremonies, formerly in uſe of aſcertaining it, are to be conſidered as the real ways of violating it; and that every ſituation that produces an internal bluſh, is a real proſtitution.

XXV. With a view to the preſervation of virginity, it is curious to remark the different cuſtoms that have been introduced into different countries.—Men, both in rude and poliſhed life, have been for the moſt part jealous of a prior poſſeſſion in this caſe.—Anatomiſts have favoured this jealouſy, by fixing certain criterions for detecting it. Hence the happineſs of ſociety has been often diſturbed, and ſuſpicions excited from a pretended knowledge on this ſubject, where there was properly no room for them. It is therefore of importance to inculcate the very ſlight dependence that is to be placed on any opinion of this kind. Whatever the debauchee may pretend, there are no unerring criterions to go by,—and at any time a woman of addreſs may deceive the moſt knowing of the other ſex, who truſt to the infallibility of ſuch appearances.

AN

OBSTETRICAL PHARMACOPŒIA;

DIVIDED INTO

THREE PARTS,

viz.

MATERIA MEDICA, CLASSIFICATION,

AND

EXTEMPORANEOUS PRESCRIPTION.

PART I.

MATERIA MEDICA.

CONTAINING,

THE ACTIVE REMEDIES,

In Present Practice,

SIMPLE, COMPOUND, AND CHEMICAL,

WITH THEIR DOSES.

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Absinthium. Wormwood.	Tops.	℈ss. to ʒj.	Sal Absinthii	gr. v.
			Tinct. Absinthii	ʒj. to ij.
Acetum Vini. Vinegar.			Sal Aceti.	
			Syrup Aceti.	ʒj.
			Serum Acet. ad libitum (ʒj. Acet. ad ℔j. Lact.)	
Acidum Vitriolicum. Vitriolic Acid.			Sp. Vitriol. tenuis.	gt. x. to xx.
			vel Acid. Vitriol. dilut.	
			Sp. Vitriol. dulcis.	ʒj.
			vel Sp. Ætheris Vitriol.	
			Sp. Æther. Vitr.	gutt. xxx.
			vel Æther Vitriolicus.	
			Elix. Vitr. Acid.	gutt. xxx.
			vel Acid. Vitr. Aromat.	
			Elix. Vitr. dulc.	gutt. xxx.
			vel Sp. Æth. Vitr. Arom.	
Ærugo, vel Cuprum acido acetos. ros. Verdigrease.			Ung. ærugin.	
			Aqua Sappharina. *vel Aqua Ærug. ammon.*	

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Aloe.		gr. iij. to ʒ ss.	Tinct. Saccra.	ʒij. to ʒss.
			vel Vinum Aloeticum.	
			Pil. Aloetic.	
			vel Pil. Aloes cum Myrr.	
			Pil. Rufi	℈j. to ʒss.
Aloes.			Elix. Proprietatis	gutt. xv. to ʒi.
			vel Elix. Aloes cum Myrr.	
			Elix. Proprietatis Vitriolic.	gutt. xv. to ʒj.
			vel Tinct. Aloes vitriol.	
Althea.	Leaf	℈j. to ʒss.	Decoct. Altheæ	℔ij. in dies.
Marshmallow.	and root.		(ʒj. to ℔j.)	
			Syrup. Altheæ	ʒj. sæpe.
Alumen.		gr. iv. to ℈j.	Pulv. styptic.	gr. x. to ℈j.
			vel Pulv. Alum. comp.	
			Serum Alumin.	ʒiv. to ℔ij.
			Coag. Aluminos.	
Alum.			Aqua styptic.	
Amygdalæ amaræ.	Kernel.			
Bitter Almonds.		gr. iv. to ℈ ss.	Ol. Amygd. Amar.	
Amygdalæ dulces.	Kernel.		Ol. Amygdal.	ʒj. to ʒij.
Sweet Almonds.		ad libit.	Emulsio cois.	ad libit.
Amylum.			Mucilago Amyli.	ʒj. sæpe.
Starch.				
Anethum.	Seed.		Ol. Anethi.	gutt. iij.
Dill.		℈j. to ʒj.	Aq. Anethi.	ʒij. to iv.
Ammoniacum.			Lac Ammon.	ʒj. sæpe.
G. Ammoniac.		℈j. to ʒj.	Emplast. Ammon.	
Augustura.	Bark.	℈j. to ʒj.	Decoct. August.	℔ij. in dies.
			Tinct. August.	ʒj.
Anisum.	Seed.		Ol. Anisi.	gutt. iij.
Anise.		gr. iv. to xv.	Aq. Anisi.	ʒij. to iv

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Antimonium, vel Antimon. Preparat.				
Antimony.		gr. v. to ʒj.	Sulph. Aurat. Ant.	gr. iv. to xvi.
			vel Sulphur Antimonii præcipitatum.	
			Pulv. Antimon.	gr. iij. to vi.
			Calx nitrata Ant. *vel* Pulv. Jacob.	gr. v. to xii. ter in die
			vel Antimon. ust. cum Nitro.	
			Tartarus emeticus.	gr. i. to vj.
			vel Antimon. tartarisat.	
			Vinum è Tartar Emetic.	gutt. xv. to xxx.
			vel Vin. Antimon. tartarisati.	
			Vin. antimonial.	gtt. v. to ʒss.
			vel Vin. è Tartar Antim.	
Arabicum.			Trochisci albi.	ad libit.
			Mucilago Gum, Arabic	ʒiv. ad ℔j.
Gum Arabic.		℈ij.	Emulsio Arabic.	ad. libit.
Arnica.	Herb, flowers, and root.		Decoct. Arnicæ. (ʒj. flor. ℔j.)	℔ in die.
			Extract Arnicæ.	ʒij. to iv. in dies.
Leopard's bane.		℈j. to ʒj.		
Arsenicum.			Solut. Arsenic.	
Arsenic.		gr. $\frac{1}{8}$ to iij.	(gr. iv. to ℔j.)	a table spoonful.
Asa fœtida.		gr. x. to ʒss.	Pil. Gum.	℈j.
			vel Pil. Asafœtidæ com.	
			Tinct. fœtida.	gtt. x. to ʒj.
			vel Tinct. Asafœtidæ.	
Aurant. Hispalense.	Leaf, flower, juice of fruit, & outer rind.		Aq. Cort. Aurant.	ʒij. to iv.
			Syrup. Cort. Aur.	ʒj.
			Conserv. Aurant.	ad libit.
			Ol. Neroli.	
Seville Orange.		ad libit.		

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Avena. Oats.	Seed.		Decoct. Avenæ.	ad libit.
Balsamum Canadense. Canada Balsam.		gtt. xx. to xxx.		
Balsam Copaibæ. Capivi Balsam.		gtt. xx. to xxx.		
Balsam Peruvian. Balsam of Peru.		gtt. x. to xl.		
Balsam Toletan. Balsam of Tolu.		gr. v. to ℔j.	Tinct. Toletan. gtt. v. to xx. Syrup Balsam. ℥j. to ij. *vel Syrupus Toletanus.*	
Barilla. (Impure Fossile Alkali.)			Soda purificata. ℈ss. to ℈j. Sal Rupellensis. ʒss. to ʒx. *vel Soda tartarisata.* Sal Glauberi. ʒv. to ʒx. *vel Soda vitriol ata.*	
Belladonna. Deadly Night-shade.	Leaves.	gr. j. to vj.	Infus. Belladon. ℥i. (gr. j. to ℥j.) Extract. Bellad. gr. j. to iv.	
Benzoinum. Benjamin.		gr. iv. to xv.	Flor. Benzoin. gr. iv. to vj. *vel Acidum Benzoicum.* Tinct. Benzoin. gtt. x. to xl. *vel Tinct. Benzo. comp.*	
Borax. Tincal.		gr. x. to ℈ij.	Sal sedativ. Hombergii. gr. iij. to ℈j.	
Calx viva. Quicklime.			Aqua Calcis. ℥iv. to ℔j. Lixivium caustic. gt. xv. to xl. *vel Aq. Lixiv. caustic.* Lix. caust. acer. mit.	
Camphora. Camphire.		gr. iij. to ʒss.	Sp. vinos. camph. Emulsio camphor. ad libit. Balm. Opodeldoch. *vel Linim saponaceum.* Linim. volat. *vel Oleum Ammoniatum.* Aq. vitr. camph.	

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Canella alba. Wild Cinnamon.	Bark.	gr. iv. to vj.		
Cancer. Crab.			Oculi Cancrorum. Chelæ Cancror.	℈j. to ʒj. ℈j. to ʒj.
Cantharis.			Tinct. Canthar.	gtt. xx. to xxx.
			Emplaſt. Veſicator. *vel Emplaſt. Cantharid.*	
Spaniſh Fly.		gr. ſſ. to ij.	Ung. epiſpaſ. fort. *vel Ung. Pulv. Canthar. mit.* *vel Ung. Infuſ. Canthar.*	
Cardamom minus. Leſſer Cardamom.	Seed.	gr. iij. to ʒ ſſ.	Tinct. Cardom.	℈j. to ʒj.
Carduus benedict. Holy Thiſtle.	Leaves.	gr. j. to ʒj.		
Carvi. Carraway.	Seeds.		Ol. Carvi. Aq. Carvi. ſpirit. *vel Spiritus Carvi.*	gtt. iij. ʒij. to iv. ʒj.
Caryophylla arom. Clove.	Fruit.	gr. iij. to ʒ ſſ.	Ol. Cary.	gtt. iij.
Caryophylla rubra. Clove July flower.			Syr. Caryophyl.	ʒj.
Caſcarilla.	Bark.	gr. iv. to xij.	Infuſ. Caſcaril. (ʒj. to ℔j.)	ʒiij.
Caſſia fiſtularis. Caſſia of the Cane.	Fruit.	ʒij. to ℥i.	Elect. Caſſiæ.	ʒ ſſ. to ʒj.
Caſſia lignea. Caſſia Bark.	Bark & flowers.	℈j. to ij.	Aq. Caſſiæ.	ʒij. to iv.
Caſtoreum. Caſtor.		gr. iv. to ℈j.	Tinct. Caſtor. Tinct. Caſt. Comp.	ʒj.
Catechu.			Tinct. Japonic. *vel Tinct. è Catechu.*	ʒj. to ʒij.
			Conf. Japonic. *vel Electuar. Japon.*	gr. v. to ℈j.
Japan Earth.		℈j. to ʒ ſſ.	Infuſ. Japonic. *vel Infuſ. Catechu.*	ʒij. to iv.

