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A N

E S S A Y

O N

DIFFICULT LABOURS.

PART FIRST.

By THOMAS DENMAN, M.D.

LICENTIATE IN MIDWIFERY,

OF THE COLLEGE OF PHYSICIANS.

L O N D O N:

Printed for J. JOHNSON, No. 72, St. Paul's Church yard.

MDCCCLXXXVII.

THE



ON

DIFFICULT LABOURS

PART FIRST

BY THOMAS DEANMAN, D.D.

LECTURER IN NEWBURY

AND COLLEGE OF TRINITY

LONDON

PRINTED BY J. B. ROBERTS

Difficult Labours.

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CLASS SECOND.

DIFFICULT LABOURS.

CHAPTER VII.

SECTION I.

FROM this history of a natural labour, and from the tenour of what has been advanced in the preceding chapters, it appears that parturition is a process of the constitution which generally, requires no assistance; and that when it is natural, it should be suffered to have its own course, without interruption; for the very same reasons, which render all interposition with other natural operations, unnecessary and improper. Whence then arises the necessity or expediency of establishing midwifery as an art for the relief of the human species? or in what respects has society profited by the establishment? Certainly neither on the presumption that women are by nature def-

stitute of those powers, which at the time of parturition, are in all other creatures generally equal to the exigences of their situation; nor when those powers are fairly exerted, every cause producing its effect, in the order and in the manner which the parts by their construction were framed to perform and undergo; nor, when there exist no uncommon impediments, by which the effect to be produced by the operations of the natural causes, may be obstructed. But as the aid of medicine becomes necessary, when from some defective, or irregular exertion of the native powers of the constitution: or from some adventitious cause of obstruction, or from some infirmity in the constituent parts of any of the organs of the body, the functions of any part may be suppressed, impeded, or in some way rendered irregular, to the detriment of the part, or of the constitution: in like manner, the assistance of the art of midwifery may be required for the relief of irregularities or difficulties in the act of parturition.

In all creatures in which there is a difference of structure, there must be a difference in the conduct of every function of the constitution, which is at all connected with, or dependent upon such variety in structure; and a difference in the process of any function, especially if that should be rendered more complex, may become the predisposing cause

cause of such deviations from the natural course of the action, as may require the assistance of art: though the very same function, proceeding in a natural way, might be void of danger, and require no assistance whatever. The knowledge of the peculiarities of the human species, or of the specific circumstances in which women differ from all other female creatures, may therefore be considered as affording the only just and true basis on which the practice of midwifery ought to be founded. Before we proceed then, to an enquiry into the particular cases which may demand the assistance of art, or determine upon the manner in which that art can be exercised with the greatest advantage, a review of those peculiarities will be necessary and useful.

The first and most obvious circumstance in which women differ from all other female creatures, is in the erect position of the body; of the consequence of which, with regard to the *pelvis*, and some diseases to which women are particularly liable, notice has been already taken*. In the original construction of the *pelvis* in quadrupeds, with a view to parturition, there seems to be a necessity of regarding its capaciousness alone; because if even more than sufficient space were provided for the passage

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of

* See the Introduction, Chap. i. Sect 5. and Chap. ii Sect. vii.

of their young, no attitude into which they put themselves, or into which they can be compelled by any accident, during utero-gestation, would subject them to danger on this account. But from the erect position of the human body, if the cavity of the *pelvis* had borne the same relative proportion to the size of the *fœtus* as in quadrupeds, women would have been liable to many and great inconveniences; as the weight of the *ovum* and enlarged *uterus* must, in advanced pregnancy, have been occasionally sustained by the soft parts; which becoming thinner and less equal to that office, according to the advancement, premature labour would often have been brought on. For this, and perhaps several other less obvious, though equally important reasons, which it is not necessary to enumerate, there undoubtedly is a greater difference between the dimensions of the cavity of the *pelvis*, and the head of the human *fœtus* at the time of birth, than in any animal; and this difference must eventually become the cause of more painful and difficult labours.

As there is no effect throughout nature without some sufficient cause, as well as some wise end, perhaps the most satisfactory proof of the existence of this disproportion, may be drawn from the construction of the head of the human *fœtus*, which being incompletely ossified at the time of birth, is capable of having its form changed, and its size diminished,

diminished, without any injury from the compression. These effects are produced in some degree in almost all labours, but very remarkably in those which are compleated with difficulty; for in such, the sutures not only accede, but the edges of the bones will ride over each other in a very extraordinary manner. From this original and comparative relation between the cavity of the *pelvis*, and the head of the *fætus*, women are naturally more liable to difficulties in parturition, than animals; which difficulties may be esteemed as an allay for the advantage obtained by the erect position: or because their offspring were so framed as to be capable of greater excellencies than animals; which excellencies may depend upon this construction of the head. Without this incomplete ossification, great numbers of children must have been inevitably destroyed at the time of birth, or the parents must have died undelivered. Nor is this provision only sufficient to answer the end of mitigating those evils to which women are by their structure necessarily liable; but it is generally equal to the relief of those which are occasioned by morbid alterations in the size of the cavity of the *pelvis*.

2. The intercourse between the parent and *fætus*, while it abides in the *uterus*, though generally alike in all viviparous animals, has some variation in each class. The *ovum* is constructed for a temporary use, but in a most beautiful and perfect

perfect manner for the purposes for which it was ordained. The variations may exist either in the *uterus* or *ovum*.

In the *uterus* of the different classes of animals, the most obvious variety is in the form. Animals might, perhaps, be nearly as well arranged, and the class to which they belong as well determined by the form of the *uterus*, as by any other external or internal mark. Such as are the form and structure of the *uterus*, such will be the properties, and of course in every animal in which there is a difference in form, there will be some corresponding difference in the circumstances of parturition; so that it is probable we should not, on enquiry, find an exact likeness in the parturition of any animals which vary either in *genus* or *species*.

The *uterus* in all animals may be considered as the bed or soil in which the *fætus* is preserved and nurtured, till it arrives at a state of perfection, and by which it is ultimately expelled. For the completion of these ends, there must be a perfect coincidence between the nature of the *fætus* to be preserved and nurtured, and the properties of the *uterus*, which performs those offices. The varieties in the form of the *uteri* of different animals are progressive, from those of the lowest tribe, to the human, which when un-impregnated, is pyramidal, becoming more oviform according
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ing to the degree of its distention. On the form not only the accommodation of the *fœtus* may depend, but the term of utero-gestation also; or the power which every individual *uterus* has of bearing distention only for a certain time. Yet if this were allowed, it would still remain to be enquired why an *uterus* of one form, became capable of bearing distention for a longer time than that of another.

Complicated with, or dependent on form, is the substance or thickness of the *uterus*; and on this again the power which the *uterus* is capable of exerting at the time of parturition. The *uterus* in women is of greater thickness, and of a firmer texture in the un-impregnated state, than in animals; and in these it is said to become somewhat thinner, in proportion to its distention; whereas in women it retains its thickness, or becomes rather thicker during pregnancy. It appears that by this thickness is gained the medium of that power which is exerted by the human *uterus* in the act of parturition, and without which women could not in many cases have been delivered. But if there had been occasion in animals, for the exertion of an equal degree of power, they could not have been delivered; as there is not in them a medium by which such power could have been exerted, and the form of the *uterus* would also have been unfavourable for its operation.

This

This thickness of the *uterus*, notwithstanding its distention, is chiefly preserved by the enlargement of the arteries, veins and lymphatics, and their enlargement is most conspicuous about that part to which the *placenta* adheres. The quantity of blood circulating in the human *uterus* and the adjacent parts, during pregnancy, is very great; and it probably undergoes some preparatory change, before it is conveyed to the *placenta*; so that it may be presumed, that the *uterus* performs the office of a gland preparing the blood, before it is conveyed to the *placenta*, for a more perfect secretion of whatever is to be separated from it, for the use of the *fœtus*; as well as of a containing part of the *ovum*. On the quantity of blood may also depend the action of the *uterus* at the time of labour; for if the *placenta* be loosened before the child is born, and the blood has a free discharge, there is seldom any efficacious action, though the *uterus* may be, in all other respects, in a state of perfect health.

In our present enquiry, the principal part of the *ovum* which deserves attention, is the *placenta*, and of this there is an endless variety in the different kinds of animals, according to the nature and properties of each parent and the offspring. In the *belluæ*, the office of the *placenta* is performed by the whole membrane of the *uterus* being thickened,

ed, and becoming proportionably vascular ; in the *pecora* it is divided into many lobules, composed of long and vascular fibres, called *cotyledons*, affixed to as many temporary eminences of the internal surface of the *uterus* ; in the *feræ* it surrounds the *uterus* like an internal belt ; and so on, with great variety, in the different classes of animals. But in the human species, the *placenta*, as the word implies, is in one mass, of a circular form, flattened, and becoming gradually thinner towards the edge, adheres to the *uterus* with a broad surface. When this is separated, the orifices of many of the large vessels of the *uterus* are opened, and a considerable quantity of blood is immediately discharged, far beyond what could possibly be lost in any animal, though of a much larger size ; and if the *uterus* was to continue distended, the orifices remaining open, there would be a dangerous or a fatal hemorrhage. For not only the blood circulating in the *uterus* would be immediately poured out of its vessels, but all that which is contained in the body might be drained, and the patient speedily perish, if she were not relieved by art ; and yet no animal ever was or could be destroyed, or brought into danger by this circumstance. For the same reason also, the uterine discharges continue a longer time, after delivery, in women than in animals ; the irregularities and interruption of which may become the causes of disease, and are proofs

that independent of fashion or custom, there is a necessity that women should, for their own safety, be separated from society for a certain time after delivery. On account also of the form of the *uterus*, and the peculiarities of its action; of the bulk of the *placenta*, and the manner of its connection, it is more likely to be retained in women than in animals; and its retention may be followed with worse consequences.

3. In the consideration of this subject, the passions of the mind are of too evident importance to escape attention. On a variety of occasions, these, in human beings, (to a certain degree, in a natural state, and much more when heightened by all the refinements and perversions of society,) are found to be capable of producing the most extraordinary effects; by suppressing or suspending for a certain time the action of any, or of all the powers of the constitution; by occasioning them to act with irregularity, and at improper times; and in some cases also by exciting them to act with too great energy and force. But animals suffer neither from the recollection of the past, or dread of the future; and acting according to their nature, the good or evil of the present moment, to them appears to be the whole of their existence. In the passions we may then discover sources of danger, and disturbance in the parturition of women, from which animals are exempt; and the observation is so

so general, that care is universally taken to prevent the communication of any intelligence to women in, or about to be in labour, which can either distress, or much agitate them. To this principle or cause, may also be referred, the many nervous affections to which women are subject in the state of childbed, and for some time after they are delivered, when the animal powers are reduced, and the sensations quickened. But it must be allowed, that the greater degrees of these evils, are not to be attributed to physical infirmities, but to moral errors.

A consideration of their unimpaired constitutions and less exquisite feelings, will likewise discover to us the reason why the lower orders of women have more easy and favourable births than those who live in affluence; the frame of whose bodies, and the sensibility of whose minds are altered, and often depraved, by the indulgence of parents, when they are infants, and by their own luxury, when they are adults. The constitutions of those who are hardy, are better able to bear the common accidents of child-bearing, and they suffer less because they have less feeling and apprehension. When the *Egyptian* midwives were charged before *Pharaoh* with disobedience to his orders, because they preserved the lives of the *Hebrew* children, they pleaded in their excuse, that the *Hebrew* women were not like the

Egyptian, “ they were lively, and were delivered before they (the midwives) could come to them.” The *Hebrew* women were slaves, accustomed to labour and hard living; but we may presume, that the *Egyptians* suffered all the evils arising from indolence and luxury. The same observation will also explain the reason of many of those evils which women in the higher ranks of life suffer; particularly why fewer women die in child-bed in the country than in cities, where even those of the lower class, too often plunge into gross indulgences, and therefore suffer the same or a worse fate, than the delicately luxurious.

