unaided, but it must be borne in mind that our females are usually too weak, and deficient in energy, to perform any unusual natural function without assistance. The accoucheur must use great caution, so as neither to intrude his help when not required, nor yet to refuse it when really needed; and, above all, he must not substitute *violence* for *skill*.

When the after-birth is brought away, a bandage should be passed round the body of the female, made of soft linen, twelve or fourteen inches wide. It should be drawn moderately tight, and fastened securely. If it pass round twice it will be all the better, and it should be drawn down as near the pubes as possible. I know many ladies who prefer the india-rubber bandages, recently invented, as they press more equally and firmly, and are put on with less trouble, being all in one piece and drawn over the feet and limbs.

Some accoucheurs put on the wrapper immediately the child is born, before the after-birth passes away; but I think this is not the best plan. When properly adjusted, the supporting band gives great comfort to the female, and is very useful.

Some ladies provide curious *corsets* to put on, invented for the purpose, which however, as a celebrated author recently remarked, "are usually stiff and unyielding, like the prejudices of their patrons, and often prove injurious." None of them are equal to the simple contrivances above mentioned.

ATTENTIONS TO THE FEMALE AFTER THE DELIVERY OF THE AFTER-BIRTH.

When the after-birth is removed, the patient should be left to repose herself for about a quarter of an hour, during which time most of the blood escapes, and then she must be made as comfortable as possible. In France, and with many persons here, it is customary to cleanse the patient with a sponge dipped in warm water, pass a clean warm sheet under her, and then put on clean linen, after which she is lifted into the clean bed, previously well warmed, the accoucheur himself carrying her there. Most frequently, however, the sponging is dispensed with till some time after, and also the changing of beds—the under sheet merely being withdrawn, and a warm dry one passed in its place, while the patient's limbs are gently wiped. In either case the female should be disturbed as little as possible, particularly if there be danger of flooding, and she should be carefully guarded from cold. When the soiled and wet clothes are removed as completely as possible, warm napkins should be placed under the pelvis and between the limbs, to soak up the discharge, and they should be carefully changed as often as needed, without uncovering the patient. If she be disposed to sleep, however, and is much exhausted, these attentions need not be pressed too much till she is recovered a little.

Many persons here have a dread of using the sponge immediately, and of being carrried to another bed; but there is no danger from either practice, in ordinary cases, when carefully performed; and it is so productive of *comfort*, that I never knew one but what was pleased with and benefited by it, and desirous of its being done in their subsequent labors.

Some females will even rise and take a *cold bath*, or be wrapped in a *wet sheet*, not only without evil effect but with *positive advantage*. I would not advise any one to do this however, *particularly if they are the least timid at it, or doubtful of its propriety*. Without the mental stimulus of *faith* and *hope* it may be hazardous. It shows, however, that many of the popular notions as to the requirements and susceptibilities of females in this state are entirely unfounded.

The patient may either experience great comfort after being thus attended to, or she may complain very much. Some will even be attacked with a kind of chill. Their teeth will chatter, and their hands and feet grow quite cold. This however, usually passes off, and she falls asleep. The accoucheur ought to remain for an hour or two, even though she sleeps soundly, and appears quite well, because she may become suddenly worse, or flooding may set in with such violence as to endanger life in a few minutes, when unchecked.

If the patient desires any nourishment, she may take a little simple soup, or gruel, but nothing stimulating, unless a little wine be needed from extreme exhaustion.

ATTENTIONS TO THE CHILD.

Inspection when born.—As soon as the child is born, its mouth and nose should be cleared from mucus, if that has not been done already; and if it has not breathed, means should be resorted to immediately to make it do so. Sometimes the whole head is covered with a thin membrane, called the *caul*, or *veil*, which is most probably only a portion of the amnion, and which may cause suffocation. I remember a case of this kind in my own practice, in which the caul was unnoticed at first, and the child came near dying from it. Nothing could be seen, and as it bent before the finger, when pressed into the mouth, it was totally unobserved. The nurse however, called out that the child did not breathe, and a close examination as to the cause soon revealed why. On passing the finger under the edge of the membrane, which was round the neck, it came off like a cap, and the child cried immediately.