Simple.	*Parts used,*	*Dose.*	*Compound and Chemical.*	*Dose.*
Centaur minus. Leſſer Centaury.	Tops.	ʒ ſſ.		
Cera alba et flava. White and Yellow Wax.			Linim. ſimplex Ung. ſimplex. Cerat. ſimplex. Ung. Baſilicon. *vel Ung. Reſinoſum.* Emplaſt. cereum. *vel Emplaſt. ſimplex.*	
Ceruſſa. White Lead.			Sacchar. Saturni. *vel Ceruſſa acetata.* Ung. Saturni. *vel Ung. Ceruſſ. acetat.* Ung. album. *vel Ung Ceruſſæ.* Tinct. antiphthiſ. *vel Tinct. Ceruſſ. acetat.*	gr. ½ to j. gt. xv. to xxx.
Chamæmelum. Chamomile.	Single flower.	gr. v. to ℈j.	Extra Cham. Decoct. cois. *vel Decoct. Chamæmel.*	gr. vj. to ʒ ſſ. ad libit.
Cicuta. Hemlock.	Leaves, flower, and ſeed.	gr. vj. to cxxviii.	Extr. Cicut.	gr. v. to ℈j.
Cineres clavellati. Pot or Pearl-aſh.			Lixiv. purificat. Tart. regenerat. *vel Lixiva acetata.* Tart. vitriolat. *vel Lixiva vitriolata.* Tart. ſolubile. *Lixiva tartariſata.*	gr. iij. to v. ʒj. ʒj. to v. ʒ ſſ. to ʒj.
Cinnamomum.	Bark.		Species aromat. *vel Pulv. Aromaticus.* Conf. Cardiac. *vel Elect. Aromaticum.* Ol. Cinnam. Tinct. aromat. *vel Tinct. Cinn. comp.*	gr. v. to xv. ℈j. to ij. gutt. iij. ʒj. to ij.
Cinnamon.		gr. iij. to ʒ ſſ.	Tinct. Cinnam. Aq. Cinn. ſpirit. *vel Spiritus Cinnamoni.*	ʒj. to ij. ʒij. to iv. ʒj.

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Cochlearia.	Leaves.		Succ. ad scorbut.	℥ij. to vj.
			vel Succ. Sochlear. comp.	
Scurvy Grass.		℈ ss. to ij.		
Colchicum.	Root.		Syrup. Colchici.	ʒj. to ij.
Meadow Saffron.		gr. ij. to ℈j.		ter in dies.
Colocynthis.	Fruit.		Pil. Cocciæ.	℈j. to ij.
			vel Pil. Aloes cum Coloc.	
Bitter Apple.		gr. v. to ℈j.		
Columba.	Root.		Tinct. Columbæ.	℥ ss. to j.
Columbo.		gr. x. to ℈j.		
Contrayerva.	Root.		Pulv. Con. com.	℈j. to ʒj.
Counter-poison.		gr. vj. to ʒ ss.		
Coriandrum.	Seed.			
Coriander.		ʒ ss. to ʒj.		
Cornu Cervi.			Sal. C. C.	gr. iii. to xv.
			vel Ammonia præparata.	
			Sal. C.C. volat.	gr. vj. to ℈j.
Hartshorn.		℈ ss. to ʒj.	Ol. C. C.	gutt. x.
			vel Aq. Amm. ex Ossibus.	
			Sp. C. C.	gutt. xv. to ʒj.
			Decoct. alb.	℥iv. sæpe.
Cortex Peruvianus.			Extr. C. P.	gr. v. to ℈j.
			Decoct. C. P.	℔j. to ij. ind.
			vel Decoct. Cinchonæ.	
Peruvian Bark.		℈j. to ʒj.	Tinct. C. P.	ʒj.
			vel. Tinct. Cinchonæ.	
Creta alba.				
			Pulv. cretaceus.	℈j. to ʒj.
Chalk.		℈j. to ʒj.	Potio cretacea.	℥iv. sæpe.
			Trochisci Cretæ.	ad libit.
Crocus.	Chives.		Tinct. Croci.	gutt. x. to ʒj.
Saffron.		gr. v. to ℈j.		
Elaterium.	Fruit.			
Wild Cucumber.		gr. j. to iij.		
Cuprum vitriolatum.			Aq. styptic.	
			vel Aq. Cup. vitr. comp.	
Blue Vitriol.		gr. ¼ to j.		

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Digitalis. Fox-glove.	Plant.	gr. j. to viii.		
Ferrum. Iron.			Limatura.	gr. iv. to viij.
			Marsfaccharat.	gr. iv. to viij.
			Vitriol. calcinat.	gr. ſſ. to iij.
			vel Ferrum vitr. exſiccat.	
			Colcothar. vitriol.	gr. ſſ. to iij.
			vel ——— *uſtum.*	
			Flories martiales.	gr. vj. to ℈j.
			vel Ferrum ammoniatum.	
			Tinct. Martis.	gutt. x. to xx.
			Sal Chalybis, *vel* Vitriol. Martis.	gr. ij. to vj.
			vel Ferrum Vitriolatum.	
Fuligo Ligni. Woodſoot.			Tinct. Fulgin.	gutt. x. to ʒj.
Galbanum. Galban.		gr. x. to xv.		
Gallæ. Galls.		gr. ij. to vj.		
Gambogia. Gamboge.		gr. ij. to vj.		
Gentiana.	Root.		Extr. Gentian.	gr. v. to ℈ ſſ.
			Infuſ. amar.	ʒj. to ʒiv.
			vel Infuſ. Gentiani comp.	
Gentian.		℈j. to iij.	Vin. amar.	ʒj. to iij.
			vel Vin. Gentiani comp.	
			Elix. ſtomach.	ʒ ſſ.
			vel Tinct. amar. vel G. c.	
Glycirrhizza.	Root.		Extr. Glyc.	ad libit.
			Decoct. Glyc.	idem.
Liquorice.		ʒ ſſ. to ʒj.	(ʒj. to ℔ij.)	
			Trochiſci. Nigr.	idem.
			vel Trochiſci Glycirrh.	
Granata Malus.	Flowers & rind			
Pomegranate.	of the fruit.	℈j. to ʒj.		

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Guajacum.	Wood, bark, & rèsin.		Gum Guiac.	℈ ss. to ʒ ss.
			Elix. Guiac.	gt. xx. to ʒ ss.
			vel Tinct. Guajaci.	
Guiac.		ʒ ss.	Elix. Guiac volat.	ʒ ss.
			vel Tinct. g. ammoniata.	
Hordeum. Barley.	Seed.		Decoct. Hordei.	ad libit.
Hydrargyrus.			Merc. calcinat.	gr. j. to iij.
			vel Hydrarg. calcinat.	
			Pil. Mercur.	gr. x. to xv.
			vel Pil. Hydrargyri.	
Mercury.		ʒ ss. to ij.	Pil. Æthiopicæ.	gr. x. to ℈ j.
			Æthiops mineral.	ʒ ij.
			vel Hydr. sulphur. niger.	
			Pil. Plummeri.	gr. x. to ℈ j.
			vel Pil. Calomelan. comp.	
			Ung. cœruleum.	
			vel Ex. Hydrarg.	
			Ung. Citrin.	
			vel Ung. Hydr. nitr.	
			Ung. Calc. Hydrar. alb.	
			Emplast. cœrul.	
			vel Empl. Hydr.	
			Mer. corros. subl.	gr. ss. to ij.
			vel Hydr. muriat. corros.	
			Mer. dulcis.	gr. j. to v.
			vel Calomelas.	
			Turpeth mineral.	gr. ss. to j.
			vel Hydr. vitriolat. flav.	
			Mer. cinereus.	gr. ij. to iv.
			vel. Hydr. præcip. ciner.	
			Mer. præc. rubr.	gr. j. to iij.
			vel. Hydr. nitrat. rubr.	
			Mer. præc. alb.	gr. ij. to iij.
			vel Calx. Hydrarg. alb.	
Hyoscíamus. Henbane.	Herb, & seeds.		Extr. Hys.	gr. j. to ℈ j.
Jalapium.	Root.		Pulv. Jalap. comp.	℈ j. to ʒ ss.
			Pil. è Jalap.	gr. x. to xv.
Jalap.		gr. x. to ℈ ij.	Resin Jalap.	℈ ss. to j.
			Tinct. Jalap.	ʒ ij. to vj.