4. We are lastly to consider, that women are by constitution and by habits of education and living, subject to diseases to which animals are not liable; which diseases become of great consequence, by creating new causes of difficulty, or by increasing natural evils, or by weakening those powers by the operation of which, difficulties should be overcome. All these diseases it is unnecessary, and perhaps impossible to enumerate; but that, which by affecting the bones in general, and those of the *pelvis* in particular, has the greatest influence on labours, is deserving of especial notice.

By the *Rachitis* is not only understood the disease of children properly so called, but the *osteo-sarcosis*, or *mollities ossium* also, this being the

the only difference between them; that in the former, the bones, in the infantile state, are prevented from acquiring such a degree of firmness, as will enable them to sustain the weight of the incumbent body, without yielding and becoming distorted; which distortion may remain to adult age. But, in the latter, the bones having been properly ossified, become soft again, in consequence of the absorption of the ossific matter, by which the most extreme degrees and frightful kinds of deformity have been sometimes occasioned. From distortion produced by either of these causes, the cavity of the *pelvis*, which in a natural state, should measure upwards of four inches, in its narrowest limits, may be reduced to two, or even to less than one inch; by which the reciprocal proportion between it and the head of the *fœtus*, is perverted or destroyed, and it is absolutely impossible for the latter to pass through the former. This softness and consequent distortion of the bones, being peculiar to, or infinitely more frequent in the human species, occasions difficulties at the time of parturition, from which animals are almost universally free. Even if animals were liable to it, from their position, and the diminished weight which the *pelvis* in them supports, it could not produce the same kind or degree of effect. From the frequency of this disease, in cold and unwholesome climates, or in crowded

crowded cities, where the employments and manners of the human race, weaken the constitutions of the inhabitants; and from its rarity in warm and healthy situations, with rustic employments and simple manners, we may conclude, though we retain and act upon the same principles, that the events of the practice of midwifery must be different in different places, and that the authority of the best writers must in some measure be local.

On account of the originally relative smallness of the *pelvis*, of the structure of the *uterus* and *placenta*, of the passions, and of the diseases to which mankind are by nature, or by the customs of society, peculiarly liable, the causes of many difficulties and dangers which attend parturition, will be evident; and of course the necessity of establishing midwifery, as an art, for the relief of women.

But to render these observations, with others, diffused through this essay, of greater use, I shall endeavour to reduce them into propositions in the following order :

1. All viviparous animals bring forth their young with pain.

2. The degree of pain which they suffer, will depend upon the degree of their sensibility, natural or acquired, and upon the difficulty with which they bring forth their young.

3. The

3. The difficulty with which they, in general, bring forth their young, depends upon their construction.

4. But by their construction, they are also endowed with powers capable of overcoming all the difficulties to which such construction generally renders them liable.

5. The process of parturition in animals, is therefore to be esteemed a natural process, requiring no other assistance, than the exertion of those powers which depend upon their construction.

6. The construction of the females of the human species is different from that of the females of any order of animals.

7. The construction of the females of the human species is such, as to render them unavoidably subject, in general, to greater pain and difficulty in parturition, than the females of any order of animals.

8. But by the construction of the females of the human species, and by the original formation of the head of the human *fetus*, provision is made for overcoming all the difficulties to which the peculiarities of their construction may render them generally liable.

9. With regard to the act of parturition, when natural, women are therefore to be esteemed on a similar footing with animals.

10. But

10. But as women are by their construction, and by the customs of society, subject to diseases and accidents, which increase the natural difficulties and danger attending their parturition, from which the females of every order of animals are free;

11. It will follow, that the occasions which require assistance at the time of parturition, must, of necessity, occur more frequently in women, than in the females of any order of animals.

From these premises, the expediency and necessity of establishing midwifery as an art for the relief of the human species, will appear.

S E C T I O N II.

MANY general circumstances and appearances have been mentioned, and considered as the presumptive signs of difficult labours; and though I apprehend, that much stress cannot be laid upon them with a view to practice, it will not be improper to enumerate them. If they were certain and invulnerable, it would be incumbent on us to understand the degree and extent of their influence, and to apply ourselves to the discovery of some means, by which we might prevent or remedy the evils we foresaw.

The

The kind of labour which any particular woman will probably have, has been supposed to depend, in some degree, upon her complexion. Women with very fair or very dark complexions, have been considered to be equally subject to difficulties or inconveniencies in parturition; whilst those of the intermediate shades were supposed to have advantages in their favour. Now, as far as any particular complexion can indicate a general state of health, this observation is reasonable and true, with respect to labour; those who have the best health, usually passing through that process in the best and safest manner. But as those who are of complexions in either extreme, may have perfect health, any inference drawn from this principle, must be liable to many exceptions.

By the general size of the body, it has been conjectured that we might foresee whether an ensuing labour would be easy or difficult. This observation will stand upon the same ground with the foregoing; that is, it may hold good, as far as one certain size may be found best suited for the performance of all the functions of the body, and the purposes of life. Those who are very tall, are not often very active, or capable of bearing much fatigue; and those who are very short, may have become deformed in consequence of ill health in the early part of their lives: Those on the con-

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trary,

trary, who are of a middle size, or rather below it, being presumed to be more generally healthy, and best adapted to the common occasions of life, may be expected to have the best labours, as they have sufficient power, and a readier disposition to act.

The habits of life, and the dispositions of patients, have been supposed to have some influence in forwarding or retarding labour. Those women who are indolent in their habits and dispositions, perform all the functions of the constitution in a slow and indolent manner, and of course may be expected to have tedious labours. But those who are of lively dispositions and active habits, being in the constant exercise of their powers, have not only these powers strengthened, but greater energy also; and the activity of the parts concerned in parturition, will partake of that of the body in general.

The regularity, together with the ease or difficulty of a labour, may, in some measure depend upon the strength or weakness of the faculties of the mind; but this must be a very general observation, and can only hold good in that extensive way in which it is admitted in other occurrences of life, in which weakness of judgment may fancy evils that do not exist, or add to the weight of those which are unavoidable.

Labours are generally affected by the climate
in

in which women live. In hot climates, all natural labours are said to be more easy than in those that are cold; probably, because the disposition to relax and dilate, is more perfectly assumed. But in cold climates, from the acquired rigidity and firmness of the parts, there will be occasion for greater exertion, though there may be greater power; and if the labours are slower, perhaps the feelings are less, and they may terminate with equal safety, and without greater suffering. In the same climate there will generally be some variations in labours at different seasons; and I believe it is true, that in this country, women have easier labours in summer than in winter.

Such observations might be extended to a greater length, and discussed with more nicety; but they can hardly escape the notice of an attentive man, and he that is prudent will not esteem them of too much value.

S E C T I O N III.

WITHOUT some accuracy of distinction, it will not be possible to acquire such a knowledge of *Difficult Labours*, as will enable us to conduct women through them safely and properly; and it is therefore necessary, in the first place, that we should define what is meant by the term. We will then say, that every labour shall be called *difficult*, in which the head of the child presents, if the labour is protracted beyond twenty-four hours *.

This definition, which is chiefly taken from time, is liable to some objections, as there may be more pain endured, and greater difficulties surmounted by one woman in six hours, than by another

* Fit partus difficilis et laboriosus, quod nec modo neque ordine debito res peragatur, aut pravis aliquibus symptomatis impediatur. HARV. *Exercit. de Partu.*

Dicitur autem partus ille difficilis, qui cum fœtus vel matris periculo accidit; vel quia cum gravissimis fit symptomatibus, vel quia tardius procedit, ita ut longo tempore prematur mulier—*Roderic. a Castro Lusitan.*

Partus difficilis appellatur, qui debitas atque ordinarias naturæ leges non servat, sed longius tempus infumit, et dolores subito vehementiores, aliaque symptomata graviora comitantia habet—*Riverii Prax. Medic. De Partu difficili.*

Fœtus maturi enixus laboriosissimus. *Linnæi Nosologia.*—

other in twenty-four; but on the whole, it will be found to apply in an advantageous and unexceptionable manner in practice. It will, in particular, afford a remedy for impatience, and guard the practitioner, in some measure, from premature attempts to give assistance, without incurring the danger of those evils which might be apprehended from too long delay.

Of those labours which come under the denomination of *Difficult*, there is an almost endless variety in their causes or their degree. Some are occasioned by one cause alone, but more frequently by a combination of various causes; though one may be more obvious and important than the rest*. For the uses and purposes of practice, it is not enough to say, that all labours are rendered difficult, either from the greatness of the obstruction, or by the insufficiency or debility of the power by which the obstruction should be overcome; or, that some depend upon the mother, and others upon the child. Such distinctions are too general. The particular cause of every indi-

* As many causes concur in the production of compound effects, we are liable to mistake the predominant cause, unless we can measure the quantity of the effects produced, compare them with and distinguish them from each other, and find out the adequate cause of each single effect, and what must be the result of their joint action.

vidual difficult labour, should be pointed out, as well as the conduct which each specific cause may require. It was before observed, that there are advantages to be gained by experience, of which no doctrine or words can convey an adequate idea; and those who are in possession of experience, seldom bend to the rules of others. But it is of the greatest consequence to those who have not yet gained experience, that they should acquire the habit of registering and arranging the particular knowledge they may have an opportunity of gaining, into regular order, or they will lose the benefit of it; as it will either be lost, or recollected with difficulty, when they want to apply an observation made in one case to the exigencies of another. To prevent these defects, we will divide all Difficult Labours into four Orders or Kinds, and then enumerate the principal causes of each Order. As the knowledge of causes, and the management or removal of effects or difficulties, should go hand in hand, the methods to be used for the relief of these, will at the same time be pointed out.

In the *First* Order will be included all those labours which are rendered difficult from the inert or irregular action of the *uterus* :

In the *Second*, those which are occasioned by the rigidity of the parts to be dilated :

In

In the *Third*, those which are occasioned by disproportion between the dimensions of the *pelvis* of the mother and the head of the child :

In the *Fourth*, those which are rendered difficult by diseases of the soft parts.

Under one or other of these Orders, every Difficult Labour may be arranged.

SECTION IV.

ON THE FIRST ORDER,

O R,

Those Labours which are rendered difficult from the inert or irregular Action of the Uterus.

THE action of the *uterus*, by which every child must be expelled, is accompanied with pain proportionate to the force and to the resistance made. But as this action may become imperfect, irregular, or insufficient for the purpose of expelling the child, we ought to be acquainted with the causes of such imperfection, irregularity, or insufficiency. Of these causes there is,

1. *The too great distention of the uterus.*

It was formerly believed, that the *uterus* was distended mechanically, by the increase of the

ovum

ovum contained in it; and with this opinion, it might be concluded, that either from the size of the child, or the quantity of waters, the *uterus* might be brought into a state similar to that which takes place in the bladder; which, when distended beyond a certain degree, loses all power of action. But later observations have proved, that the impregnated *uterus* is not distended by its contents, but by the operation of a principle which it acquires in consequence of pregnancy; which principle ceases to act at the conclusion of the term of utero-gestation, and is succeeded by another directly contrary, that of expulsion*.