Washing the Child.—The cleansing of the child may usually be safely committed to the nurse, or other female attendants, though some of them have very absurd and injurious practices in this respect. Thus I have known them rub the whole body over with *whiskey*, or *raw spirits*, before washing it, which must cause great coldness from its evaporation, and also great irritation. The only thing required is *perfect cleanliness*, and this should be effected in the *quickest* and *simplest* manner. Some very mild soap, and moderately warm water, is all that is really needed, though a little sweet oil, or fresh lard, or butter, rubbed on first, appears to facilitate the operation. The drying should be done as quickly as possible, after all the mucus is washed off, and with great care; the napkin being as soft as it can be, and never *rubbed* hard, for it requires but little force to remove the skin. Many persons take great trouble, and are a long time over this infantile wash without succeeding well with it. They are deceived by the tough mucus slipping under the hand, but still clinging to the body, where they leave it even after using the napkin; it then dries on and forms a hard skin, very difficult to remove, and very irritating. This can be avoided with care, and by using the oil first, which appears to soften the mucus. Some persons use *flour*, or *Indian meal*, and others *starch*, but none of these are so good as the simple means we have described.

Dressing the Child.—After the washing and drying are completed, the child must be *dressed*, and this is a process in which comfort and utility are frequently sacrificed to mere fashion and prejudice, as it is in adults. The article next the skin should be of soft fine linen, which may be followed by others of warmer material, according to the temperature. They should all be perfectly loose in their make, and quite soft to the feel. As far as possible they should all be fastened with *strings* rather than

pins. These metallic points are troublesome to fix, and often injure the child, in spite of every precaution. They are also apt to be referred to as the cause of the child crying, and thus prevent other causes being sought for, which frequently exist.

Some people put a thick flannel cap on the head, over a linen one, but others leave this part altogether uncovered, which I think is the best plain. At most there should only be the linen covering; the head being better rather cool than otherwise.

The dressing of the cord is the next duty, and this is done by taking several pieces of soft linen, oiled a little, and cutting a small round hole in the middle of each, through which the cord is passed. The linen then lies flat on the abdomen of the child, and the cord on the top of that, the holes being just large enough for it to pass easily through. Five or six pieces are usually put on, but very frequenly only one is used, and is found quite sufficient. It should be very fine, and soft. When this is done another layer is laid over the cord, and then a bandage of soft linen, about four or five inches wide, is passed two or three times over it, and round the body. This completes the dressing, and the child may now be wrapped up warmly and laid down to sleep—remembering, as Dr. Chailly remarks, that if it be laid on a chair or sofa, it may be accidentally sat upon and killed—an accident which has happened more than once.

ACCIDENTS WHICH MAY HAPPEN.

Before these dressings are needed, however, there are frequently other things of more importance to be attended to. If the labor has been long, or the presentation unfavorable, the child may be born *apoplectic*, from the pressure it has received. The face will be puffed up, and of a blue color; the body will be swollen, and the limbs without motion, while the pulsation will scarcely be felt, either over the child's heart or in the cord. It will feel warm, and the limbs will be quite flexible, but still there will be no signs of life. In this case it should be exposed naked to the cool air, and even blown upon; and if that does not resuscitate it, the cord may be cut through below the ligature, so as to let out two or three teaspoonfuls of blood. After this it generally revives, and begins to move, while its face assumes a natural color, and the swelling goes down. The mouth and throat should also be carefully cleaned with a quill feather, of all mucus.