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Ipecacuhana.	Root.			
			Pulv. Dover.	gr. x. to ℈j.
			vel Pulv. Ipecac. comp.	
Ipecacuhan.		℈ss. to j.	Tinct. Ipecac.	ʒj. to ij.
			vel vin. Ipecac.	
Juniperus.	Berry		Ol. Juniperi.	gutt. iij.
Juniper.	& top.	ʒij. Bacc.	Aq. Junip. comp.	ʒj.
			vel Sp. Juniper. comp.	
Kino.		gr. viij.	Tinct. Kino.	ʒss. to j.
Gum Kino.		to xij.		
Lapis calaminaris.			Cerat. Lap. cal.	
Calamy.				
Lavendula.	flower		Ol. Lavand.	gutt. v.
Lavender.	& tops.	℈j. to iij.	Sp. Lavand. gutt.	xxx. to ℈j.
			Sp. Lav. Comp.	idem.
Lichen Islandicus.			Mucilag. Lichen.	ad libit.
Iceland Liverwort.		℈j. to iij.		
Lignum Campachense.			Extr. L. C.	gr. v. to xv.
Logwood.		gr. x. to ℈j.	Decoct. L. C.	ʒiv. sæpe.
			(ʒiij. to ℔ij.	
Lilium album.	Root.		Mucilag. Rad.	ad libit.
White Lilly.		℈j. to ʒj.		
Limon.	Juice,		Succ. Limon.	ʒj. to ij.
	outer		Syrup. Limon.	ʒj.
Lemon.	rind, &c.		Aq. Limon.	ʒij. to iv.
Linum.			Infus. Lin.	ad libit.
			(ʒss. to ℔ss.)	
Lintseed.			Ol. Lini.	ʒj.
Lithargyrus.			Acet. Lithargyr.	gr. x. to ʒj.
Litharge.			Aq. veg. mineral.	
Manna.			Serum Mannæ.	ad. libit.
Manna.		ʒij.		
Magnesia alba.				
Magnesia.		℈j. to ʒij.		
Melampodium.	Root.		Extr. Melam.	gr. v. to ℈ss.
Black Hellebore.		gr. vi. to ʒss.	Tinct. Melamp.	ʒj. to ij.

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Mentha Pipirit.	Leaves.		Ol. Menthæ.	gutt. iij.
			Aq. Menth.	℥ij. to iv.
Peppermint.			ſpirit.	℥j.
			vel Sp. Menthæ.	
Mentha Sativa.			Infuſ. Callid. *vel* Thea.	
Spearmint.			(℥j. to ℔j.)	ad libit.
Mezereon.			Decoct. Mez.	℔ij. indies
		gr. ſſ. to iij.	(℥j to ℔iij.)	
Moſchus.			Tinct. Moſchi.	gtt. xxx. to ℥j.
Muſk.		gr. iij. to xij.		
Myrrha.			Tinct. Myrrhæ.	gtt. xv. to ℥j.
Myrrh.		gr. iij. to xij.		
Nitrum.			Acid. nitroſ.	
			tenue.	gtt. aliq.
Nitre.		gr. vi. to ℈j.	Trochiſci Nitri.	ad libit.
			Sp. Nitri dulcis.	℥ ſſ. to j.
			vel Sp. Ætheris nitroſi.	
			Cauſtic. Lunar.	
			vel Argentum nitratum.	
			Sal Polychreſt.	℥ij. to ℥ſſ.
			vel Lixiva vitriol. ſulph.	
Nux Moſchata.			Aq. Nuc. ſpirit.	
vel Myriſtica.				
Nutmeg.		gr. xv. to ℥j.		℥j. to ℥j.
			vel Sp. Myriſticæ.	
Olea expreſſa.				
Expreſſed Oils.		℥j.		
Opium.			Pil. pacific.	gr. x. to ℈j.
			vel Pil. Opii.	
		gr. j. to cxx.	L. Laudanum.	gt. xxx. to ℥j.
			vel. Tinct. Opii.	
			Elect. Thebaic.	℥ij. to ℥ſſ.
			vel Electuar. opiatum.	
			Elix. Paregoric.	℥j.
			vel Tinct. Opii ammon.	
			Trochiſci Bechici	3 *vel* 4 indies.
			vel Troch. Glycir. cum Op.	
			Balſam. Anodyn.	
			vel Linim. opiatum.	

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Papaver. Poppy.	Head.		Syrup. Diacodion. *vel Syrup. papav. albi.*	ʒj. to ʒj.
Pimenta. Jamaica Pepper.	Berry.	gr. ij. to iv.	Aq. Piment. ——— ſpirit. *vel Sp. Pimentæ.*	ʒi. to iv. ʒj. to ʒj.
Quaſſia.	Wood, bark, & root.	gr. x. to ℈j.		
Quercus. Oak.	Bark.	℈ij. to ʒj.		
Quercus Marina. Sea Wreck.			Æthiops Vegetabilis.	ʒj. to ʒij.
Rheum. Rhubarb.	Root.	℈j. to ʒj.	Pil. ſtomach. *vel Pil. Rhei comp.* Infuſ. Rhei. Tinct. Rhei. Vin. Rhei. dulc. ——— amar. Elix. Sacer. *vel Tinct. Rh. cum Aloe.*	ʒſſ. ʒij. to iv. ʒij. to ʒſſ. ʒj. ʒj. ʒj.
Ricini Ol. Caſtor Oil.	Seed.	ʒij. to ʒſſ.		
Roſæ pallidæ. Pale Roſes.	Petal.		Aq. Roſar. Syrup. Roſar.	ʒij. to iv. ʒj.
Roſæ rubræ. Red Roſes.	Petal.	gr. v. to ʒſſ.	Conſerv. Roſar. Tinct. Roſar. *vel Infuſ. Roſar.* Syrup. Roſar.	ʒſſ. ʒj. ſæpe. ʒj.
Roſmarinus. Roſemary.	Top & flower.		Ol. Roſmar. Aq. Sp. Roſmar. *vel Sp. Roſmarin.* Aq. Regin. Hung. Acet. aromat.	gutt. iij. ʒj. to ʒj. idem. ʒj. to ij.
Rubia. Madder.	Root.	ʒſſ. to j.		

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Ruta.	Herb.		Ol. Rutæ.	gutt. iij.
Rue.		℈ ss. to ʒj.	Infus. Rutæ. (ʒj to ℔j.)	ʒij.
Sabina.	Leaf.		Extr. Sab.	gr. v. to ℈ ss.
Savine.		ʒ ss. to j.	Decoct. Sabin. (ʒj. to ℔iij.)	ʒij. to iv.
Sal Ammoniacum.			Sal Ammon. vol. *vel Ammon. præparata.*	gr. v. to ℈j.
Ammoniac Salt.		ʒ ss. to j.	Sp. Sal Am. *vel Aq. Ammoniæ.*	gtt. xv. to ʒj.
			Sp. Sal Am. cum Calce. *vel Aq. Am. Caustic.*	
			Sp. Sal Am. vin. *vel Sp. Ammoniæ.*	gtt. x. to ʒj.
			Sp. Salin. arom. *ve. Sp. Am. aromat.*	gtt. x. to xl.
			Sp. volat. fœtid. *vel Sp. Am. fœtid.*	gtt. x. to xxx.
			Sp. Mindereri. *vel Aq. Am. acetat.*	ʒij. to ʒj.
Sal marin. Hisp.			Sp. Sal marin. *vel Soda muriata.*	gutt. v.
Sea Salt.		ʒj.		
Sal cathart. amar. vel Magnesia vitriolata.				
Bitter Cathartic Salt.		ʒij. to ʒ ss.		
Sapo alb. Hispan.			Pil. Sapo.	gr. v. to ℈j.
Castile Soap.		℈j. to ʒij.	Linim. saponac.	
Sarsaparilla.	Root.	ʒj. to ʒ ss.	Decoct. Sarsæ. (ʒj. to ℔j.)	℔ij. indies.
Sassafras.	Wood, root, & bark.	ʒij.	Decoct. Lignor.	idem.
Scammonium.			Pulv. Scam. c.	℈j. to ij.
Scammony.		gr. iij. to xij.		
Scilla.	Root.		Pulv. Siccat.	gr. i. to iij.
			Pil. Scillit.	gr. xv.
Squill.		gr. ij. to vi.	Acet. Scillit.	ʒj. to ʒ ss.
			Oxymel Scillit.	ʒ ss. to ʒij.
			Syrup. Scillit.	ʒj. to ʒij.
			Vin. Scillit. (rad. ʒ ss. ad. vin. ℔ij.) ʒ ss. pro dose.	

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Scordium. Water Germander.		gr. v. to ʒj.		
Seneka. Senega.	Root.	ʒj. to iij.	Decoct. Senekæ. (ʒj. to ℔j.)	ʒij. to iv.
Senna.	Leaf.	ʒj. to ʒss.	Elect. Lenitiv. *vel Electuar Sennæ.*	ʒij. to ʒss.
			Elix. salut. *vel Tinct. Sennæ comp.*	ʒij.
Serpentaria. Snake-root.	Root.	ʒj. to ʒss.	Decoct. Serpent. (rad. ʒij. to ʒvi.)	ʒj. sæpe.
			Tinct. Serpent.	ʒss. to ij.
Spermaceti, vel Sevum Ceti.		ʒj. to ʒj.		
Sinapi album. White Mustard.	Seeds.	ʒj.		
Spongia. Sponge.			Spongia usta.	ʒj. to ʒj.
Stanum. Tin.	Filings and powder.	ʒss. to ʒj.		
Succinum. Amber.		gr. viij. to ʒss.	Ol. Succini.	gtt. x. to xxv.
			Sal Succini.	gr. iv. to ʒj.
Sulphuris Flores. Flowers of Sulphur.		ʒij. to ʒss.	Ung. antipsoric. *vel Ung. Sulphuris.*	
			Balsam sulph.	gtt. xv. to xxx.
Tamarindus. Tamarind.	Fruit.	ʒij.	Infus. cum Senna.	ʒij. to iv.
Tartari Chrystalli. Chrystals of Tartar.		ʒv. to vi.	Sal Tartar.	gr. iij. to xv.
			Lixiv. Tartar.	gtt. xv. to ʒj.
Terebinthina Veneta. Venice Turpentine.		ʒss. to ʒss.	Ol. Terebinth.	gutt. v.
			Sp. Terebinth.	gtt. x. to xx.
Tutia. Tutty.				
Valeriana sylvest. Wild Valerian.	Root.	ʒss. to ʒss.	Infus. Valerian. (ʒj. to ℔j.)	ad libit.
			Tinct. Val. volat. *vel Tinct. Valer. Am.*	gtt. xv. to xl.
Veratrum. White Hellebore.	Root.	gr. v. to ʒss.	Tinct. Veratri.	ʒss.
			Decoct. Verat. (ʒj. ad ℔j.)	ʒj. sæpe.