But though the *uterus* cannot be distended beyond its power of action, it was observed, from the slowness and smallness of the effect of the first pains of labour, that the power exerted by the *uterus*, is generally suited to the state of the parts, and the parts to the *uterus*, with a wonderful co-incidence. Yet as every principle in nature may alter or fail, so that of the distention of the *uterus* may prevail to such a degree, or may continue so long a time, that its possible force shall be weakened, and its energy lessened; and this seems to be proved, not only by the slackness of the pains in the beginning of all labours, especially in those cases in which

* See the Introduction, Chap. iv. Sect. x:

which there are two or more children, but by the increase of that action, when part of its contents are evacuated. It is still to be recollected, that the *uterus* cannot be distended beyond its power of action, though when greatly distended, it is only capable of slow and feeble action, which is however preparatory to that which is stronger. Feebleness of action, from distention, is not then an object of art; and it is perhaps beyond the influence of any earthly power to give to the *uterus* its native or genuine disposition to act. Human art may put or preserve the constitution in a state fitted for such action, or it may remove any impediments to its effect; but the principle is wholly independent of the will of the patient, or the skill of the practitioner. When therefore the pains of labour are feeble in the beginning, as no harm can arise from this cause, either to the mother or child, except that the former is under the necessity of bearing them for a longer time, though on the whole, perhaps, not in an increased degree; and as the methods advised and practised for the purpose of accelerating labours rendered tedious from this cause, are either immediately injurious, or may lay the foundation of future mischief to one or both, we may with safety and propriety leave the business entirely to its own course without any interposition. Even when the labour has made con-

siderable progress, and there has been reason to expect that it would be concluded in a short time, there may be a suspension of the action of the *uterus* for many hours, without any mischief or hazard, as experience often shews, though the cause of such suspension may not be obvious to, or explicable by us.

Immediately on the accession of labour, it has been the custom to confine women to their beds, or to some particular position, on the presumption that it would be thereby rendered more easy than in any other. By such conduct, expectations of a speedy delivery are often raised; and when these are baulked, the mind of the patient is disturbed, and then the process becomes irregular. But it will always be found more comfortable and useful to leave the patient to her own choice in these matters, and her inclination will be a better guide than any other. Time is the safest and generally the only remedy for lingering and tedious labours from this cause, and the patient will often find relief, either by walking or standing, or chusing that position which she herself prefers, because she will instinctively seek that which is proper. However in many situations of this kind, the frequent exhibition of emollient clysters is of service; and when the labour is far advanced, in some cases in which the action of the *uterus* is very feeble and slow in its returns,

returns, as if it were unwilling to come on, a clyster rendered stimulating by the addition of one ounce of culinary or cathartic salt, will often rouse the dormant powers to action, and the labour will be soon compleated *.

2. *Partial action of the uterus.*

It was observed, that previous to labour, the *uterus* commonly subsided lower into the *abdomen*, and that the more perfect this subsidence was, the more kindly would the labour probably be; because the *uterus* would act with more advantage. But in some cases, the *fundus* of the *uterus* does not subside before or even in the time of labour, the patient herself being sensible of, and complaining that the child is very high in the stomach. Sometimes the patient will also complain of vehement and cramp-like pains in various parts of the *abdomen* producing no effect, and which are afterwards proved to have been occasioned by the irregular contraction of the *uterus*. This irregular and partial action, which is properly called spasmodic, is capable of throwing the *uterus* into various forms; sometimes the longitudinal, and at others the hour-glass, with all their varieties. Every change in the form of the

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cavity

* Clysteres injiciantur, quorum irritatione expultrix uteri facultas excitatur, et depleta intestina, amplio rem locum utero relinquunt.

cavity of the *uterus*, from the genuine, will be productive of inconvenience, according to the peculiarity and degree of alteration; and it is to be wished, that we had the power of altering the form when thus irregular, of suppressing the action of the *uterus* when too vehement or untimely, and of strengthening it when too feeble, according to the necessities of each case. But as these things are beyond our power, and all that we can do is, not by commanding what we chuse, but by making the best of such circumstances as do really occur, it is necessary to consider, whether by any previous management it is in our power to prevent or remedy this irregularity of action, when it is in such a degree, as to be very painful or troublesome before, or at the time of labour. When there is pain of any unusual kind in the region of the *uterus*, greater or different from that which may be considered as one of the common effects of pregnancy, there is usually an increase of that feverish disposition, which in a certain degree is natural to all women with child; and then it will be necessary to take away small quantities of blood, and to be very attentive that the regular course of the bowels is procured or preserved. This irregular, as well as the insufficient action of the *uterus*, most frequently happens to those who are naturally too irritable, or who lead inactive lives; and to such women should be pointed out the necessity

cessity of using exercise as far as their unwieldiness will allow; and even in the time of labour, if rendered tedious from this cause, in which their pains are very sharp yet ineffectual, it is of use to bear them when in an erect position, and to walk about in the interval. The chief part of what can be done further, is to impress upon her mind, the necessity of exercising that patience which we on our part ought never to want. In some cases of this kind, when the patient has suffered much and for a long time, after bleeding and the administration of a clyster, I have directed twenty drops of *Tinct. Thebaica* to be given, with the intention of suppressing the present pain which was irregular, and with the hope that when the pain returned, it would be with regularity and efficacy. But in general I have great objections to opiates on slight occasions for women in labour; being persuaded, that by disturbing the order of labour, they occasion very untoward symptoms, and make that which was in itself natural, become difficult or dangerous to the mother or child, as evidently as any other kind of interposition.

3. *Rigidity of the membranes.*

This has been mentioned by the generality of writers, as a cause of difficult labours; and I have observed, when a labour proceeds slowly, the membranes being unbroken, that their rigidity is usually assigned as the cause of the difficulty. This subject
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has been considered in the history of Natural Labours; but we cannot too often inculcate, that neither the mother nor child are ever in any danger on account of the labour, before the membranes are broken; and that there is infinitely more caution required to avoid breaking them too early, than there is difficulty in breaking them when it is necessary. The true cause also why the membranes do not break at the usual or proper time, is not in truth from the rigidity of the membranes, but from the weak action of the *uterus*; because the membranes are scarcely ever so rigid as to withstand the force of very strong pains, unless the whole *ovum* were expelled at the same time; a circumstance not unfrequent in premature labours. More than one case has occurred in my own practice, to which particular attention has been paid, for the purpose of registering the observation, in which the labour has commenced properly, and proceeded with much activity, till the *os uteri* was fully dilated, and then ceased altogether for several days: at the end of that time, the action of the *uterus* has returned, and the labour has been finished speedily, with perfect safety to the mother and child*.

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* When the head of the child is born with the membranes unbroken, it is said to be born with a cawl. To this cawl imaginary virtues have been attributed, and a fancied value has been set upon it. It was esteemed the perquisite of the midwife,

The circumstances of labours are however sometimes such as make it not only justifiable but eligible or perhaps necessary to break the membranes artificially. But before this is done, we ought first to be assured of the state of the *os uteri*, because it will often be spread so thin over the head of the child, before it is in any degree dilated, as to resemble the membranes. But when the *os uteri* is wholly dilated, and we have determined upon the propriety of breaking the membranes, no instrument is required for that purpose. If they are confined with the end of the fore-finger upon the head of the child, during the time of a pain, they generally give way; or if this is insufficient, they may be rubbed with the end of the finger, on one particular spot, till they are worn through; or they may be scratched with the nail of the finger, cut and turned up for that purpose. I am persuaded, that no person, who is capable of judging when the membranes ought to be broken, will ever meet with any difficulty in breaking them.

4. *Dribbling of the waters.*

This circumstance is a cause, or at least a frequent attendant on Difficult Labours, especially when the membranes have been broken designedly,
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midwife, and perhaps the whole was the contrivance of some intelligent man, to prevent her from interfering with any labour, which was going on in a natural way.

or spontaneously before the *os uteri* was dilated. But if the membranes are not broken, before the complete dilatation of the *os uteri*, the whole quantity of the waters is generally discharged at once, and the head of the child advances speedily. Sometimes indeed the head of the child is so placed as to lock up a great portion of the waters, which cannot escape till the head is expelled. Should the waters be imperfectly discharged, a further small portion of them is evacuated whenever there is a pain, and the pain is not efficacious, or immediately ceases after the discharge. In this situation there are only two methods to be pursued ; we must either wait till the waters are all drained away by these repeated small discharges, or we must contrive some method by which their evacuation may be hastened. If there be no reason against our waiting, it is better not to interfere, but to leave the business entirely to nature, explaining the state of the case to the patient or her friends ; taking care to prevent their apprehension of danger from the delay of the labour, and not by our solicitude to raise their expectations or their fears. But when the waters dribble away in the advanced state of a labour, or there is reason for our wishing a speedy conclusion of it, either on account of the mother or child, it will be expedient to forward the discharge of the waters, by raising the head of the
child

child a little higher into the *pelvis*, by the introduction of the fingers and thumb of the right hand, which may be done without prejudice to either of them, during the continuance of the pains; or, by preffing the head towards the hollow of the *sacrum*, by which means, more room will be made for the waters to escape. However, the dribbling of the waters is not a circumstance of much importance, when it is not combined with other causes of difficulty; and it may be again mentioned that it is generally occasioned by the artificial or premature rupture of the membranes.

5. *Shortness of the funis umbilicalis.*

The *funis umbilicalis* seems to admit of a greater variety than any other part of the *ovum*, being in one subject perhaps three or four times as long as it is found in another. It may be naturally very short, or it may be rendered so accidentally, by its circumvolution round the neck or body of the child; and whichever of these is the case, the inconvenience produced at the time of labour is the same; that is, the labour may be retarded; or perhaps the *placenta* may be loosened prematurely; or the child may be injured by the mere stretching of it, as this must necessarily lessen the diameter of the vessels. But the two latter inconveniences very seldom occur.

The shortness of the *funis* is always to be suspected

spected when the head of the child is retracted upon the declension of every pain; and it may sometimes be discovered that it is more than once twisted round the neck of the child, long before it is born. Various methods have been recommended for preventing this retraction of the head, some of which are insufficient, and others unsafe*; and the inconvenience is usually overcome, by giving the patient more time. But if the child should not be born when we have waited as long as we believe to be consistent with its safety, or that of the parent, it will be proper to change her position, and instead of suffering her to remain in a recumbent one, to take her out of bed and raise her upright, and to permit her to bear her pains in that situation; or, according to the ancient custom of this country, to let her kneel before, and lean forwards upon the edge of the bed; or, as is now practised in many places, to set her upon the lap of one of her assistants. By any of these methods the retraction of the head of the child is not only prevented by its own gravitation, but the weight of the child is also added to the power of the pain; and it is likewise expelled upon an inclined instead of a level plane. In the course of practice, I can recollect

* *Nocet obstetricis digitus ano immissus, item nimia festinatio.*—RUYSCH.

recollect with infinite satisfaction, a great number of cases in which, by adverting to the benefits to be gained by an erect position, labours have not only been accelerated, but the use of instruments, which were before thought necessary, has been avoided.

When the head of the child is expelled, if the *funis* be twisted round its neck, there is sometimes a little delay and difficulty before the body can be excluded or extracted. We are, in the first place, taught that it is proper to bring this over the head forwards, lest the *placenta* should be separated, or the body of the child be hindered from advancing till it suffers detriment, or is brought into absolute danger. But it is in some cases drawn so tight round the neck, that this cannot be done, without increasing the hazard of the mischief we wish to avoid. We have then been advised to slide the *funis* over the shoulders, but this may be equally impracticable with the former method. If either of these intentions can be accomplished without violence, they are to be attempted, otherwise they must be omitted. The child will nevertheless be expelled, if we wait for the return of a few pains, which we may do very safely, and without any other inconvenience than an increased distention of the *perinæum*; the body making a shorter

bend or doubling on account of the confinement of the neck by the twisting of the *funis*.