A more frequent accident is *asphyxia*, or want of breathing, in which case the surface of the body is cold and pale, and no breath whatever is drawn, though the heart beats quite naturally. Very weak children, or those born before their time, or those delivered by instruments, are most likely to become asphyxiated. The first thing to be done is to carry the child to the open window, if it be not exceedingly cold, and expose its head and chest to the air, while the rest of the body is wrapped up warm. This will often make it gasp, but if it does not a little cold water may be dashed on its face and chest, and the throat may be tickled with a feather. The breech may also be smartly slapped, and the chest well rubbed with the cold hand. When it begins to breathe a little, it may be put into a warm bath up to the middle, and a warm injection may be given to it. In most cases these means will speedily bring it round, but if they do not, the attendant should place his mouth close over that of the child and breathe into it, so as to fill the lungs, and then press down the chest to empty them again, repeating the process several times. This may be called artificial breathing, and if it succeed once only, there is a probability of its effecting the desired

object. The breath, however, must not be blown in too hard, nor too rapidly, or it may injure the child's lungs. Sometimes a tube is used, which is passed down into the throat; but it is troublesome, and not much better than the mouth, if at all. These efforts may be repeated twenty or thirty times if necessary, or even more. In some cases it is requisite to continue using some or all of these means for an hour or two without intermission, before the child begins to breathe freely. I knew an instance even, where the nurse continued to do so for *five hours*, and at last fully recovered the child, though all present, including the doctor, had given it up. She said she did not despair while it continued *warm*, though it was doubtful whether the heart beat or not. This may show that the attempt should not be abandoned too soon.

In case of asphyxia, no blood should be lost at all, but on the contrary the cord should be carefully examined to see if it is tied fast, the bleeding from it frequently aggravating the evil.

Congenital Weakness.—Some children are born extremely weak, and remain constantly debilitated and cold. This is very apt to be the case when they are born before the full term, or when the mother is diseased. They should be carefully wrapped in cotton, or very soft flannel, and kept warm by bottles of warm water. Many instances are on record of these weak children becoming afterwards extremely robust, so that they need not to be regarded with unmixed apprehension, nor neglected from a supposition that they must die.

The Child may be Deformed.—The accoucheur should also carefully examine the child, to see if it be deformed in any way, or has met with any accident, because in some of these cases assistance is required immediately, and may be rendered at once.

The Child's Capability of Endurance.—The capability of the new-born infant to endure extremes of cold is almost as great as that of its mother, and sometimes even it is benefited by them. With many persons it is customary to plunge it in cold water, immediately when born; and in Russia, we are told, it is even *rolled in the snow.* In some cases these extremes may be beneficial, but in others I have no doubt they prove fatal. A medium course is best, in most instances, leaving the extreme to be resorted to when we wish a sudden stimulus.

When all these matters are carefully attended to, and both mother and child have remained for an hour or two without any unpleasant symptoms, they may be left to the care of the ordinary attendants, giving them strict orders to send for proper assistance *immediately*, if anything unusual transpires.

SUBSEQUENT ATTENTIONS TO MOTHER AND CHILD.

The Bladder.—One of the most important points to attend to is the urine. A few hours after the delivery is fully effected, unless the female is reposing, she should be asked whether she has any desire to urinate; and, if she has, the convenience should be at once afforded to do so. There is always more or less danger of retention of urine, from the pressure that has been exerted on the bladder; and if it be allowed to continue too long, its removal becomes exceedingly difficult. If on making the attempt the urine does not flow, the catheter must be used, and the sooner the better. The pain arising from retention of the urine has often been supposed to arise from inflammation of the womb, or bowels—neither patient nor physician knowing its real

source, till the passage by the catheter gave relief. There have even been instances of females dying, merely from an overcharged bladder, while their attendants were industriously treating them for uterine inflammation. This accident, therefore, should always be suspected, and a very little attention will prevent any mistake in regard to it. When allowed to become too full, the swollen bladder may be felt, just above the pubes, hard and tender, so that the least pressure upon it causes great pain. If not relieved, it will at last burst.