Simple.	*Parts used.*	*Dose.*	*Compound and Chemical.*	*Dose.*
Viola.	Fresh.		Infus. Violar.	ʒij. to viij.
Violet.	flower.		(ʒj. to ℔j.)	
			Syrup. Violar.	ʒj.
Ulmus.	Inner		Decoct. Ulmi.	℔ij. indies.
Elm.	bark.		(ʒij. to ℔ij.)	
Uva Ursi.	Leaf.		Infus. Uvæ Ursi.	ʒj. to viij.
Bear's Wortleberry.		℈j. to ʒiij.	(ʒij. to ℔j.)	
Zincum.			Ung. Zinci.	
			Flor. Zinci.	gr. ij. to ℈jss.
			vel Zincum ustum.	
Zinc.			Aq. vitriolica.	
			vel Aq. Zinci. vitriolat.	
			Vitriolum album.	℈jss. to ij.
			vel Zinc. vitriolat.	
Zinziber.	Root.		Infus. Zinziber.	ʒij. to iv.
			(ʒij. to ℔j.)	
Ginger.		gr. v. to x.	Syrup. Zinziber.	ʒj.

TABLE

Shewing the Quantity *of the* Principal *or* Active INGREDIENT *in certain* COMPOUND MEDICINES.

OPIUM.

	now	*contains*	
L. Laud.	(*Tinct. Opii.*)	in each ounce	℈ij. of Opium.
Paregor. Elix.	(*Tinct. Opii am.*)	ditto	gr. viii. of Opium.
Dover's Powd.	(*Pulv. Ipec. comp.*)	Dram	gr. vj. of Opium.
Thebaic Elect.	(*Elect. Opiat.*)	ditto	gr. j. of Opium.
Japon. Elect.	(*Elect. Catech.*)	Ounce	gr. ij. ff. of Opium.
Pacific Pills.	(*Pil. Opii.*)	Dram	gr. vj. of Opium.
Opium Troch.	(*Troch. Glyc. cum Op.*)	ditto	gr. j. of Opium.
Anod. Balsam.	(*Linim. Opiat.*)	Ounce	℈j. of Opium.

MERCURY.

	now	*contains*	
Pil. Merc.	(*Pil. Hydrar.*)	in each Dram	gr. iv. of ☿.
Pil. Plum.	(*Pil. Calom. comp.*)	ditto	gr. xxii. of ☿.
Ung. Merc.	(*Ung. Hydrar.*)	ditto	gr. xij. of ☿.
Ung. nitrat.	(*Ung. Citrin.*)	ditto	gr. iv. of ☿. and gr. vii. of acid.
Ung. nitrat. mit.	(*Ung. citr. mit.*)	ditto	gr. ij. of ☿. and gr. iv. of acid.
Emplast. Merc.	(*Emp. Hydrar.*)	ditto	gr. xvi. of ☿.

ANTIMONY.

	now	*contains*	
Tartar emetic Wine.	(*Vin. Antimon. Tart.*)	in each Ounce	gr. ij. of Tartar.

SCAMMONY.

	contains	
Comp. Powder of Scammony. (*Pulv. Scam. comp.*)	in each	gr. vij. gr. iv. of Scam.

ALOES.

	now	*contains*	
Colocynth Pills.	(*Pil. Aloes cum Colocynth.*)	in each Dram	gr. xvj. of Aloes.

JALAP.

	now	*contains*	
Comp. Powder of Jalap.	(*Pulv. Jalap comp.*)	in each Dram	℈j. of Jalap.

PART II.

CLASSIFICATION

OF THE

PRINCIPAL ARTICLES OF THE MATERIA MEDICA,

(ENUMERATED IN PART FIRST.)

ACCORDING TO THEIR MEDICAL QUALITIES.

CLASS I.

EMETICS.	EMETICA.
Bitters in an increaſed doſe	*Amara fortia*
Chamomile, Carduus, &c.	
Ipecacuhan	*Ipecacuhan*
Wine of ditto	*Vin. ejuſdem*
Antimonial Wine	*Vinum antimoniale*
Tartaremetic	*Tartarus emeticus*
Wine of ditto	*Vin. e Tart. emetic.*

CLASS II.

PECTORALS.	PECTORALIA.
I. ATTENUANTS, *as*,	I. ATTENUANTA, ut,
Squills (freſh and dried)	*Scilla*
Vinegar of ditto	*Acetum ſcilliticum*
Oxymel of ditto	*Oxymel ſcilliticum*

Syrup of ditto	*Syrup. ſcilliticus*
Pills of ditto	*Pill. ſcillit.*
Decoction of Liquorice	*Infuſ. Glycirrhizæ*
Extract of Liquorice	*Extr. ejuſdem*
Benjamin	*Benzonium*
Flowers of ditto	*Flores Benzoini*
Tincture of ditto	*Tinct. ejuſdem*
Gum Ammoniac	*Ammoniacum Gum*
Flowers of Sulphur	*Flores Sulphuris*
Balſam of ditto	*Balſam ejuſdem.*

2. INCRASSANTS, *as*,	2. INCRASSANTIA.
Marſhmallow	*Althæa*
Decoction of ditto	*Decoct. ejuſdem*
Syrup of ditto	*Syrup ejuſdem*
Gum Arabic	*G. Arabicum*
Mucilage of ditto	*Mucilago ejuſdem*
Emulſion of ditto	*Emulſio ejuſdem*
Arabic Troches	*Trochiſci Arabici*
Lintſeed Tea	*Infuſ. Sem. Lini.*
Spermaceti	*Spermaceti vel ſevum ceti*
Expreſt Oils, as,	*Olea expreſſa, ut,*
Oil of Sweet Almonds	*Ol. Amygdal. dulcium*
Opium	*Opium.*

CLASS III.

CATHARTICS.	CATHARTICA.
1. LAXATIVES.	1. LAXANTIA.
Acid Fruits, *as*,	*Fructus acidi*, ut,
Tamarinds	*Tamarandi*
Caſſia of the Cane	*Caſſia Fiſtularis*
Electuary of ditto	*Elect. Diacaſia*
Manna	*Manna*
Manna Whey	*Serum Mannæ*
Syrup of Pale Roſes	*Syrup. Roſar. Damaſcenſ.*
Ditto of Violets	*Syrup Violarum*
Soaps	*Sapo*

Soap Pills	*Pil. Saponac.*
Cream of Tartar	*Crem. Tartari*
Magneſia	*Magneſia alba*
Caſtor Oil	*Ol. Ricini*
Flowers of Sulphur	*Flores Sulphuris.*

2. PURGATIVES, *as,*	2. PURGANTIA, *ut,*
Aloes	*Aloe*
Aloetic Pills	*Pil. aloetic vel ex Aloe*
Rufus' Pills	*Pil. Rufi vel Aloes cum Myrrha*
Aloetic Wine	*Vin. aloetic*
Rhubarb	*Rhæum*
Stomachic Pills	*Pil. ſtomachic.*
Tincture of Rhubarb	*Tinct. Rhæi*
Infuſion of ditto	*Infuſio ejuſdem*
Wine of ditto	*Vin. ejuſdem*
Bitter Tincture of ditto	*Tinct. Rhæi amar. vel T. Rhubarb. C.*
Sweet Tincture of ditto	*Tinct. Rhæi dulcis*
Sacred Elixir	*Elixir ſacrum vel ex Aloet. Rheo*
Senna	*Senna*
Infuſion of Tamarinds with Senna	*Infuſ. Tamarind. cum Senna*
Lenitive Electuary	*Electuar lenitiv. vel è Senna.*
Elixir of Health	*Elix. ſalut. vel Tinct. Senna C.*
Jalap	*Jalapium*
Extract of ditto	*Extr. ejuſdem*
Compound powder of ditto	*Pulv. ejuſdem comp.*
Jalap Pills	*Pil. è Jalap.*
Tincture of Jalap	*Tinct. Jalap.*
Syrup of Buckthorn	*Syrup. de Rhamno*
Bitter Cathartic Salt	*Sal Cathart. amar.*
Glauber's Salt	*Sal Glauberi vel Soda Vitriol.*
Solubile Tartar	*Tartar ſolubile vel Kali Tartariſat.*
Vitriolated Tartar	*Tartar vitriolatum vel Kali Vitriolat.*
Polychreſt Salt	*Sal Polychreſt. Idem*
Rochelle Salt	*Sal Rochelle vel Soda Tartariſ.*

CLASS IV.

EMMAGOGUES.	MENAGOGA.
Rue and other Fœtids, whether Bitters or Gums,	*Ruta et alia Fœtida, ſive Amara ſive Gumm.*
Savine	*Sabina*
Decoction of ditto	*Decoct. ejuſdem*
Madder	*Rubia*
Infuſion of ditto	*Infuſ. ejuſdem*
Opium	*Opium*
Caſtor	*Caſtoreum*
Tinctures of ditto, ſimple and compound	*Tinct. Caſtor, ſimplex et compoſita*
Mercury	*Hydrargyrus*
Iron	*Ferrum*
Medicines that act by irritation on contiguous parts	*Medicinæ partes vicinas irritantes.*

CLASS V.

ABSORBENTS.	ABSORBENTIA.
Crab's Eyes	*Oculi Cancrorum*
Crab's Claws	*Chelæ eorundem*
Prepared Chalk	*Creta præparata*
Coral	*Corrallium*
Pearls	*Margaritæ*
Magneſia	*Magneſia*
Calcined Hartſhorn	*Cornu Cervi calcinat.*
Quick lime	*Calx viva*
All Alkalis in a diluted ſtate	*Alkalina mitia.*

CLASS VI.

DIURETICS.	DIURETICA.
Juniper	*Juniperus*
Oil of ditto	*Ol. ejuſdem*

Spirit of ditto	*Aq. compoſita ejuſdem*
Seneka	*Seneka*
Decoction of ditto	*Decoct. ejuſdem*
Nitre	*Nitrum vel Kali Nitrat.*
Salt of Tartar	*Sal Tartar. vel Aq. Kali*
Cream of ditto	*Cremor Tartar.*
Ammoniac Salt	*Sal Ammoniac.*
Syrup of Meadow Saffron	*Colchic. Syrup.*
Acids	*Acida*
Opium	*Opium.*

CLASS VII.