Instances have occurred in which though the head of the child was expelled, the body has remained, and could not even be extracted for a long time, perhaps for several hours. Two things are then to be considered, first, whether the child be alive; secondly, whether it be hindered by the shortness of the *funis* merely. If the child be alive and breathes though imperfectly, we have no occasion to be in a hurry, it being only requisite that we should keep its mouth open, allow of the free access of the air, till it is expelled, or can be more readily extracted; for the internal organs will accommodate themselves to that state, and the child will possess a species of life half uterine and half breathing. But when it has remained in that situation as long as we think consistent with its safety, and it cannot be without great violence extracted, should it be hindered by the shortness of the *funis*, we have been taught * that it is advisable to divide the *funis* before the body is expelled. Previous to our doing this it will however be expedient to tie the *funis* with two ligatures, and then to divide it between them, otherwise the child will be instantly destroyed by the sudden gush of blood,

* See *Chapman*—p. 63 and 85.

blood ; as happened in a case under my own care, though it was living when I divided the *funis*.

When the child is dead, and the total exclusion of it is prevented by the tumefaction of the body, or by any other cause, by passing a napkin or handkerchief round its neck, and taking both the ends in our hands, we shall be able to exert much force, and if we pull steadily, and in a proper direction, we shall usually succeed in extracting it. But if we are yet foiled in our attempts, turning the head on one side, we must endeavour to bring down one or both arms, which being included in the handkerchief, will allow us to pull with more force, and facilitate the passage of the body. The greatest difficulty of this kind I ever saw, was in consequence of the inflation of the whole outline of the body from its putrefaction, and there was occasion for all the force I could exert ; but in other cases I have succeeded better, by availing myself of the changes produced, by waiting and giving more time, rather than by the exertion of much force.

6. *Weakness of the constitution.*

The health of women at the time of parturition is often impaired, either by some general indisposition which may have continued through pregnancy, though not altogether dependent upon it ; or, by some disease with which they are attacked, when they are perhaps in daily expectation of falling into labour. The more perfect their health is,

is, the better fitted they are for the circumstance of child-bearing, as the process will not only go on with more regularity, but they will also recover more favourably, as is well known to those who are engaged in the practice of midwifery. Because though it be allowed that the state of child-bearing is not a state of disease, yet experience has shewn, that all diseases with which women are at that time affected, are not only apt to fall upon those parts which are left in a more irritable state, in consequence of the changes they have so lately undergone, but the progress of diseases is also then more violent, and the event more dangerous *.

But the case of which we are now speaking, is when the general health of women is reduced below its proper standard, by some previous or accompanying disease, not absolutely connected with the state of pregnancy, of which a consumption is a very fair example, as consumptive persons seem of all others to be in the most hopeless state. But though such are often in their own minds, and in the opinion

* Hence at the time of any epidemic disease, women more frequently fail in child-bed, though they are managed with equal skill and care. In the history of the different plagues in London, there are sometimes two or three hundred women who are put down as dying in child-birth in one month. *Procopius* has also told us in his account of the plague at Constantinople—*Tres saltem puerperæ convaluere.*

nion of their friends, not able to go through the fatigue and other unavoidable consequences of child bearing, I do not recollect an instance of any woman, in that situation, being unequal to her delivery, or having her fate hastened by it. If such women have little strength, they have little difficulty to overcome; the state of the parts which, in a common way, might require the exertion of much force, corresponding with the force which they are able to exert; and more time only is required. When this prognostic however is made, of the probable event of such labours, it is to be presumed that no particularly untoward circumstance shall occur; for if there should, it cannot be expected, that with extreme debility there should be the same power or resources, as in great strength and good spirits.

In constitutions much reduced by a consumption, or a disease of any part not immediately affected by child-bearing, there is, usually, not only sufficient strength for perfecting the business of a common labour, but the patient appears to be relieved for a certain time after her delivery; and then, if they were not dependent on pregnancy, or were incurable, they return, and make their wonted progress.

The effect of diseases seems also in many cases, to be suspended during pregnancy. Of the distinctions to be made in our opinion, of the event of
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acute diseases, during which a patient may either be delivered at her full time, or suffer abortion, we have already spoken in the Essay on Uterine Hemorrhages.

7. *Fever or local inflammation.*

On the accession of labours, there is usually some increase of heat, of the quickness of the pulse, thirst, and general feverish disposition; and these are commonly in proportion to the exertions required, or made for the completion of the labour, with respect to which they are properly speaking, merely symptomatic. But in some cases the excitement is too great, and instead of helping the action of the parts concerned in parturition, it prevents their acting with regularity or energy. Whenever the pains of labour are feeble, it is a vulgar custom, without regard to the cause, to give cordials very freely, with the view of accelerating their returns, or of strengthening them; though under many circumstances, by such proceeding * we evidently add to the evils we mean to remove. In some cases also, from the acuteness and constancy

* *Lord Bacon* had a clear idea of this, though by the manner of expression it is rendered somewhat obscure: "To procure easy travails of women, the intention is to bring down the child, whereunto they say the loadstone helpeth; but the best help is to stay the coming down too fast."

stancy of the pain which the patient endures, and from its situation also, it may be readily distinguished from that which is occasioned by the action of the *uterus*, and gives us too much reason to suspect, that some of the contents of the *abdomen* are already in a state of inflammation.

It does not seem necessary to bleed every patient on the accession of labour, and for some it must be highly improper. But whenever the feverish symptoms become violent, it is I believe universally proper ; the quantity of blood taken away being suited to the degree of fever, and to the constitution of the patient ; and much service will also be done by the frequent exhibition of emollient clysters, by keeping the room cool and well aired, by giving cooling drinks and medicines, and by keeping the patient in a quiet state. When the fever is removed, the pains will come on, and perform their office with propriety and success. Independently of fever, when the exertions which the patient makes are vehement, if she be plethoric, there is on that account sometimes a necessity of taking away some blood ; for during these vehement exertions, if the blood-vessels are distended, some of them may give way, and the patient be brought into the most imminent danger, before the delivery then at hand, be compleated.

8. *Want of Irritability in the Constitution.*

Under many circumstances which occur in the practice of medicine, it has been observed, that when a cause of pain exists, it is found to produce an effect quite contrary to what might be expected; that is, instead of exciting the powers of any one part, or of the whole frame to action, it creates a partial or universal insensibility, and a disproportionate action. In some cases, on the accession of labour, the cause, instead of raising a disposition to act, or a power of acting with energy in the parts concerned, seems to lessen both the disposition and power to act, and in some cases to deprive them, for a certain time, of all power, as effectually as if they became paralytic. Inconveniencies of this kind are most frequently observed to take place in fat and inactive women, and such, in spite of all the means which can be safely used, will necessarily have very slow and lingering labours; and though they may at length be delivered by their pains, feeble as they are, when there is no material cause of obstruction, much time will be required for every part of the process. I have often suspected that the foundation of this imperfect action, or total inaction in the advanced state of labour, may have been laid by some error or accident in the beginning, perhaps, by exciting the
 action

action prematurely, which will, of course, cease when the artificial cause was removed *.

The circumstances attending labours are generally alike, yet in many women they are marked with some peculiarity, most frequently in the time required for their completion. When we have had an opportunity of observing the progress of labour in two or three instances, we shall be able to tell what will be the probable termination, and when it will take place; and we can no more controul the order of a labour in one woman, so as to make it correspond with or resemble that of another, than we can judge of the quantity of food which one person may require by that which is sufficient for another, or regulate any other function of the body. One woman may require twelve hours for the production of the same effects in the time of labour, that another may finish in four hours; and it would be in vain to attempt to make an alteration, because the reason exists in some essential property of the constitution.

9. *Passions of the Mind.*

As the infirmities and particular states of the body have a powerful influence upon the mind, and as the affections of the mind have, on various occasions, a reciprocal effect upon the body, it might

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* See the Introduction, Chap. IV. Sect. X.

be reasonably expected, that the progress of a labour should be forwarded or hindered by the passions. It is constantly found, that the fear of a labour, or the same impression from any other cause at the time of labour, lessens the energy of all the powers of the constitution, or diminishes, or wholly suppresses the action of the parts concerned in parturition. It is also observed, that the cheerful flow of the spirits, which arises from the hope of an happy event, inspires women with an activity and resolution which are extremely useful and favourable in that situation. In the time of a labour proceeding very slowly or irregularly, doubts and fears in the mind of the patient have an evident and great influence upon the pains; and when these are removed, and her resolution confirmed, she will go on with courage, and effects will be produced which would have been impossible if she had remained in a state of depression. The intelligent practitioner will avail himself of the knowledge of these things, and by his discretion he will inspire his patient with sentiments which will enable her to go through difficulties, which to her feelings, and perhaps to his own judgment, appeared unfurmountable. It will also regulate the conduct of all her attendants and friends, and lead them step by step to co-operate in his views and intentions, which will at length terminate to the real advantage

tage of his patient, the satisfaction of her friends, and the increase of his own reputation.

10. *General Deformity.*

Many women who are gibbous or distorted in the course of the spine, have the *pelvis* well formed, and there are a few in general appearance perfectly straight, who have yet some defect in the *pelvis*. Of the ease or difficulty of labours, depending upon the capacity or form of the *pelvis*, we are to speak in another place. Those who are gibbous, are not unfrequently asthmatic, or have some infirmity which prevents their breathing freely, or the retention of their breath; and such must suffer some inconvenience at the time of labour, though the action of the *uterus* may be proper, and all the parts concerned in parturition in a natural state. For as both the instinctive and voluntary force, especially the latter, are affected by the manner of breathing, and duly exerted only when the breath is retained, and this not being under such circumstances possible, of course the progress of the labour must be retarded. Should there be any reason to suspect inflammation about the *thorax*, particular attention must be paid to it, otherwise we have only to give more time for the completion of the labour, and to wait for that effect from a repetition of feeble pains, which, without this inconvenience, would have been produced by a smaller number.

ON THE SECOND ORDER;

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Those Labours which are rendered difficult by the Rigidity of the Parts requiring Dilatation.

1. *First Child.*

EVERY woman is expected to have a more tedious labour with her first, than with subsequent children, and the difference is usually in proportion to the number which she has had. Thus if a woman were twenty-four hours in labour with her first child, she might be six with her second, and with the rest four or perhaps two; but from any general estimate of this kind there will be many deviations. It was before observed, that when women have had several children, the practitioner is often able to form a tolerably precise opinion of the kind of labour which they will be likely to have, and which may be as peculiar to their constitutions, in manner and time, as any other function of the body: and it is no more in our power to change this constitutional labour, as it may be called, than it is to alter the frame of the body, or any of the functions thereon depending.

The difficulty with which first labours are completed, not only depends upon the greater rigidity of the parts, or upon their re-action, but on the imper-

imperfection or irregularity of the action also, by which they are to be dilated; for this is generally far less perfect and regular in the first instance, than when the same office has been frequently performed. But though with first labours there is rather a greater chance of women wanting assistance, there is no specific cause of difficulty, and they generally require only more time to be given for their completion.