The Bowels.—If the bowels are not opened naturally, it will be well, the following day, to administer an injection of thin starch and water, or to prescribe a small dose of castor oil, or a seidlitz powder. This should also be repeated for two or three days, till the natural power is restored.

The Food.—But little solid food should be given, and nothing stimulating. Gruel, milk, toast and water, Indian meal, light puddings, or broth, should be the chief articles for some time. Roast apples are also very good, being pleasant and relaxing. For refreshing drinks, if there be any fever, lemonade or tamarind tea may be taken.

The After-pains.—After the expulsion of the after-birth, most females experience more or less severe pains, almost like those of labor, arising apparently from the further contraction of the uterine walls to expel the coagulated blood. These pains are seldom or never felt in first labors, but afterwards they are often most acute. I have known many patients suffer *much more* from them than they did during labor. They sometimes last only a few hours, or a day, and sometimes even extend to six or eight days. Nothing that we know of can prevent them, though many means are known of mitigating their severity. If there be no tendency to flooding, a large poultice may be placed over the abdomen, or it may be fomented, or covered with cloths wrung out in hot water. An injection may also be used, either in the vagina or rectum, consisting of warm thin starch, with about twenty drops of laudanum; or either of the following recipes may be used internally:—*Pills of gum camphor,* two about the size of ordinary pills, to be repeated, if necessary, in an hour. Or, *syrup of poppies,* two drachms; *mucilage of gum arabic,* two ounces; and *solution of sulphate of morphia,* ten drops; to be made into a mixture, *one-half* of which may be taken at first, and the remainder in *two hours,* if the patient is not relieved. This seldom fails. It is necessary to bear in mind that the pains arising from *inflammation* have been mistaken for ordinary after-pains, and serious consequences have resulted from the error. The after-pains, however, are concentrated, and *intermittent,* while the sensations from inflammation are more diffused and constant, and are also usually attended by fever.

The Lochial Discharge.—From the time of delivery until the uterus has returned to its ordinary condition, there is poured from it a discharge, at first like blood, and afterwards thin and light colored, called the *lochia.* The duration of this discharge varies from one week to a month, and its quantity from one ounce to six or eight ounces daily. It gradually diminishes, however, and frequently stops for a few days altogether. In women who do not nurse it is both more abundant, and lasts longer, than in those who do. The bloody color usually disappears after the first or second day, though sometimes it will show itself again, even when the discharge has nearly ceased, particularly if the female exert herself too soon.

It appears that this discharge is essential to health, and great attention should therefore be bestowed on the patient, if it be too small, or cease too soon, or too suddenly. In most cases it ceases naturally during the *milk fever,* and of course its disappearance then need not excite alarm. Sometimes also it does not attain its full quantity till some days after its commencement. If, however, it remains small past the *third* day, or does not appear when the milk fever is over, means should be taken for increasing it. The best means for this purpose are *warm poultices* and *fomentations* over the abdomen, and injections in the rectum of simple warm water. Some practitioners advise *two drachms of powdered camphor* to be sprinkled on each poultice, and probably it is an excellent addition. Occasionally the lochia is very offensive, and in that case a simple cleansing injection may be frequently used of thin starch, or chamomile tea, with three or four drops of carbolic acid.

During the whole period of the lochia in fact, even in ordinary cases, the female will be all the more comfortable, and better, for an occasional injection, and frequent washing. This is very much neglected, though it never ought to be so. The only care required is not to expose her to cold, which is quite unnecessary.

The Milk Fever.—About the second or third day there usually commences a peculiar temporary excitement in the system, called the *milk fever,* which requires to be described because it may be confounded with something more serious. It is generally ushered in by headache, flushed face, and a hot dry skin; the pulse beats slowly, and the breasts become hard, while the veins upon them appear very full. In a short time, however, the pulse becomes quicker, a perspiration breaks out, and the breasts become still larger and fuller, so that the female can scarcely bring her arms to her body. These symptoms last about a day, or two days at most, and seldom become much aggravated.