DIAPHORETICS.	DIAPHORETICA.
Counter-poiſon	*Contrayerva*
Compound Powd. of ditto	*Pulv. contrayer. comp.*
Guiac	*Guiacum*
Decoction of the Woods	*Decoct. Lignor*
Sarſaparilla	*Sarſaparilla*
Decoction of ditto	*Decoct. ejuſdem*
Antimony	*Antimonium.*

CLASS VIII.

SUDORIFICS.	SUDORIFICA.
Opium	*Opium*
Camphire	*Camphora*
Vinegar	*Acetum*
Volatile Alkali	*Alkali volatile*
Muſk	*Moſchus*
Snake root	*Serpentaria*
Tincture of ditto	*Tinct. ejuſdem*
Neutral Salts, *as*,	*Salesmedii*, ut,
Mindererus Spirit, &c.	*Sp. Mindereri, vel Aq. Ammon. Acetat. &c.*

CLASS IX.

CORROBORANTS.	ROBORANTIA.
1. ASTRINGENTS, *as,*	1. ASTRINGENTIA, ut,
Red Roſes	*Roſæ rubræ*
Oak Bark	*Cort. Querci*
Logwood	*Lignum Campechenſe*
Galls	*Gallæ*
Japan Earth	*Catechu*
Gum Kino	*Gum Kino*
Alum	*Alumen*
Armenian and other Bolar Earths	*Bolus Armena, &c.*
Peparations of Iron	*Ferri præparat.*
Ditto of Copper	*Cupri eædem*
Ditto of Lead	*Saturni eædem*
Ditto of Zinc	*Zinci eædem.*
2. TONICS, *as,*	2. TONICA, ut,
Gentian	*Gentiana*
Leſſer Centaury	*Centaurium minus*
Quaſſy	*Quaſſia*
Simarouba	*Simarouba*
Decoction of ditto	*Decoct. ejuſdem*
Chamomile	*Chamæmelum*
Wormwood	*Abſinthium*
Tincture of ditto	*Tinct. ejuſdem*
Leopard's Bane	*Arnica*
Decoction of ditto	*Decoct. ejuſdem*
Peruvian Bark	*Cortex Peruvianus*
Anguſtura Bark	——— *Anguſtur.*

CLASS X.

STIMULANTS.	STIMULANTIA.
1. AROMATICS, *as,*	1. AROMATICA, ut,
Peppermint	*Mentha Piperitidis*
Spearmint	——— *Sativa*
Lavender	*Lavendula*
Leſſer Cardamon	*Cardamon. minus*
Roſemary	*Roſmarinus*
Cinnamon	*Cinnamomum*
Caſſia	*Caſſia*
Canella alba	*Canella alba*
Caſcarilla	*Caſcarilla*
Wild Valerian	*Valeriana ſylveſtris*
Orange Bark	*Cortex aurant.*
Sweet ſcented Flag	*Acorus.*
2. PUNGENTS, *as,*	1. PUNGENTIA, ut,
Muſtard	*Sinopi*
Nutmeg	*Myriſtica*
Clove	*Caryophylla aromatica*
Mace	*Macis*
Ginger	*Zinziber*
Alcohol	*Alcohol.*
3. BALSAMICS, *as,*	3. BALSAMICA, ut,
Turpentines	*Terebinthinæ*
Canada Balſam	*Balſam Canadenſe*
Capivi Balſam	——— *Copaibæ*
Peruvian ditto	——— *Peruvian.*
Balſam of Tolu	——— *Toletan.*
Myrrh	*Myrrha*
Storax	*Storax*
Tar	*Petreolum.*

CLASS XI.

DEOBSTRUENTS.	DEOBSTRUENTIA.
Borax	*Borax*
Madder	*Rubia*
Soap	*Sapo*
Mercury	*Mercurius vel Hydrar.*
Mezereon	*Mezereon*
Antimony	*Antimonium.*

CLASS XII.

SEDATIVES.	SEDANTIA.
Acids	*Acida*
Nitre	*Nitrum vel Kali Nitrat.*
Opium	*Opium*
Hemlock	*Cicuta*
Deadly Night-ſhade	*Belladonna*
Henbane	*Hyoſciamus*
Camphire	*Camphora.*

CLASS XIII.

ANTISPASMODICS.	ANTISPASMODICA.
Amber	*Succinum*
Aſa fœtida	*Aſa fœtida*
Galbanum	*Galbanum*
Woodſoot	*Fuligo*
Æther	*Æther*
Caſtor	*Caſtoreum*
Muſk	*Moſchus*
Volatile alkaline Salts	*Sal. alkalina volatil.*

CLASS XIV.

CARMINATIVES.	CARMINATIVA.
Coriander	*Coriandrum*
Dill	*Anethum*
Sweet Fennel	*Fœniculum dulce*
Caraway	*Carvi*
Aniſe	*Aniſum*
Leſſer Cardamom	*Cardamomum minus.*

CLASS XV.

EMOLLIENTS.	EMOLLIENTIA.
Althea	*Althea*
Lintſeed	*Lini ſem.*
White Lily	*Lilium album*
Expreſt Oils	*Olea expreſſa*
Gum Arabic	*Gum. Arabicum*
Gum Tragacanth	—— *Tragacanth.*
Starch	*Amylum*
Spermaceti	*Spermaceti*
Axunge	*Axungia vel adep. ſuilla.*

CLASS XVI.

LITHONTHRIPTICS.	LITHONTRIPTICA.
Alkali, both mild and cauſtic	*Alkali cauſtic. et mite, vel Aqua Kali pur. et Aq. Kali*
Soap	*Sapo*
Lime-water	*Aqua Calcis*
Alkaline aërated Water	*Aqua alkalin. aërat.*
Wild Carrot	*Daucus ſylveſtris*
Bear's Wortleberry	*Uva Urſi*
Diuretics	*Diuretica.*

CLASS XVII.

REPELLENTS.	REPELLENTIA.
1. DISCUTIENTS, *as,*	1. DISCUTIENTIA, ut,
Calamy	*Lapis Calaminaris*
Zinc	*Zincum*
Tutty	*Tutia*
Lead	*Saturnum*
Mindererus Spirit	*Sp. Mindereri vel Aq. Ammon Acetat.*
Vinegar	*Acetum.*
2. COSMETICS, *as,*	COSMETICA, ut,
Balsam of Mecca	*Balsam Meccæ*
Issues	*Fonticuli.*

EXTEMPORANEOUS PRESCRIPTION;

OR,

THE PRINCIPAL FORMS

EMPLOYED IN

THE CURE OF THE PRECEDING DISEASES.

INTRODUCTION.

Conception favoured by attention to the ſtate of conſtitution, by the regulation of the menſtrual diſcharge, and by the circumſtances taking place in the act of coition, detailed in p. 38 (1 and 2).

When relaxation of the conſtitution prevails to a morbid degree, *tonics* particularly indicated, as in vol I. p. 312. Where, on the contrary, rigidity prevails, this is to be obviated by change of climate, the uſe of the warm bath, &c. The regulation of the menſtrual diſcharge is much connected with the ſtate of conſtitution. Where relaxation however prevails, one ſymptom often occurs highly unfavourable to conception, this is the *fluor albus*, or *whites*, and it is to be removed by the means pointed out in vol. I. p. 297; and particularly by cold bathing.

BOOK I.

PREGNANCY.

Sympathetic Diſeaſes.

Dyſpepſia.

Firſt ſtage treated by blood-letting, where evidently plethoric The uſe of opiates, as in vol. I. p. 282. Or its injection; as,

℞ Infuſ. Lini ℥viij.
L. L. gutt. lx. m. ft. Ennema.

℞ Ol. Olivæ ℥v.
Tinct. Opii gutt. lx. m. fiat. Ennema.

Or by an external application; as,

℞ Emplaſt. Laddani ℥j.
G. Opii pulveriſat. ʒj.
Liqueſ. Emplaſt. dein adde Opii Pulv.

Second ſtage obviated by the common dyſpeptic remedies, and neutral ſalts in the act of effervescence; as,

℞ Sal Tartar ʒj.
Aq. font. ℥viij. M.
℞ Spt. Vitriol. ten.
Aq. font. ℥viij. M.

A table-ſpoonful of each mixture to be mixt, and taken in the act of effervescence.

Bitters, as in vol. I. p. 311 and 312.
Abſorbents; as,

℞ Magneſ. alb. ʒiij.
Pulv. Rhæi ℈ij.
Aq. Cinnam. ℥v.
Aq. font. ℥j. M. ft. M.

Two table-ſpoonfulls, a doſe occaſionally.

The heart-burn tablet, the beſt remedy being a mixture of abſorbents and aromatics, as prepared and ſold by BURT, apothecary in Edinburgh.

Malacia, or Longing,

Being an affection of mind, is to be treated by change of ſcene and amuſement, ſo as to withdraw the mind from its attention to the particular infixt object which forms the diſeaſe.

Cardialgia, or Heartburn.

Palliated by the free uſe of abſorbents, as in dyſpepſia.

Hyſteria.

Removed by the antiſpaſmodics enumerated vol. I. p. 304.

Plethoric Diſeaſes.

Counteracting general ſtate at this period, either by veneſection, if plethora ſtrongly marked; or, what is now more common, by attention to the ſtate of the primæ viæ.

Affection of Breaſts.

Local applications conſiſt in allowing a freedom of expanſion; and for that purpoſe employing warmth and emollients to admit relaxation.

℞ Ol. Palmæ ℥ij. *A little to be rubbed warm on the part, and the breaſt afterwards covered with fur or flannel.*

Retroverted Uterus.

The cure to be attempted.

1. By removal of preſſure on the organ, by the uſe of the catheter, and clearing the inteſtines by injection.

In introducing the catheter here, its concave part muſt be turned downwards, the reverſe of what is uſual in other caſes; and if the female one is too ſhort, the male one is to be preferred: the point of its curve in the introduction being alſo directed downwards.