2. *Advanced in Age.*

If a woman be far advanced in age at the time of having her first child, the difficulty attending her labour may be expected to be greater. At a certain time of life, every woman arrives at maturity, or that period when she may be considered as having acquired the greatest degree of perfection of which her frame is capable; when the inconveniencies of youth are passed, and those of age are not arrived. This state of perfection, the time of which will vary in different constitutions and climates, and which we may conclude to be best fitted for the act of parturition, may continue for many years. But if a woman should be with child before or after this time of perfection, she will be liable to difficulties; as in the one case she would be scarcely able to bear without injury the changes she must undergo; and in the other, the firmness which all the parts have acquired, would

would lessen their disposition or capability of dilating: greater force therefore will be required, or the same degree of force must be continued for a longer time. In this country there has seldom been any reason to suspect women to be pregnant before they were able to bring forth children without any or much inconvenience; and for the prevention of such as may attend the first act of parturition in those who are advanced in age, we have been advised to order frequent and small bleedings towards the conclusion of pregnancy, and that the patient should sit over the steam of warm water every night at bed time, and afterwards anoint the external parts with some unctuous application. Perhaps there is not authority for saying, that no advantage can be derived from the use of these means; but certainly the impression made upon the mind of the patient by the novelty and peculiarity of the method, will, in patients of a timid disposition, raise such apprehensions of danger and difficulty, as will over-balance the good which can possibly be derived from them. It is therefore better to omit the use of any such means on this account, more especially as it does not constantly happen, that the difficulty of labour is in proportion to the age of the patient when she has her first child; that being in many cases, as easy at forty years of age or upwards,

as if she was only twenty-five. In the worst labours arising from this cause, there is no peculiarity in the difficulties, but merely an increase of those which are produced by the rigidity of the parts, and therefore only more time required for their completion.

3. *Too early Rupture of the Membranes.*

The premature rupture of the membranes, whether natural or artificial, has been often mentioned as the cause of many tedious or difficult labours. If it be allowed that the membranes containing the waters were intended to be the medium by which the *os uteri*, and other tender parts, ought to be dilated, some inconvenience must arise when these are broken and the waters discharged, the head of the child being substituted for them; which being a firmer and less accommodating body, cannot, for a long time be admitted within the circle of the *os uteri*, which will of necessity be dilated more untowardly and more painfully.

The difficulties arising from this cause, even in first labours, will be very much lessened, if the patient be confined to a recumbent position, and we defer, as far as is in our power, the coming on of the action of the *uterus*, that the most perfect disposition to dilate may be previously assumed by the parts. A longer time will certainly be required for completing labours attended with this circum-

stance only, but they may in general be more properly called lingering or tedious, than really difficult

4. *Oblique Position of the Os Uteri.*

The natural position of the *os uteri*, and that in which it is most conveniently distended, is at the center of the superior aperture of the *pelvis*; for when thus placed, the effect of the action of the *uterus* is most favourably produced. But the *os uteri* is seldom found exactly in this situation, and in some cases is projected on either side, and in others so far backwards, that it cannot be felt for many hours after the commencement of labour. This oblique position of the *os uteri*, to what direction soever it may tend, has been considered not only as a frequent, but as a general cause of difficult labours; and this doctrine was, at one period of time, taught and received in all the schools of midwifery in Europe. In every enquiry after knowledge, in almost any science, opinions will be advanced, which sometimes lead to further improvement; but when experience begins, opinions should end. But if so much regard is paid to opinions as to found any certain practice upon them, and they should prove erroneous, they become the source of much mischief. The present case is a striking example of the truth of this observation; for when it was presumed that every difficult

cult labour was occasioned by the oblique position of the *os uteri*, it was supposed necessary to remedy the inconvenience thence arising by manual assistance, and to drag the *os uteri* from its oblique to a central position during the time of every pain. The opinion of the oblique position of the *os uteri* being the chief cause of difficult labours, is now fully proved to be erroneous; and though it were oblique, such position is not to be considered as a general cause of the difficulty, but as an accompaniment of some other primary cause. Thus when the *pelvis* is distorted, the *os uteri* is constantly found in an oblique situation, yet the difficulty of the labour, as well as the obliquity, are occasioned by the distortion.

It must however be allowed, that some labours are procrastinated by the oblique position of the *os uteri*, and that it is often combined with other causes of difficult labours, though, singly, it is seldom of sufficient importance to be the cause of truly difficult ones. But when it does retard a labour, or accompany a difficult labour, it does not require any manual assistance, or that we should retract it to a central position with respect to the cavity of the *pelvis*; both the thing itself and the difficulty thence arising will be obviated, without detriment or much trouble, if the patient be confined to a proper position. If, for example, the

os uteri be projected to the left side, she ought to rest as much as possible on the same side, and so of the right ; if it be projected backwards, which is always the case when we cannot reach the *os uteri* in the beginning or early part of a labour, she ought to lie upon her back. By this method the *fundus* of the *uterus*, constantly leaning or inclining to the side of the obliquity, will gradually but effectually project the *os uteri* more and more towards a central position.

Cases have been recorded, in which it was said that the *os uteri* was perfectly closed, and in which it has not only been proposed to make an artificial opening instead of the closed natural one, but the operation has actually been performed. I do not know that I should be justified in saying that such cases have never occurred, because they have not occurred in my practice ; but I am persuaded that there has been an error in this account, and that what has been called a perfect closure of the *os uteri* has not been such, but that we have been unable to discover it.

5. *Extreme Rigidity of the Os Uteri.*

Difficult, as well as tedious and very painful labours are frequently occasioned by the unusually rigid state of the *os uteri*. The manner of, and the time required for its dilatation will depend upon two circumstances ; first, the degree of disposition

fition to dilate which it may have previously acquired ; and secondly, the degree or force of the action exerted by the *uterus*. The former of these is, in general, far less perfect with first than with subsequent children, even presuming that it is in its most natural state ; but when it assumes from any cause a still greater indisposition to dilate, of course the labour will be both more difficult and tedious. In a first labour it not unfrequently happens, that the *os uteri* may not be dilated in less than twenty-four or even forty hours, when the rest of the labour may be completed in four, or perhaps a shorter time, yet the very same person may have the whole process with her next child completed within six hours.

We have before taken notice of the advantages arising from the changes in the state of the soft parts being perfected, before the accession of labour ; but when these are as favourable as can be wished, by the very action of the *uterus* pressing its contents upon the *os uteri*, and much more frequently by attempts to dilate it artificially, this part becomes inflamed, and the indisposition to dilate is increased according to the degree of inflammation. The inflamed state of the part is often indicated by its heat and dryness, but whenever it is extremely rigid, and there has been a long continued action of the *uterus*, with little or no advantage, the impediment

diment to the progress of the labour being clearly occasioned by the resistance made by the *os uteri*; I believe it is always right to consider that part as inflamed. If this be allowed, instead of attempting to dilate it artificially, it is the proper object of art, to recover in the first place the natural disposition to dilate, and then the pains of labour will be equal to the purpose. With this view it will be necessary to take away some blood, to give cooling medicines and drinks, to direct emollient clysters to be frequently injected, and, instead of using any means with the intention of increasing the force of the pains, to confine the patient to a recumbent posture ; and to gain, if it were in our power, a suspension of the labour, till the inflammatory disposition be removed, when the dilatation will proceed less painfully and more speedily.

When a labour comes on prematurely, or before the parts have acquired their dilatable state, as it may be called, the position of the *os uteri* will be very different. In some cases it begins to dilate when it is high up in the *pelvis*, but in others, especially when the *pelvis* is, in comparison with the child, very large, the *os uteri* may be protruded very low down, before there is any degree of dilatation, though it be spread so thin over the head of the child, or the membranes, as to give the feel of the membranes alone. If, under these

these circumstances, the external parts should be much relaxed, and the pains at the same time strong, it is possible for the head of the child to be expelled though enveloped in the *os uteri*, and much mischief may be thereby occasioned*. For the prevention of this accident, when there is any reason to dread it, it will be proper for the patient to be confined to an horizontal position, and for the practitioner to restrain the advancement of the head, till it is cleared of the *os uteri*; or, if the case has actually happened, to use all the means we safely can, to replace it, and extract the head. When the *pelvis* is large and the head of the child, being moved from its resting place upon the *pubis*, drops by its own weight into the lower part of the cavity of the *pelvis*, the accident often becomes a cause of a *procidentia* or *prolapsus* of the *uterus*, which cannot, as far as I know, be always prevented. All that art dictates to be done at the time of labour, is to render this as slow and gradual as possible, and after delivery, to confine the patient to her bed for a longer time.

6. *Uncommon Rigidity of the external Parts.*

The state of the external, as well as of the internal parts is very different in different women, both in the beginning and in the progress of labours.

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* *Os uteri aliquando prolabitur.*

RUSCH. Obs. Anatom. XXV.

Even in first labours they readily yield in some women, so as to allow the head of the child to pass through them with great facility and safety, but in others they are extremely rigid and unyielding, and withstand the action of the *uterus*, though very strong, for a very long time; and then do not dilate without great danger of a laceration. In first labours a more difficult dilatation than in others is always to be expected, and more care is required to prevent a laceration; the state of these parts is however very different, and they require some attention in every labour. There ought to be, and usually is a correspondence between the state of the parts and the power of the pains; but in some cases the external parts are rigid when the pains are feeble, whilst in others, when the parts are disposed to dilate, the pains are exceedingly strong, pushing with unabating force, the head of the child, so that the parts must either dilate or be lacerated. Of many of these circumstances we have already spoken.

In first labours the external parts may require one, or several hours continuance of the pains, before they are sufficiently dilated to allow the head of the child to pass through them without danger of laceration; but the difficulty thence arising does not seem to require, or to be relieved by our interposition, further than to prevent injury as far as
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that is in our power, by too speedy an exclusion of the head of the child, in the manner before advised. The merit of our conduct under these circumstances will be chiefly negative ; for as we cannot give to the parts their disposition to dilate, and ought not to dilate them artificially, there only remains for us to wait the due time : art being more frequently exercised on such occasions in remedying the evils which art has produced, than in rectifying those which are necessary or unavoidable. It is also to be observed, when the head of the child passes through the inferior aperture of the *pelvis* with difficulty, though the external parts are pressed upon with considerable force, that the impediment to the delivery does not arise from the resistance made by these, but more properly from the elongation or bending of the spinous processes of the *ischia*, and the labour is then to be referred to the next order.

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ON

ON THE THIRD ORDER;

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The Causes of difficult Labours from the Disproportion between the Head of the Child and the Cavity of the Pelvis.

1. *Original Smallness of the Pelvis.*

THE cavity of the *pelvis* in women in general, bears a certain proportion to the common size of the heads of children; yet as they both admit of considerable variation, independent of distortion or disease, it is possible that a woman with a *pelvis* rather under the common size, may conceive a child far beyond the usual dimensions; and when this is the case, there must of course be greater difficulty at the time of parturition. When therefore the smallness of the cavity of the *pelvis*, and the largeness of the head of the child are mentioned, they are to be considered as relative and not as positive terms; because the *pelvis* of some individual woman may be so large as to suffer the largest head of a child of which we have any example, to pass through it; and the smallest head may be esteemed large, if compared with a yet smaller *pelvis*.

But though a labour may from either of these causes, separate or combined, be rendered tedious
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and painful ; as in consequence of the action of the *uterus*, the head of a child rather larger than ordinary will be compressed into a much less compass, and moulded to the form as well as the dimensions of the cavity of the *pelvis*, there is not usually occasion for the assistance of art, if the labour be in other respects natural ; but we are to wait patiently for those changes, which in due time may be reasonably expected, and scarcely ever fail to take place.

Distortion of the Pelvis.