Occasionally the milk fever is preceded by a slight chill, or by a furred tongue, or sick stomach, but not very frequently.

The precise causes of this temporary fever are unknown, though probably it is connected with the full establishment of the secretion of milk, and hence its name. It is seldom very severe in those who nurse, and frequently does not appear at all. During its continuance, and for some time after, the female must carefully avoid exposure to cold, and keep herself quiet; her diet should also be rather restricted, and light and unstimulating. An occasional seidlitz powder may also be of service, or a simple injection.

Making the Bed.—It is not customary to disturb the female, for the purpose of making her bed, till the milk fever is passed; or, if that does not appear, till the tenth or twelfth day; and then it should be done with care, and so as not to expose her unnecessarily.

First Sitting up, and Going out.—This must of course be determined more by the condition of the patient, and the state of the weather, than by any rules. It may be as well to remark however, no matter how the patient may *feel,* that the *first attempt* should always be made with care. Very frequently she thinks herself stronger and more capable than she really is, and premature or undue exertion may do great injury. In most cases the female is allowed to rise within the first week, and sit for a short time in an arm-chair; after which she begins to walk slowly about the room. The first going out is fixed, *by fashion,* at one month. Many females, however, are unfit to leave the house till long after that time, and others should by no means be confined to it *so long.* Of course these proceedings should depend, as already remarked, upon the patient's strength and inclinations, and upon the state of the weather, and not upon any fashionable observances. Some females are quite able to rise, and even walk out, in a few days, with benefit to themselves; and it exhibits

as great a want of correct feeling, or common sense, for any one to make disparaging remarks on them for their early appearance, as it would if they were to blame the poor invalid for keeping her bed.

The apartment should be kept constantly *well ventilated*, particularly if the female is confined to it, and all soiled linen, or other sources of foul air, should be removed as quickly as possible. There is reason to believe that inattention to this, and to properly cleansing the *person* of the female, frequently produces *child-bed fever*.

Attentions to the Child.—If the infant's bowels are not opened by the end of the first day, it should have a little sugar, or molasses and water, given to it, and if this does not succeed, about half a teaspoonful of syrup of rhubarb may be added. This is, however, but seldom needed, if it be put to the breast within a few hours, as the first secretion of the milk possesses sufficient laxative power itself. It should also be observed whether it has urinated, and if not it should be placed in a warm bath immediately.

Some persons prefer to let the child wait till the milk fever is established, before they let it nurse, but this is very improper. The early feeding does it no good, and the purgatives it requires are injurious. As soon as the female is sufficiently reposed, if there is nothing special to forbid it, the child should go to the breast.

Sometimes the child will remain sleepy and dull, and not seem to require food at all, for several days, and even die at last of starvation, unless aroused. If this lethargy continues, it should be put in a warm bath, and afterward well rubbed, while a little sugar and water is poured down its throat. These attentions may require to be repeated for some time.

About the fourth or fifth day, the portion of the cord above the knot usually separates and falls off, if it has not already done so. If the navel is inflamed, or suppurates, a little simple ointment may be rubbed on, and it should be regularly and carefully washed. In some infants it swells out very much, in which case a pad should be made of soft linen, and laid upon it, over which the ordinary bandage may be drawn. The complete healing of the part does not occur till about the twelfth day, and the bandage must be carefully worn till then at least, and is better continued a little longer, particularly if there is any swelling, or if the child cries much, or strains.

CONCLUDING REMARKS.