2. Subduing inflammation and pain, by veneſection, if neceſſary, fomentations and opiates; and,

3. Replacing the retroverted part, and retaining it in this ſtate.

By a proper poſition of the patient for the operation; and when the latter is performed, enjoining reſt, and a horizontal poſture, till the retrovertive period is over, or till the end of the fifth month.

In its ultimate ſtate, both premature delivery and SIGAULT's operation equally ineffectual.

For a view of the diſeaſe, vide HUNTER's elegant plate.

Pleuriſy, Cramp, &c.

Treated by veneſection where indicated, the removal of accumulation in the inteſtines by laxatives, as in vol. I. p. 276, ſucceeded by the uſe of anodyne injections, as in p. 327, along with reſt.

℞

Convulsions.

Treated by removal of uterine irritation by veneſection, and clearing the inteſtines, by ſedatives applied to the part, or opiate injections; and,

By a counter ſtimulus applied to reſtore the energy of the brain; as, daſhing the face with cold water, &c.

Palſy.

As ariſing chiefly from preſſure, to be palliated till delivery leſs by general means than by reſt, and the topical applications detailed in vol. I. p. 289.

Mixt Diseases.

Obſtipatio, or Coſtiveneſs.

To be avoided by a diet of eaſy aſſimilation, and the occaſional uſe of laxatives, as in vol. I. p. 276.

Hæmorrhois, or Piles.

Treated by the uſe of laxatives, as in the former diſeaſe, and a horizontal poſture, while pain is alleviated by opiates, as in vol. I. p. 282. And inflammation abated by external ſedative applications, as in vol. II. p. 448.

Œdema, or Swelling of Legs.

Palliated till delivery by veneſection, the uſe of laxatives, and a horizontal poſture.

Varix.

Palliated in the ſame way; but if a rupture takes place, aſtringent applications are to be then applied, as in vol. II. p. 412.

Cramps of the Thighs and Legs.

Palliated, when ſevere, by opiates, as in vol. I. p. 282.

Cough and Dyſpnœa.

Palliated by veneſection, an occaſional opiate, and attention to an erect poſture.

Vomiting.

Relieved by attention to diet, or ſmall quantities of light food at a time, and a particularly abſtemious regimen. Sometimes changing poſition of the uterus may be attempted.

Incontinence and Suppreſſion of Urine.

The former relieved by the proper application of compreſſes to receive the diſcharge; the latter removed by the regular and timely uſe of the catheter.

Accidental Diſeaſes.

Dropſy.

Ascites admits the operation of tapping being performed during pregnancy, if ſymptoms urgent, the puncture being made on the oppoſite ſide to that to which the uterus inclines. When no urgent ſymptoms occur, diuretics to be uſed till after delivery, as in vol. I. p. 352.

Fluor Albus

Is during pregnancy a local affection, and is to be treated leſs by general remedies than local applications, as in vol. I. p. 297.

Rupture.

To be chiefly palliated by attention to the inteſtines; but where alarming ſymptoms occur, premature delivery to be attempted.

Calculus.

To be palliated where occurring by anodynes, till after delivery.

Nephritic Complaints.

To be treated in the ſame way by anodynes and demulcents, vol. I. p. 254.

Icterus (Jaundice).

To be palliated till delivery by laxatives, and the remedies recommended in vol. I. p. 335.

Venereal Diſeaſe.

To be removed by a gentle courſe of mercury, exhibited in the mildeſt form, as in vol. I. p. 328.

BOOK II.

ABORTION.

Management to prevent it conſiſts in,

1. Subduing the increaſed action of the uterus; by,
   Poſture, as directed p. 87.
   Opiate glyſters.
2. Leſſening determination to the organ; by,
   Bloodletting.
   Cold.

Weakening the action of contiguous parts; viz. of abdominal muſcles; by cold applications, as cloths dipt in oxycrate, and by their relaxation by poſture, &c.

Preventing retention of urine.

Avoiding coſtiveneſs.

When abortion takes place, to procure its termination aſſiſtance may be given:

1. By irritation of the os tincæ with a finger, as directed p. 90.
2. By rupture of the ovum in the ſame way.

Where placenta retained, its expulſion promoted by occaſional glyſters, and the effects of its retention counteracted by frequent injections into the vagina, with the uſe of the bark and vitriolic acid, to obviate the putreſcent tendency, as detailed vol. I. p. 318.

Future abortion to be prevented by obviating morbid relaxation by the uſe of tonics and cold bathing, as detailed vol. I. p. 311; by favouring uterine diſtenſion; by confinement to bed till after the abortive period; and by removing the conſtitutional taint, where ariſing from a venereal cauſe.

Flooding.

Treated by the ſame preventative remedies as abortion.

False Conception.

To be treated as abortion.

BOOK III.

PARTURITION.

The firſt ſtep preparatory to every delivery is to know when called the ſtate of the labour, by the touch; and then to adjuſt the bed and dreſs of the patient.

The touch, as formerly deſcribed, is the dexterous introduction of one or more fingers into the vagina, the woman being placed on her left ſide, the uſual poſition of delivery, with her knees drawn up, and her breech towards the ſide of the bed. The great art on this introduction is to avoid giving pain, which chiefly takes place on the ſeparation of the external labia. The finger ſhould therefore be firſt moiſtened with axunge, and being placed on the ſymphiſis, or joining of the pubes, when carried downwards, will naturally fall into the vagina; after which it is directed towards the ſacrum, or rolled round the extremity of the vagina, ſo as to reach the orifice of the uterus!

By this examination, when the uterine dilatation is once determined as having begun, the particular form of the bed, moſt convenient for delivery, becomes next the object of attention. The bed of an in-lying woman, for its curtains, and other appendages, ſhould conſiſt of the lighteſt and thinneſt materials, that the acceſs of the air may be freely allowed; and part of them ſhould be alſo kept conſtantly open for its admiſſion. As the ſoftneſs of the uſual feather-bed renders it too eaſily diſcompoſed, by the agitation and change of poſture in the woman during her intervals of pain, a well ſtuffed mattreſs ſhould be ſpread over it, covered with a piece of ſkin or oil-cloth. Over this laſt, a pair of ſheets is then to be laid, in the ordinary way, and a ſecond pair, made in the form of a roller, muſt be placed above them, in an oppoſite direction, with their ends tucked into the ſides of the bed. An old blanket, covered by a ſheet, is after-

wards to be placed, in a ſquare form, directly under the woman's breech, to receive the waters on the rupture of the membranes, and the reſt of the lochia. The remainder of the bed is to be adjuſted in the common way, this ſupernumerary apparatus being moſtly removed where wetted after delivery.

The making of the bed, if the pains continue ſtrong, is immediately ſucceeded by the dreſs of the woman, which, from the degree of agitation during labour, the leſs cumberſome it is made appears moſt proper. It generally conſiſts of an open half-ſhift, covered with a ſhort bed gown, and a linen ſkirt, with a broad band, called the *ſafe-guard*, which ſerves in ſome meaſure, when faſtened, to compreſs the abdominal muſcles, and forms a proper preſſure on the belly, when a little tightened, after delivery, at which time it is neceſſary to be changed.

Theſe preparations of the bed and dreſs are the buſineſs of the nurſe, and are generally over before an accoucheur is called, though it is neceſſary he ſhould be acquainted with them.

CLASS I.—*Natural Labour.*

Duration ſeldom exceeding from ſix to eight hours.

Management conſiſts in,

1. Aſſiſting the natural efforts by preventing ſtraining in the abſence of pain, directing the proper poſition of the aſſiſtant parts, and encouraging the efforts of the patient in the time of pain.

2. Obviating morbid ſymptoms during the progreſs of labour; as,

Sickneſs, by waſhing out the ſtomach, or giving ſome ſlight aromatic infuſion, as mint tea, &c.

Diarrhœa, by opiates in injection, if labour not much advanced.

Suppreſſion of urine, by the uſe of the catheter; and, if head advanced, puſhing the finger betwixt it and the pubes, to allow the catheter to paſs.

Coſtiveneſs, by a laxative glyſter.

Cramp, when in the abdomen, by opiates, and rupture of the membranes; when in the thigh, not to be alleviated until delivery.

Flooding, by cold applications; and, if very profuſe, expediting delivery as ſoon as poſſible.

3. Preparing to receive the child.

As ſoon as the membranes break, the accoucheur ſhould be at

hand; but even then it is not neceſſary that he ſhould interfere, unleſs he wiſhes to appear very attentive; when in the time of pain, he may ſupport the perinæum with his hand, covered with a cloth held againſt it. When the head is expelled, he places a hand on each ſide of it, and waits for a pain, to give the ſhoulders their proper turn, and the body follows. The child is then to be placed on its ſide, beneath the cloths, which the accoucheur endeavours to ſupport over it, and where he allows it to remain for a minute or two, till it cries, or ſhews certain ſigns of life and vigour. Its connection with the mother is then to be ſeparated, by paſſing a ligature on the umbilical cord, at the diſtance of two inches from the navel. Another ligature ſhould alſo be paſt on the ſide next the mother, and the diviſion of the cord then made between them, which will prevent the blood in the placenta itſelf flowing into the bed on the diviſion, and is the moſt cleanly method. The child is then given to an aſſiſtant; and, in the mean time, ſome cordial, as negus, or cinnamon water, adminiſtered to the mother.

4. Removing the placenta.

The great flow of blood which follows the delivery of the child being over, and the uterus reſuming its contraction, in from 15 to 20 minutes, by the occurrence of grinding uterine pains, the accoucheur twiſting the umbilical cord round the fingers of one hand, while the other is higher placed within the vagina, by gently pulling, aſſiſts the expulſion of the placenta, which completes delivery. A roller is then applied round the abdomen of the woman. She is allowed for ſome time to remain in this ſituation, and having aſcertained the ſtate of her pulſe, and the quantity of the diſcharge, ſhe is then committed to the nurſe, while the accoucheur retires into another apartment. When ſhifted and dreſſed, the accoucheur is informed that he may return, and give the neceſſary directions for the future management, before taking leave.