On the causes, kinds, and degrees of distortion of the *pelvis* we have already spoken very fully*. The effects produced, or the impediments occasioned by this distortion, at the time of parturition, will somewhat depend upon the part distorted, but chiefly on the degree of change in, or diminution of the dimensions of the cavity, by which the relation between it and the size of the head of the child is perverted or destroyed. Distortion of the *pelvis* at the superior aperture creates an obstruction to the passage of the head of the child, which will be overcome with more difficulty by the powers of the constitution, and which will be more inconveniently managed by art, than an equal degree of obstruction in the lower part of the *pelvis*. The greatness of the difficulty will

* See the Introduction, Chap. I. Sect. X.

nevertheless chiefly depend upon the degree ; and in the various degrees which are found to occur, the practitioner may see a cause of every kind of difficulty which he may meet with in practice. A small degree of distortion may occasion a difficult labour of that kind which may not be an object proper for the exercise of his art, but which is at length completed by the long continued action of the *uterus*, first moulding and reducing the form and size of the head, 'till it is adapted to that of the *pelvis*, and then forcing it through the diminished cavity. Or, the degree of distortion may be such, that notwithstanding all the reduction of the head, which can be accomplished by the efforts of the constitution, there does not remain sufficient power to expel the head ; but it may be brought into such a situation, as to afford us the hope of safely delivering the patient by art, and of preserving the life of the child. Or, the distortion may be so considerable, that it is impossible for the head of the child to be expelled without lessening it, and the child must be sacrificed to the safety of the parent. Or, lastly, the distortion may be so great, that if the head of the child were lessened, there would not be a possibility of extracting it, and we must either submit to lose the lives both of the parent and child, or attempt to save that of the latter,

ter, by the *cæsarean* section, or by some other operation equally hazardous.

In those cases in which there is a very great degree of distortion of the *pelvis*, the impossibility of the head of the child passing through it, is self-evident, and readily discovered on the first examination *per vaginam*. But in less degrees of distortion, no judgment can be formed *à priori* whether the head can pass or not ; and we ought to defer any determination upon the necessity or propriety of giving assistance, till we are convinced that the difficulty cannot be overcome by the powers of the constitution ; and the conviction is not satisfactory till the efforts are discontinued or cease entirely. Degrees of difficulty to our apprehension insurmountable, are often overcome by the mere force of the pains, and so long as these continue vigorous, we are not to despair of a happy event ; but encouraged by experience, and supported and justified by moral as well as scientific principles, we must rely upon the advantages which time and proper conduct may afford.

The far greater part of those labours which are rendered difficult by the distortion of the *pelvis*, only require a longer time for their completion. Some however demand the assistance of art ; and when that is the case, the kind of assistance must vary according to circumstances. But these will
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be more particularly stated when we come to speak of the various operations in the practice of midwifery.

3. *Head of the Child uncommonly large ; or too much ossified.*

No arguments are required to prove that a small body will pass through a small space with more facility than one that is large ; the size of the body being supposed to bear a relation to the capacity of the space. Of course, the larger the head of the child at the time of birth is, with the greater difficulty will it be expelled ; but if the *pelvis* be not distorted and of a common size, we may always expect that the woman will be ultimately delivered by her natural pains, if there be no other cause of difficulty, though a longer time may be required for the completion of the labour.

It is not merely from the size of the head of the child that a labour may be rendered more tedious, more painful, or even truly difficult. The connection of the bones of which the head is constructed, is such as to allow of considerable diminution and change of form in its passage through the *pelvis*. The extreme degree of diminution and change which it is generally capable of undergoing, is perhaps impossible to determine ; but it does not seem unreasonable to conjecture that it may be reduced to one third of its original size, without
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the destruction or even injury of the child from the compression; the alterations being so gradual. The advantages gained by this compression of the head in all cases of difficulty, occasioned by the natural smallness or less degrees of distortion, are wonderful, as was before observed. But as there is great difference in the degree of ossification in the heads of different children at the time of birth, those heads which are most perfectly ossified, must of course be capable of undergoing the least change; and the degree of change which they can undergo, must be produced with the greatest difficulty, and purchased at the expence of more severe or longer-continued pains. On this account a large head, with a very imperfect ossification is often found to pass through a *pelvis* which might be considered as relatively small, with more ease than a smaller head in which the ossification was more complete; and yet the cause of the delay may not be discovered before the birth of the child. In cases of difficult labour proceeding from these and similar causes, it not being in our power to chuse the circumstances, all that we can do is to manage such as occur in the most prudent manner; and we have commonly to wait only for those effects to be produced which may be esteemed as consequences of the efforts of the constitution fairly exerted;

exerted ; and we are never to despair so long as the efforts are properly continued.

4. *Head of the Child enlarged by Disease.*

Two diseases have been mentioned by writers as the cause of this enlargement, viz. tumours growing on the heads of the children, and the hydrocephalus, but either of these very rarely occur. With respect to the first, it is said, that when the tumour, of whatever kind it may be, is of such a size as to be an impediment to the birth of the child, it should be opened or extirpated, and that the operation is not only perfectly consistent with the safety of the mother, but frequently with that of the child also. Of the existence of these tumours the instances recorded do not leave a doubt*; nor of the possibility, when they are large, of their obstructing the delivery of the patient : but of their extirpation with safety to the child, I should very much doubt, though no human being can circumscribe possibility. As it is the duty, so it will always be the solicitous wish of every practitioner to preserve a life, when it is in his power.

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* Partus difficilis a tumoribus, è capitibus foetuum dependentibus.

The integuments of the head of the child, from long continued compression, may become so much tumefied, and altered from their natural form and state, as sometimes to give the feel of a distinct and adventitious tumour; and yet such may not require any assistance of this kind. But when there really any unnatural tumours or excrescences, the point of practice would depend upon the degree of impediment to the passage of the head which might be thereby occasioned; or upon the nature of the tumour, whether it could be extirpated, or only admitted of an opening to be made into it for the purpose of lessening its bulk; or if neither of these could be done with propriety, by acting as if no such tumour existed.

With regard to the hydrocephalus, which if of a certain size, would certainly be a great obstacle to the delivery, this is not readily to be distinguished in the early part of a labour; because the membranes of the *ovum* are in some cases, as thick as the integuments of the head in others. But if we were assured that an hydrocephalus did exist, there would not always be occasion for us to act; as it is far more eligible to wait so long as to give time for the expulsion of the head of the child by the natural efforts, if they are equal to that effect. Should the head be so much enlarged by the quan-

tity of fluid contained in it, that it was too large to pass, even in that case the integuments will generally burst by the force of the pains. But when the fact is ascertained, and the labour is rendered extremely tedious and lingering from this cause, it does not seem reasonable to allow the patient to undergo such long continued pains as when we have any hope of saving the life of the child. When we have determined upon the necessity or propriety of delivering the patient, all that generally is necessary to be done, is merely to perforate the integuments of the head, immediately after which the water flowing away, the head is speedily expelled, and the birth soon and easily completed.

5. *Face inclined towards the PUBES.*

On a former occasion we have mentioned that there are four varieties in the position of the head of the child at the time of birth. The first when the *vertex* or hindhead is turned towards the *pubes*: the second when the face is turned towards the *pubes*: the third, when the head presents with one or both arms: the fourth when the face presents. The first of these may be considered as the standard position, because it is not only the most common, but the most easy also; the head of the child being so constructed as to admit, in
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that position, of the greatest and most ready compression and adaptation to the *pelvis*. But the other positions are not to be considered as constituting labours of any other class, but as varieties of the natural position, though they must of necessity occasion delay in all labours in which they happen; either because a portion of that space which should be wholly devoted to the head of the child, is occupied by some other part, or because the bones of the *cranium* more slowly and imperfectly conform to the size or shape of the *pelvis*. When the face of the child is inclined towards the *pubes*, the peculiarity of the position is not usually discovered in the early part of the labour, nor even when the first stage is completed, the practitioner being generally satisfied with knowing that it is a presentation of the head. But when there is any unusual delay, perhaps without any very obvious cause, it then becomes a duty to investigate and explore the cause, and it is not a very unfrequent thing to find the face turned towards the *pubes*. This position is most readily known by our being able to feel the greater fontanelle in a common examination, though it is also proved by other circumstances relating to various parts which it is unnecessary to point out. When this position is found, it does not follow that any thing ought to be done; but we

are to wait a longer time ; because as experience has proved that the head in this position will be ultimately expelled by the natural efforts, so long as these are continued, no artificial help should be given or attempted. But when the pains cease, or when we are fully convinced that they are unequal to the exigencies of the case, such assistance must be given as the situation of the parent may allow and require.

With this position of the head, besides the greater length of time which may be required for moulding and expelling it, there will also be a greater distention of the external parts, because the hindhead cannot be cleared of the *perinæum* before the chin has descended as low as the inferior edge of the *symphysis* of the *ossa pubis*; by which an inconvenience is produced equal to what an increased depth of the cavity of the *pelvis* would occasion, or a deficiency of the arch of the *pubes*. There are also some peculiarities in the operation when we deliver with the *forceps* or *vectis*; but of these we shall speak when we come to the directions for the use of those instruments.

6. *Presentation of the Face.*

The presentation of the face is discovered by the general inequalities of the presenting part, or by the distinction of the particular parts, as the eyes,
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the nose, mouth, or chin. In this presentation the child will generally be expelled by the natural efforts, but a much greater length of time will be required for the completion of the labour, for the reasons mentioned under the last cause, which are in this perhaps increased. But the child may be born without any injury, though the face will sometimes be swelled in an astonishing manner, and the external parts of the mother being infinitely more distended than in a natural position, greater care is necessary to prevent their laceration.

If after the long continuance of the labour we are convinced that extraordinary assistance is required, then the same observation may be made with regard to the use of the *forceps* or *vectis* as in the preceding article; but of the peculiar conduct which it may be necessary to pursue, we shall speak hereafter.

7. *Head presenting with one or both Arms.*

Though the head should present with one or both arms, experience hath fully proved that a woman may be delivered by the natural efforts with safety to herself, and without prejudice to her child, if the *pelvis* be well formed. But as a part of the cavity which should be appropriated to the head will be filled by the additional bulk of the arms, there will be an evil similar to what would

would be produced by a small, or by a somewhat distorted *pelvis*; and if the *pelvis* be barely of sufficient dimensions to allow the head of the child to pass through it, then the additional bulk of the arms may render the passage of the head impossible; or the labour may be so much retarded as to make it what is properly called difficult.

In the beginning or in the course of a labour of this kind, the practitioner will often be able to return the presenting arm or arms beyond the head, without any detriment; but he must be very careful not to solicit the descent of the arm before the head, lest he should change the whole situation of the child, and convert that which would have been only a variety of a natural into a preternatural labour.

In some cases we are enabled to feel the head, a foot and an arm at the same time, and it will then be expedient to grasp and bring down the foot, and to deliver in that manner. But it behoveth us to distinguish very cautiously between a hand and a foot, because the mistake would lead us to the necessity of turning the child, an operation which would otherwise not have been required.

In presentations of the head together with one or both arms, unless there should be any particular reason for our wishing to turn the child, the propriety of which must rest upon the
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the judgment of the practitioner, we are to be prepared, and wait with patience for the expulsion of the child by the natural efforts; or when we are convinced by their failure or cessation, that these are not equal to the effect, to give such assistance as the nature of the case may require; and whatever the instruments which it may be necessary to use, are, their action will be nearly the same, as if the arms had not been in the *pelvis*.

Whether these cases are completed by the natural efforts, or by the assistance of instruments, the arms of the child will be very much tumefied or bruised, and the child is for a certain time as unable to use them as if they were paralytic. But by the help of fomentations and poultices, and by moderate motion and gentle friction, their natural appearance and use are recovered in the course of a few days; at least I have not seen an instance of any permanent mischief from this cause.

When the extremities present at the time of birth, there is often a doubt whether the child be living or not, unless it can be perceived to move. Now the fact may be ascertained by the consequences of any violence, as no part of a dead child can either tumefy or change its colour, however compressed it may be, and only shews one kind of violence, that of solution of continuity.

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fourth
ON THE ~~THIRD~~ ORDER;

O R,

The Diseases of the soft Parts which occasion difficult Labours.

1. *Suppression of Urine.*

THE various affections of the urinary bladder during pregnancy, have been already mentioned. On the commencement of labour, it was said that an involuntary discharge of the urine might be occasioned; but there is more frequently a difficulty in voiding it, and sometimes there is a total suppression. The inconveniencies thence arising will be according to the quantity of urine retained, and to the length of time that the bladder may continue distended. The first will hinder the proper action of the *uterus*, and will be an impediment to the passage of the head of the child, which will not only have a less space to pass through, but be projected also out of its proper direction; and by the latter the bladder itself may be injured, in consequence of the pressure which it undergoes from the repeated actions of the *uterus*, by which it may become inflamed; and in some cases in which relief was not given, it has even been ruptured, the patient being thereby destroyed*.

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* See Chapman, page 143, see also Medical Observations and Inquiries, vol. 4.

In the beginning and course of labours, especially of those which are tedious or difficult, great attention is therefore to be paid to the state of the bladder; the patient is to be frequently admonished to void the urine; and in all cases of doubt we are not to confide in any representation, but are to be satisfied only with seeing the quantity of urine which has been discharged; error being often committed by confounding the waters of the *ovum* with the urine. By the application of the hand to the *abdomen* of the patient, it is often an easy matter to distinguish between the tumour of the *uterus*, and the flattened but circumscribed tumour of the bladder, which lyes below and before that formed by the *uterus*: the patient herself is frequently capable also of distinguishing that pain which is the consequence of the action of the *uterus*, from that which is occasioned by the pressure upon the distended bladder.

To remove that obstacle to the passage of the child, which may be produced by the distention of the bladder; and to prevent any injury to the bladder itself, it is necessary to draw off the urine with the catheter, whenever it is retained beyond a certain time or degree. In slighter cases the common catheter will answer the purpose; but when the head has been long wedged in the *pelvis*, there is not sufficient room for that to pass, even though

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the head be elevated or pressed towards the hollow of the *sacrum*. But in such cases the flattened catheter contrived by my very worthy and ingenious friend Dr. *Christopher Kelly*, will often pass with ease and convenience. But whatever catheter it may be found expedient to use, or however necessary it may be to draw off the urine, we are to take care not to introduce the instrument with much force, because we may do as much positive mischief with the instrument, as we aim or wish to avoid. In some cases, though we are assured that there is a great quantity of urine in the bladder, the head of the child is so immovably locked in the *pelvis*, that we cannot possibly introduce any catheter, and are therefore obliged to submit to the inconveniencies which may follow the distention of the bladder. But if care was taken in the beginning of labour, this does not often happen; nor is it always attended with the evils we might dread, the head of the child being at length pressed so low as to allow the urine to escape, though very slowly. But in all such cases it will be prudent and necessary to introduce the catheter before or soon after the expulsion of the *placenta*, that we may prevent the mischief which might be expected to follow the distention of the bladder, if that was to remain many hours after the delivery.

2. *Stone in the Bladder.*

If a woman should have a stone in the bladder, there would be no reason why she should not be with child, and proceed through her pregnancy without molestation. Nor, if it was of a small size, would it be any impediment to her delivery; though if it was large, the head of the child could not pass through the *pelvis*, or not without much trouble and inconvenience. Of this case I have never met with an instance in practice, and may therefore be allowed to consider it as very rare, though there does not appear to be any reason for judging it impossible. I have reflected upon the case, and upon the conduct which it might be necessary to pursue, if it had occurred to me; and though it behoves me to speak with reserve, and to be satisfied if little confidence be placed in what I advance, it is better on the whole to give my opinion, than to leave the matter without making mention of it, or considering it.

In the beginning of labour, supposing there is a stone of a large size in the bladder, one of these consequences must follow; the head of the child must advance before the stone, or the stone must be protruded before the head of the child. If the former should be the case, we might presume that the labour would proceed in a natural way, as if the stone did not exist; there would, at least, be

no demand for the assistance of art, and no room to exercise it. But if the stone should be protruded before the head of the child, our conduct must be regulated by the circumstances. It seems reasonable that we should first attempt to raise the head in such a manner, and to such a degree as to allow us to return the stone beyond the head. But if that should be found impracticable, either because the head of the child was too far advanced, or firmly locked in the *pelvis*, we must then weigh the evils to be apprehended, from the compression of the soft parts, that is, of the anterior part of the *vagina*, and the posterior part of the bladder, between the head of the child, and the stone in the bladder; besides the distraction of the parts which must be necessarily occasioned. Whatever conduct we might pursue must be attended with some evils, and as it is only in our power to choose the least of these, it seems better even in the time of labour, to suffer the evils which might follow the performance of the operation for extracting the stone, than to suffer those which may be occasioned by the compression. With regard to the operation, there is both less difficulty and danger in women than in men, though these will in some measure depend upon the size of the stone. In some cases also in which the stone is contained

tained in a distinct cell of the bladder, and could not therefore be grasped or extracted by the *forceps* when introduced; it has been proposed to make an incision through the anterior part of the *vagina*, directly upon the stone. This operation, which may in some cases be eligible, has been performed twice, by two surgeons of great ability and eminence in the country, and as I was informed, without occasioning the effect to be apprehended; that of leaving a fistulous opening by which the urine would have been voided for the remainder of the patient's life.

3. *Excrescences of the Os Uteri.*

Excrescences of the *os uteri* are usually combined with some degree of scirrhus disposition of that part. It was before observed that excrescences do not prevent conception, or disturb pregnancy; but according to their size and situation, they must necessarily be obstacles at the time of labour. The following case, which was curious in the circumstances attending, as well as the nature of the complaint, I may be permitted to transcribe, as it was an example of an excrescence of the largest size I have ever seen.

In June 1770, I was desired to see a patient in the eighth month of her pregnancy, who in the preceding night had a profuse hemorrhage. Her countenance shewed the effects of the great loss of blood

blood she had sustained; and from the representation of the case given me by the gentleman who was first called in, I concluded that the *placenta* was fixed over the *os uteri*. On examination I felt a very large fleshy tumour at the extremity of the *vagina*, representing and nearly equalling in size the *placenta*, which I judged it to be. Had this been the case, there could not be a doubt of the propriety and necessity of delivering the patient speedily; and with that intention I passed my finger round the tumour, to discover the state of the *os uteri*; but this I could not find: and on a more accurate examination, I was convinced that this tumour was an excrescence growing from the *os uteri*, with a very extended and broad basis. I then concluded that the patient was not with child, notwithstanding the distention of the *abdomen*, but that she laboured under some disease which resembled pregnancy; and that the hemorrhage was the consequence of the disease. A motion which was very evidently perceived when I applied my hand to the *abdomen*, did not prevail with me to alter this opinion.

It was of all others a case in which a consultation was desirable, both to decide upon the disease, and the measures which it might be necessary to pursue; and several gentlemen of eminence were called in. That she was actually pregnant, was proved to the satisfaction of every one; and it was then concluded,

concluded, that such means should be used as might prevent or lessen the hemorrhage, and that we should wait and see what efforts might be naturally made for accomplishing the delivery.

No very urgent symptom occurred till the latter end of July, when the hemorrhage returned in a very alarming way, and it was thought necessary that the patient should be delivered. There was not a possibility of extirpating the tumour, and yet it was of such a size as to prevent the child from being born in any other way than by lessening the head. This was performed; but after many attempts to extract the child, the patient was so exhausted, that it became necessary to leave her to her repose, and very soon after our leaving her, she expired.

We were permitted to examine the body. There was no appearance of disease in any of the abdominal *viscera*, or on the external surface of the *uterus*, which was of its regular form; and when a large oval piece was taken out of the anterior part, the child, which had no marks of putrefaction, was found in a natural position. An incision was made on each side of the *cervix* to the *vagina*, and then a large cauliflower excrescence was found growing to the whole anterior part of the *os uteri*. The *placenta* adhered with its whole surface; so that the blood which she had lost must have been discharged from the tumour.

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The propriety or advantage of a practice by which the life of neither the parent or child was preserved, ought to be considered; but such cases occur so rarely, that there is always room for animadversion, when they are concluded. Yet the general principle of its being ever our duty to preserve both their lives, if possible; or to preserve that of the parent; or, if she cannot be preserved, then to save the child, if it is in our power; would have been a better guide on this occasion, than that which was followed.

Excrescences of a smaller size are not unfrequently met with in practice; and as even these are usually accompanied with some degree of scirrhous disposition of the *os uteri*, more time is required for the completion of the labours. It is also to be remarked, that in cases of this kind, there is often a long continuance of the pains without any sensible effect; but all at once, the rigid *os uteri* yields and dilates speedily and unexpectedly, or perhaps in some instances is lacerated. During labours of this kind, and after delivery also, the great object is to guard against all causes of inflammation, at first perhaps local, but afterwards extending to other parts, connected or readily consenting with the *uterus*, and more immediately necessary for the functions of life.

4. *Cicatrices in the Vagina.*

From diseases of the soft parts, especially from violence sustained in former hard labours, the *vagina* may have become ulcerated; and when care was not taken to prevent the surfaces from abiding in contact with each other, the opposite sides might adhere in different degrees, according to the depth and extent of the ulceration. When the ulceration is slight, and the inflammation is not so great as to bring the tumefied parts into contact, after a certain time they heal; but cicatrices being formed, the diameter of the passage is lessened, and the part is left with a disinclination to yield on any future occasion. In some cases a superficial slough has been thrown off from the whole internal surface of the *vagina*, and cicatrices of an irregular kind formed from the *os uteri* to the external orifice. In other cases there has been a cicatrice only at one part, and if this should happen near the external orifice, the contraction is such as to mimick an unruptured *hymen*.

Amidst a great variety of cases of cicatrices in the *vagina*, I have not met with one example in which they were able to withstand the pressure of the head of the child, if the pains were of the customary strength. The labours have indeed been retarded, but they have terminated favourably. But when the difficulty arising from this cause

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has been combined with other causes, it must of course have added to the trouble which the patient would otherwise have undergone. Or, if the pains should cease before the labour is completed, then such assistance must be given as the case may require; being on our guard that we do not offer assistance before there are proofs of the necessity, and we are assured that the difficulty cannot be overcome by the natural efforts.

5. *Adhesions of the Vagina.*

Adhesions of the *vagina* are occasioned by an increased degree of the same causes as those which occasion cicatrices. There may be an adhesion in women who were never pregnant, or it may be the consequence of a flough thrown off after a former labour, with or without the use of instruments*. Cases of adhesions of this kind are commonly mentioned as of very easy management, nothing more being required, it is said, than to separate the united surfaces with a knife, and to prevent their re-union by the introduction of a tent or canula for that purpose. It is true, when the adhesion has taken place near the external orifice, that it is
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* I have been informed of the case of a patient who was in the hands of a very skilful practitioner, in whom, after her delivery, which was not attended with any circumstances of peculiar difficulty, the whole internal surface of the *vagina*, and all the external parts entirely floughed away.

in general managed without difficulty ; but when the parts adhere high up in the *vagina*, then it appears from the structure that there is need of the greatest circumspection, lest on the one hand we perforate the bladder, or, on the other, the *rectum*, all these parts being drawn close together. When therefore an adhesion of this kind takes place after the age of menstruation, it is better to suffer the menstruous discharge to be collected ; and after a certain time, the part where the incision ought to be made, will be pointed out.

It is possible for an adhesion to take place after a woman is become pregnant ; of course when labour came on, the contents of the gravid *uterus* would be impelled against the adhering part, which would either separate or resist the exclusion of the child. In the former case nothing would be required to be done ; but in the latter, it would be necessary to divide the united parts by an incision, with great care, and to a certain degree, leaving the full separation to be made by the membranes containing the waters, or by the head of the child.