This is the regular proceſs of 99 caſes out of every 100.

Retention of the Placenta,

From various cauſes, requires ſpecial management.

From morbid adheſion,

To be removed by introduction of the hand, and ſeparating it as directed p. 139.

From rupture of cord,

To be removed by the ſame means, and graſping it firm, without any ſeparation.

From irregular contraction or ſpaſm,

To be removed in the ſame way, joined with the aſſiſtance of an opiate.

CLASS II.—*Protracted Labour.*

Duration from twelve hours to four days.

Management conſiſts in,

1. The art of perſuaſion, and ſoothing the patient, ſo as to gain time.

2. Reſerving her ſtrength as much as poſſible, by ſuſpending exertion in the time of pain.

3. Obviating the ſeveral cauſes of delay; as,

Real weakneſs, by a proper uſe of cordials.

Early rupture of membranes, by opiates, and raiſing the head to permit the flowing off of the remaining portion of the waters that may be retained.

Over diſtenſion, by rupture of the membranes.

Fixt irritation, from ſuppreſſion of urine, by the uſe of the catheter, as directed p. 159. From ſpaſm, by opiates.

Coſtiveneſs, by laxative injections.

Rigidity of the os tincæ by irritation with the finger, as directed p. 159, in the time of pain: contraction of the parts by veneſection, and oily injections into the vagina.

General narrowneſs of pelvis, by ſuſpending the exertion of the pains, the exhibition of opiates, and every mean of gaining time.

Face preſentation, by altering the direction, as directed p. 162, ſo as to bring it into the natural poſition.

CLASS III.—*Inſtrumental Labour.*

Marked by inefficacy of natural efforts, as diſplayed by the ſtate of the labour, and exhauſted appearance of the patient.

For its ſucceſs, all that is neceſſary is patience, perſeverance, and good hands.

Three circumſtances are eſſential to be attended to in conducting every inſtrumental labour; the preparation for it, the application of the inſtrument, and the extraction.

The preparation conſiſts in,

1. Being ſatisfied that the ſtate of the labour is proper for the application of the particular inſtrument you are to employ; and,

without this, no entreaty ſhould tempt you to take a raſh ſtep, from impatience on your own part, or that of the patient, which you may afterwards repent.

2. Removing every obſtruction, by evacuation of the contiguous parts; viz. the bladder and rectum; and,

3. Adjuſting the poſition moſt favourable for the delivery.

Lever.

The lever, or ſimpleſt inſtrument, is applied, the patient lying on her ſide.

The art in uſing it depends on its proper application, by getting high enough to fix a firm hold.

When the occiput is brought down, the labour proceeds readily.

Forceps.

The inſtrument moſt generally employed is the forceps; and, to enſure its ſucceſs, three circumſtances are to be attended to in uſing them:

1. That the ſtate of the labour be proper for their application.
2. That the application be fitly made; and,
3. That the extraction be gradual.

With reſpect to the firſt, a proper forceps' caſe is, when the occiput preſſes againſt the perinæum, the ears inclined laterally, and the head fixed in the cavity of the pelvis.

In all other ſtates of labour, their application is precarious, and ſhould if poſſible be avoided.

With reſpect to the ſecond circumſtance, or their mode of application, their figure correſponds to the ſlope of the ſides of the pelvis; they are therefore to be placed over the ears, by carrying them in their introduction as much as poſſible againſt the perinæum, which will ſecure a proper hold.

The left hand blade is to be firſt introduced, in order to make the locking upon the upper ſide, carrying it cloſe to the ſurface of the fœtal head, which will both prevent injury, and render the direction of the hand to the full height leſs neceſſary.

The firſt blade introduced is held in its place by a hand, till the other hand, introduced on the oppoſite ſide, confine it from ſlipping; and on this laſt hand, ſo introduced, the ſecond blade is then directed. On withdrawing the hand, the blades are to be locked; and, if locking readily, leaving a ſpace of an inch and a half between the blades, the hold is proper. If too cloſe, a ſufficient hold of the bony part is not included.

If not locking readily, the hold is improper.

When locked, a ligature is unneceſſary, as occaſioning too much compreſſing, which in pulling ſhould even be moderated.

The efforts of pulling ſhould be moſt violent at firſt, until the head move.

When once moving, the certainty of ſucceeding is undoubted, and hurry is then to be avoided.

The direction of pulling ſhould be firſt downwards and backwards; or, if not yielding from ſide to ſide, then more directly forwards; and, as the occiput is diſengaged from the pubes, it ſhould be upwards, to ſave as much as poſſible the external parts.

To take advantage of the natural efforts where they occur is a good general rule; but to wait for them, when the forceps are applied, no practitioner ſhould think of.

The forceps are not merely, as Dr. DENMAN remarks, to ſupply the want of natural pains; their uſe proceeds farther, and is meant to give actual aſſiſtance where pains are of no avail.

The ſecond forceps' caſe requires the blades to be applied from pubes to ſacrum, the poſition of the woman in doing it being on her left ſide.

The extraction here, inſtead of pulling, begins by giving a quarter turn, ſo as to reduce the head to the natural preſentation, when, the poſition of the woman being changed to her back, the extraction proceeds in the natural way.

The third forceps caſe differs nothing from the firſt, either in the application or extraction.

Face Caſes.

When requiring the forceps, have their application regulated by the particular circumſtances of the preſentation, and the rules already detailed will apply.

Long Sciſſars and Crotchet.

The ſucceſs here depends on a proper command of the preſenting part, a full diminution of the head, and a gradual extraction.

The firſt is effected by a proper poſition of the patient, on her knees and elbows; and by the preſenting part being wedged in the pelvis, or being kept firm by preſſure on the abdomen.

The ſecond requires a proper length of ſciſſars, ſo as to perforate the bony texture of the cranium; and the perforation alſo to be made at more than one place.

The third is the moſt difficult; and, after the hold is ſecured, before proceeding to the extraction, the injured parts of the head ſhould be ſo covered with the teguments, as to prevent wounding the paſſage in the progreſs of delivery.

Whenever the hold ſlips, the extraction ſhould immediately ſtop, and the hand be introduced, to aſcertain the cauſe of it, and a new hold taken.

To avoid the uſe of the crotchet in future deliveries, three modes of prevention are recommended:

1. To prevent complete evolution, or growth of the child, by the treatment of the mother during pregnancy, conſiſting in an abſtemious regimen and frequent ſmall bleedings.

2. To produce premature labour, in the ſeventh or eighth month.

3. To enlarge the pelvis, by SIGAULT'S operation. This operation is performed by cutting through the teguments and linea alba, at the upper and centrical part of the ſymphiſis pubis, when, the finger being introduced as a director, the ligaments and cartilage are next divided, and the ſeparation completed. The after-treatment conſiſts in preventing or abating the effects of inflammation, which are here often conſiderable.

Dr. OSBORNE'S *improved Crotchet Practice.*

The ſucceſs here lies in four circumſtances; viz.

1. The early diminution of the head.

2. The total removal of the cranial bones.

3. An intervening period between the diminution and extraction; and,

4. An attention in the extraction to the dimenſions of the pelvis.

Cæſarian Operation.

Previous treatment the ſame as for any important operation in ſurgery, particularly emptying the bladder and rectum.

Inciſion, either lateral or umbilical, carried ſlowly through the teguments and ſubjacent parts, till the peritonæum is laid in view.

Veſſels then taken up by ligature. When done, a ſmall hole to be made in the peritonæum, into which a finger introduced as a director, will guide the inciſion made with ſciſſars to a ſufficient length. A preſſure then to be made on the abdomen by the hands of aſſiſtants, to circumſcribe the ſituation of the uterus before the internal inciſion. Middle of the uterine ſurface that preſents to be then opened, ſo as to introduce a finger, avoiding the ſituation of the placenta. Inciſion extended on the finger for a ſufficient length, and the extraction of the child and ſecundines then made as quickly as poſſible, to prevent hæmorrhage.

If the child's head be locked in the brim of the pelvis, a finger introduced into the vagina, to raiſe it.

Operation finiſhed, by removal of clotted blood effuſed.

After-treatment conducted—

1. By promoting adheſion of divided parts, by ſtraps of adheſive plaiſter, or the dry ſuture (*vide* vol. II. p. 23.), and the uſual dreſſings.

2. By circumſcribing incipient inflammation, which is beſt done by careful removal of every extraneous ſubſtance from the abdomen, before uniting the wound, and afterwards regularly removing ſuch parts of the dreſſings as will allow a free diſcharge of any fluid collected.

CLASS IV.—*Manual Labours*

Require in their treatment a diviſion into two ſtages,—the preparation and delivery.

The preparation conſiſts in determining the poſition of the child, by examination external and internal, rendering the ſtate of the uterus favourable to delivery by a large opiate, and directing the poſition of the patient, which is either the ſide, the knees and elbows, or, towards the termination of delivery, the breech.

The delivery conſiſts in reducing every ſituation, by turning to a footling caſe, and extracting in that form.

Turning, performed by the introduction of the hand in the manner directed, page 230.

Footling Caſe.

Diſtinguiſhed on rupture of the membranes, by the heel and want of the thumb.

Labour ſhould proceed naturally till the head deſcends into the pelvis. Aſſiſtance then given by wrapping a cloth round the limbs, and pulling gently at each pain, and ſhifting the hold farther up as it advances, till the breaſt appear.

Back of the fœtus muſt then be to the pubes; and if not, to be effected by giving it a turn.

When deſcending the length of the ſhoulders, the arms to be then brought down, as directed page 231.

When brought down, head to be then extracted, and the various difficulties oppoſing it obviated, as in page 233.

Natal Caſe.

Marked by the cleft between the buttocks, and by the genitals.

Two methods of delivery practiſed.—Either allow it to advance naturally, or puſh up the preſenting part, on once aſcertaining it, and bring down the foot or feet, when it is reduced to the former caſe.

Tranſverſe Caſe.

Diſtinguiſhed by early rupture of the membranes; no part of the child felt; often the cord prolapſed.

The hand, in every variety of this caſe, to be introduced, and the feet brought down.

Brachial Caſe.

Known by the feel of the hand; the delivery always difficult, though depending, for the degree of it, on the time of the rupture of the membranes.

The treatment conſiſts—

In preparing for turning, by aſcertaining the exact ſituation of the feet, and relaxing the uterus by an opiate.

The hand then introduced as directed page 239.

When the hand cannot be introduced, the ſhoulder of the child to be raiſed by the operator's fore-finger and thumb, placed as a crutch under the axilla, ſo as to gain room for its paſſage.

Failing in theſe attempts, a ſpontaneous evolution of the child is to be allowed as the laſt reſource.

CLASS V.—*Anomalous Labours.*

1. *Flooding.*

Firſt ſtep to diſtinguiſh the ſituation of the placenta, both by the ſymptoms and examination.

When properly attached, treatment conducted by enjoining a horizontal poſture; by cold applications to the uterine region; by refrigerants in liberal doſes, as in Volume Firſt, page 295; and by

mild nouriſhments, in ſmall quantities. When attended with pyrexia, bleeding ſometimes admiſſible.

The flooding abating, motion to be avoided, as endangering a return.

When placenta improperly attached, known alſo by the ſymptoms and examination: delivery then the only certain relief.

To be attempted as ſoon as poſſible; or when marked by the appearance and decay of ſtrength of the patient.

If pains attend, natural delivery is to be preferred, breaking the membranes as ſoon as within reach, and occaſionally irritating the os tincæ, in order to expedite the delivery.

When no pains occur, artificial delivery then unavoidable; performed as directed page 253, the ſucceſs of which depends on its ſteps being ſlowly conducted. So ſoon as the membranes are broken, a proper abdominal compreſſion is to be applied, in proportion to the relaxation of the uterus in the progreſs of delivery, and the ſtrength of the patient ſupported by a proper uſe of cordials.

When floodings occur in the progreſs of labour, delivery is to be expedited, if neceſſary, by the forceps, as ſoon as the preſentation is within reach.

Conſequences of flooding to be obviated as directed in p. 255.

2. *Convulſions.*

Treatment to be palliated by veneſection, opiates in glyſter; and a powerful irritation to the face, by daſhing it frequently, and, as it were, inſtantaneouſly, with cold water. As ſoon as the forceps can be applied, delivery to be completed.

3. *Prolapſed Funis.*

Treatment, introducing the hand, paſſing the cord beyond the preſenting part, and retaining it there until preſenting part ſufficiently engaged to prevent its return. Neither turning nor forceps admiſſible in this caſe.

4. *Plurality of Children.*

Signs all uncertain until delivery of one, membranes then to be broken, and preſentation of the head allowed to proceed; if not, the head to be turned, and feet brought into the paſſage. Both cords joined when extracting placent, and, if not readily yielding, the hand to be introduced.

5. *Extra-Uterine Labour.*

No treatment admiſſible here, but truſting to nature; expelling the production, by the proceſs of inflammation in her own way, except in abdominal caſes, taken notice of under the head of Cæſarian operation, page 225.

BOOK IV.

Child-Bed.

The ſituation of the patient ſhould be airy and free; her poſture, with the head and ſhoulders raiſed; and every attention paid to preſerve her quiet and unruffled.

Pain is to be obviated by the uſe of anodynes, which are variouſly combined, according to the uſage of different places.

In England, they are combined in mixtures with ſpermaceti and contrayerva; in Ireland with aſafœtida; and in France, with oily draughts.

The ſimpleſt forms, however, are beſt; as,

℞ Tinct. Opii gutt. xxx.
Aq. Cinn. ſ.
Syr. Simpl. *a* ℥ſſ. m. fiat. hauſt.

To be repeated every night while the pain continues.

℞ Pil. Pacific. *Two at bed-time.*

℞ Aq. diſtillat. ℥ſſ.
Ol. Amygdal. dulc. ʒij.
Syr. Balſam. ʒj.
Elix. Paregoric ʒj. m. ft. hauſt.

℞ Spermaceti, ʒſſ.
Sacchar. alb. ʒj.
Mucilag. G. Arabic ℥j.
Tinct. Opii gutt. xxx. m. ft. hauſt.

Vide alſo vol. I. p. 283.

When watchfulneſs the only ſymptom, and opiates diſagree, Caſtor will ſucceed; as,

℞ Caſtor. Ruſſic. recenter Pulver. ℈i. ad ℈ij.

The doſe to repeated after an hour, till it ſucceed.

Where the after-pains aſſume the form of ſpaſm, the opiate to be exhibited in glyſter, either ſimply, or combined with aſafœtida, as in page 329.

Fomentations alſo applied externally, as in vol. II. page 413.

Thirſt is to be abated by the uſe of cooling drinks, viz. toaſt and water, Cow milk whey, gruel, &c.; or as in vol. I. page 275.

Coſtiveneſs is to be obviated by mild laxatives, as in vol. I. page 296; or, what is preferable, by an emollient glyſter, every ſecond day, as in vol. I. page 276.

Diſeaſes of Child Bed.

Faintings.

Faintings of the mild ſpecies removed by proper abdominal preſſure, a ſupine poſture, and the uſe of gentle ſtimulants, as, ſteams of vinegar to the noſe, or moiſtening it with lavender or Hungary water, giving a little negus or cinnamon water occaſionally, with a free admiſſion of cool air.

Faintings of the ſecond ſpecies admit little relief, except warm applications, to reſtore the vital heat, in addition to the former treatment.

Hæmorrhage.

To be checked by a free application of cold; as cloths dipped in oxycrate, applied to the abdomen and back; cold water daſhed on the abdomen, and injected with a bag and pipe into the uterus.

Raiſing the patient ſuddenly to the erect poſture, ſo as to bring on fainting or delirium; giving large doſes of opium; and failing by theſe means, irritation of the os tincæ with the finger, to excite the contraction of the organ.

Recovery generally takes places, if ſurviving ſix hours.

Partial Injuries.

Swelling of Parts removed by fomentations, as in vol. II. p. 413; by emollients, as in vol. II. p. 337; and the uſe of the catheter.

Laceration of the Bladder palliated by Saturnine waſhes, as in vol. II. p. 412; by preſſure againſt the part; by a ſponge peſſary adapted to it; by the occaſional introduction of a bougie into the urethra; and by the general means of invigorating the ſyſtem in the uſe of tonics and cold bathing.

Incontinence of Urine palliated till the tone of the parts is repaired; by thick compreſſes applied, to abſorb the moiſture.

Rupture of the Uterus treated by immediate delivery, and afterwards obviating pain and inflammation.

Inflammation of the Uterus depends on the general means of abating inflammation, by the antiphlogiſtic courſe, as directed vol. I. p. 276; and by warm fomentations to the part, as in vol. II. p. 413.

If ſuppuration takes place, treatment proper as directed vol. II. p. 413, with the uſe of bark and opium internally, to haſten it.

Prolapſis of the Uterus, in its *mild* ſtate, yields to a horizontal poſture; ſtyptic waſhes, as in vol. II. p. 449; and the uſe of general tonics, as the bark, ſteel, and cold bathing.

In the *complete* ſtate, in addition to theſe means, it requires alſo a mechanical ſupport, or the application of a peſſary.

Peſſaries are of various kinds; the ſimpleſt of them is the ſponge, prepared in the following manner: let a piece of ſponge be ſoaked in alum water, of a certain ſize, accommodated to that of the vagina, and let a thread be paſſed through it, ſo that it may be eaſily withdrawn. This ſponge is to be introduced, covered looſely with a piece of linen, which will allow its expanſion during the time it is retained aſtringent; injections are to be thrown up of alum water, or ſugar of lead. After a few days, it is to be withdrawn, and a ſmaller ſponge, according to the degree of contraction in the paſſage, introduced anew, and the ſame ſucceſſive change of ſize is to take place, until it can be entirely laid aſide. A compreſs and bandage will retain them in their place. But peſſaries of a firmer ſubſtance are required, when the diſeaſe is of long ſtanding; and they are of ivory, wood, ſteel, and ſometimes of cork and ſponge, covered with wax; but, from their brittleneſs, they do not anſwer well. The elaſtic reſin has been alſo tried, but does not anſwer, from turning too ſoft in the vagina. The box wood or ivory are found to anſwer beſt: they are made with a ball and ſocket, when they are ſupported by ſtrings tied round the waiſt and thighs; but their motion occaſions their fretting the parts.

The form of a plain circular ring is, therefore, preferred: it ſhould be covered with a piece of linen; and a bit of tape ſhould be faſtened to the edge, to facilitate its extraction. The great art in its introduction is to adapt the ſize to the ſtate of the parts; for it ſhould be ſo large as to be introduced with difficulty,

and occaſion ſomewhat of a painful ſtretching, one edge being placed to the pubes, the other to the perinæum, until it paſs between the iſchia, by the projections of which it is ſupported: when it is turned for this purpoſe in the other direction. It ſhould be withdrawn every eight or ten days, that no incruſtations may take place, and then introduced anew.

Fevers.

Weed.

Ephemera, or weed, to be treated as directed in vol. I. p. 339, particularly in the uſe of mild diaphoretics.

Lacteal, or Milk Fever.

Beſides the uſual antiphlogiſtic means, detailed in vol. I. p. 276, requires particular attention to the local affection, or breaſts, as directed vol. II. p. 130. 262. and alſo p. 431, and 445.

Miliary Fever.

To be treated in the mild ſpecies by the antiphlogiſtic courſe, as in vol. I. p. 276.

To be treated in the malignant ſpecies as a typhus, vol. I. page 301.

Puerperal Fever.

Treatment as directed vol. I. p. 310.

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