6. *Steatomatose Tumours.*

Of this cause of difficult labours I have never met with an instance in my own practice ; but the following case was communicated to me by a gentleman whose authority is unexceptionable,

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A lady

A lady, after the birth of her eighth child, fell into a state of bad health, with many painful and troublesome symptoms, but no marked disease. These were by some physicians considered as nervous, by others as scorbutic, and by others as rheumatic, or of a gouty nature. A variety of medicines were given, and means tried for her relief, but without any good effect. At the expiration of two years she became again pregnant. All her former labours had been very easy and natural; but when Dr. ——— was called at the commencement of this, he found an obstruction at the superior aperture of the *pelvis*, which he believed could only be occasioned by the projection of the lowest lumbar *vertebræ*, or the upper part of the *sacrum*. It was then supposed that she had the *osteosarcosis*, of which her complaints had been the symptoms. It was impossible for her to be delivered in any other way than by lessening the head of the child. She died on the fourth day after her delivery. Leave was given to open the body, and when the *pelvis* was examined, the tumour which was imagined to be a projection of the bones, was found to be an excrescence of a firm, fatty substance, springing from one side of the upper part of the *sacrum*, and passing across so as to fill up the greater part of the superior aperture of the *pelvis*.

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It is probable that the complaints of this lady were occasioned by the pressure of this tumour upon the *uterus*; and had the real state of the case been known before the time of labour, or even during her labour, it does not appear to have been proper, or within the bounds of the art, to have attempted or afforded her any other assistance.

7. *Enlargement of the Ovaria.*

Diseases of the *ovaria*, both of the scirrhus and dropical kind, especially the latter, are very frequent. Either of these must generally prevent conception; but as one of the *ovaria* may be very much diseased, when the other is in a perfectly healthy state, instances sometimes occur of women becoming pregnant under such circumstances, and then the enlarged *ovarium* may produce inconveniences during pregnancy, or become an obstacle to the progress of labour.

With the history of two cases of this kind, I was many years ago favoured by Dr. *John Ford*, a gentleman of great skill and experience. In the former he was surprised to find a large and firm tumour lying between the *rectum* and *vagina*, and filling up all the concavity of the *sacrum*, and a considerable share of the cavity of the *pelvis*. Being convinced of the impossibility of the child passing by this tumour, which did not yield or diminish by the force of the pains, it was determined that

that the patient ought to be delivered by lessening the head of the child. The operation was performed with great care, but the patient died at the end of three weeks. When the body was opened, the tumour was found to be an encysted dropsey of the *ovarium*, in which there was a considerable quantity of hair.

In the latter case, which in all its circumstances resembled the former, instead of lessening the head of the child, a trocar was passed through the posterior part of the *vagina*, directly into the tumour. A large quantity of water was immediately discharged, the tumour subsided, and a living child was born without any further assistance. This patient recovered from her lying-in, but some time after becoming hectic, she died at the end of about six months, though from the symptoms it did not appear that the fever was occasioned either by the disease or the operation.

Having related these two cases, I have said all which I had to advance on the subject, except that I have met with more than one instance of a circumscribed tumour on one side of the *pelvis*, which I at first suspected to be a diseased *ovarium*. But as these tumours have always given way to the pressure of the head of the child, the passage of which they have only retarded for a short time, I have concluded they were formed either by some soft fatty substance,

substance, or were cysts containing lymph casually effused, and forming to itself a cyst of the cellular membrane. But on taking an examination after delivery, the tumours were found to have again acquired their primitive form and size.

8. *Rupture of the Uterus.*

The human *uterus* is found to retain its original thickness during the time of pregnancy, notwithstanding its distention; or to become somewhat thicker than it was in the unimpregnated state. This thickness, we have therefore reason to think, is consequent to some principle acquired, and coeval with conception. But if the whole, or any part of the *uterus*, should be deprived of this principle, or affected with any disease destructive of its operation, then the whole, or the part so affected, would be mechanically distended, and become thinner in proportion to its distention; and at the time of labour, when the action exerted might be greater than the unthickened part of the *uterus* was able to bear, the *uterus* would be of course ruptured. Or if the *uterus* which had acquired its proper thickness, became affected with any disease, weakening its power, and speedy in its progress, the texture of some part so affected might be destroyed, and the *uterus* ruptured by its own action in the time of labour. The *uterus* may also be ruptured by attempts to pass the hand for the purpose of turning a child, if it

it was strongly contracted; but in this last case a rupture could only happen when the force with which the hand was introduced, was combined with the proper action of the *uterus*; for no person has the power to force his hand through an healthy and unacting *uterus*.

Some of the causes of the rupture of the *uterus*, are unavoidable; for it is not within the sphere of human abilities, to give to any part the principle by which it has the disposition to perform any function; though art may excite it to action if dormant, or repress it when too vehement. But the two other causes, that which is preceded by inflammation, or that which may be occasioned by attempts to turn the child, may be corrected or avoided, by abstaining from the use of all such means as are likely to act as causes of inflammation; or from making such attempts as may be necessary for the purpose of turning a child, when the action of the *uterus* is strong.

The rupture of the *uterus* is usually accompanied with a sense of something giving way internally, with an instant vomiting of brown humour, and a total cessation of the pains. After these symptoms, by the application of the hand to the *abdomen*, the limbs of the child are so easily distinguished through the integuments, as to leave no room to doubt of the accident; and if the head of the
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child be not locked in the *pelvis*, it immediately recedes, or even goes out of the reach of a common examination.

When a rupture of the *uterus* has happened, there is little chance of the patient surviving it; and it might be doubted, whether it would be more eligible to suffer the patient to die without giving her further trouble, or whether it was our duty, hopeless as the case must be, to pass the hand into the *uterus*, to turn and deliver the child by the feet, or with the *forceps*, or in any way the case would allow. Whatever were the sentiments of practitioners formerly, is not to us very material; but besides some others of which I have been informed, a case has occurred to my very worthy, able, and experienced friend Dr. *Andrew Douglas*, in which though the *uterus* was ruptured, he turned the child, and the patient recovered. If no other case had ever occurred, I apprehend that this would be of sufficient authority, to render it in future the indispensable duty of every practitioner to act in a similar manner; and bad as the chance of the patient is, to be strenuous in using all the means which art dictates, to extricate her, if possible, from her danger. But for further information on this head, I refer the reader to the Essay on the rupture of the *uterus*, published by Dr. *Douglas*.

S E C T I O N.

THESE causes of difficult labours I have enumerated in this order, with the hope of pointing out a more useful method of arranging the knowledge we possess, and of removing some part of that obscurity in which the practice of midwifery has been involved, and by which its further improvement hath been hindered. Two things appear in the general result; first, that the evils attending parturition are more frequently adventitious, than necessary and unavoidable; and secondly, that the native powers of the constitution, when not interrupted, are not only superior to the common obstructions of the process, but in general, to every kind and degree of deviation from the natural course of labours. Yet with every prudential regard to our own conduct, and the most judicious regulation of that of our patient, we shall in practice certainly meet with cases in which, either from the debility of those powers which usually exist, and which ought to be exerted; or, from the greatness or stubbornness of the obstructing cause, we shall be compelled by necessity to give artificial assistance, or the mother or child, or both will be lost.

Before

Before we proceed to the consideration of the various means which have been contrived for the relief of women in cases of difficult parturition, it may be again observed, that the causes of difficulty are generally combined; and as there are very few instances of a disease, according to the simple definition of it, in nosological writers, so there are few examples of difficult labours produced by one single cause. Together with the dribbling of the waters, there will often be a retraction of the head of the child from the shortness of the *funis*; and with great rigidity of the parts, or a small *pelvis*, there may be a weak action of the *uterus*, and so on to an almost endless variety. One cause will however predominate, and of course become the principal object of our attention. But when by time, or art, that cause is removed, we must apply ourselves to the removal of that which is important in the next degree; and sometimes the same means may be properly used for the removal of difficulties proceeding from several different causes.

But besides the causes already mentioned, there is one much more frequent than the rest, which is the derangement of the order of the labour by an officious interposition, or by improper management. Upon this subject it would be unpardonable to make an assertion which is not supported by experience; but I am fully convinced that the far

greater number of really difficult labours to which I have been called, and I must not conceal the truth on this occasion, some of those which have been originally under my own care, were not of that denomination from any unavoidable necessity, but were rendered such by improper management. Nor does the disturbance of the order of a labour, depend upon the practitioner alone; for the intractability of the patient herself*, or of her friends and attendants, which though it may be generally founded in compassion to her sufferings, may also arise from many other motives, are not rarely productive of the same effect.

On the part of the practitioner there is not only required much previous knowledge and present judgment, to distinguish in cases of great difficulty, which of them may demand the assistance of art, and which may be resigned to the efforts of nature; but there is no situation, in which there is occasion for greater address to procure the confidence and co-operation of all the parties concerned; or for more firmness in the pursuit of the negative conduct,

* De la part de la mere c'est quelquefois sa mauvaise humeur, son impatience, son indocilité, la violence et la irrégularité des mouvements.

conduct, which it is absolutely necessary to follow. Whatever may be the resolution of particular women, and whatever may be the general estimation of natural labours, every woman is impressed with the opinion, and the opinion is often well founded, that in difficult ones, her life must be preserved by the skill and judgment of the practitioner, under whose care she is placed. If therefore her confidence is secured, the delay to give assistance will be construed into a proof that none is required, and of freedom from danger.

The distress and pain which women often endure while they are struggling through a difficult labour, is beyond all description, and seems to be more than human nature is able to bear under any other circumstances. The great principle of all their patience and resolution, is perhaps that deep-rooted affection of the parent to the offspring, implanted in the female mind. But the principle of self-preservation, though varying in its operation, will recur, and demand its share of regard. In long and continued labours it is therefore proper by frequent allusions to the child, to encourage and strengthen the former principle, for its power is lessened or overcome by the weight of their present distress; their love for their child is conquered; and the prospect of distant pleasure is
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not able to stand in competition with the evils of the present moment. With the firmest determination to do what is right, they persuade themselves that the child is dead; that the object for which they should persevere, no longer exists; and the practitioner in opposition to his own feelings, and against the solicitation of those who confide in him, is often the only advocate for the child. But his decision to act in cases in which the life of a child is concerned, must stand upon a better principle than conformity to the inclinations of others; and though he might avoid present censure, or even gain present credit, by giving artificial assistance unnecessarily, when the case comes to be reviewed, and it always is reviewed, the blame of acting precipitately in cases which do not terminate fortunately, will be cast upon him, and their satisfaction will be established by the discovery of some cause of blame in his conduct. In the exercise of the most hazardous part of a profession, perhaps in general more subject to censure than any other, it behoves us to be particularly circumspect: and though events are often beyond the power of human controul, we may always act with intelligence, with prudence, and firmness; and no man's character can long be supported, if he is not governed by the determination to do what is right, to the best of his judgment and power.

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But however averse the practitioner may be to the use of such means as may be dangerous to, or even destructive of the child, cases must occur in which the assistance of art will be absolutely needful, and the use of instruments justified. As correct judgment must also be exercised, and equal care taken that he does not delay that assistance which may be necessary, so long, that it cannot answer the end for which it was given ; or while he is endeavouring to preserve the life of the child, he may lose that of the mother also, which certainly is of more value.

The intentions in the use of instruments may be of three kinds. First, to preserve the life both of the parent and child : secondly, to preserve the life of the parent ; and thirdly, to preserve the life of the child. The instruments contrived to answer the the first intention, are the *fillet*, the *forceps*, and the *veclis*. Of each of these, together with all the collateral circumstances which demand our regard, we shall speak in their turn, and then proceed to the consideration of the other intentions.