From the explanations given above of an ordinary natural labor, it will be evident that but little manual assistance is required, either to the mother or the child, and also what really is called for is of so simple a character as to be easily rendered. It would undoubtedly be improper, and cruel, to leave females at such times without aid altogether; but it is also equally improper and injurious to interfere too much. Excepting in cases of disease and deformity, or of very unfavorable presentations of the fœtus, nature herself will nearly always effect the delivery; and much better, in most cases, when left to herself. Numerous females and infants have been *killed*, and still more have been grievously injured for life, by rude and uncalled-for manipulations; so that it has been a question with some accoucheurs, of great experience, whether as many would die, or seriously suffer, from receiving *no assistance*, as do now from being improperly handled. Without going so far, it is undoubtedly true that great mischief is done in this way, which can only be prevented by both accoucheur and patient bearing in mind that *nature herself is usually competent*, and at

most only requires skillful and gentle *assistance*. Some practitioners seem to think that labor is a mere *mechanical* process, like the removal of a block of stone, and hence they depend entirely upon *force;* overlooking altogether the wonderful vital powers inherent in the system, which operate with such certainty, and yet so safely, and which frequently succeed of themselves when brute force is completely foiled.

The nature of the assistance proper to be given, in any particular stage of labor, will be evident on inspecting the structure of those parts, of both mother and child, which are brought in connection at the time, and by considering how their mutual relations require to be changed and modified. If those relations are already such as are required, and the system retains sufficient force, nothing *can* be done with any advantage—we must *wait*, and let nature operate herself. Even many unfavorable conditions may be spontaneously corrected, and it should always be a matter of consideration, when the means of assistance are not very obvious, whether it will not be better to rely upon the natural powers than to interfere. Great evil has resulted from teaching females that labor *cannot* terminate safely without a great deal of assistance, which can only be rendered properly by those who possess a vast amount of skill and experience. They are thus led to think themselves totally dependent upon the accoucheur, and many of them actually seem to believe that he is as necessary to deliver the child as a dentist is to extract a bad tooth. If they were better informed, they would feel more confidence in their own natural powers, and would not be so unnecessarily alarmed when unforeseen difficulties occur, or when professional aid cannot be immediately procured.

In most cases there is more danger *after the labor is over*, from *puerperal fever*, various local inflammations, and other causes, than there was during its progress. Indeed the real danger may be said properly to commence several days after, and the physician is really needed then more than at the time.

PROTRACTED AND DIFFICULT LABORS.

The causes which may impede a labor, and increase its difficulties, are numerous, and they are of several different kinds—some depending upon the mother, and others upon the child. Some of these may be easily removed, or modified, but others present more serious difficulty. It is therefore necessary to enumerate and explain them separately.

CHAPTER LXXIII.

THE CAUSES AND CONSEQUENCES, TO BOTH MOTHER AND CHILD, OF PROLONGED LABOR.

The Consequences of Prolonged Labor.

A LABOR is usually called protracted or difficult, if the head presents, when it is not completed in about *twenty-four hours* from its actual commencement. There are many labors, however, that last much longer, and yet terminate quite favorably, and many that are over much sooner, and yet are very difficult. Still, generally speaking, the danger and difficulty increase as the time progresses, and it is seldom prolonged beyond twenty-four hours without serious inconvenience.

It appears, from the statistics of the Dublin Lying-in Hospital, that in *seventy-eight thousand deliveries*, one out of every *ninety-two* of the mothers died, and one out of every *eighteen* of the children was still-born. Of those mothers who were in labor with first children, from *thirty to forty hours*, one in every *thirty-four* died, and one child in every *five* was still-born. Of those who were in labor from forty to fifty hours, one died in every *thirteen*. Of those who were in labor from fifty to sixty hours, one died in every *eleven*. And of those who were in labor from sixty to seventy hours, one died in every *eight*, and nearly *one-half* of the children. It is evident therefore that, as a general rule, the danger increases with the length of time.

CAUSES CONNECTED WITH THE MOTHER WHICH MAY IMPEDE LABOR, OR MAKE IT DIFFICULT.

Inertia, or Want of Sufficiently Powerful Contraction in the Womb.

This is most likely to occur in delicate females, and in those who are debilitated by disease. The contractions are very feeble, and, as the nurses say, *do not tell;* the mouth of the womb dilates but slowly, and the head descends with difficulty into the passage.

In many cases, in fact, the labor is so tedious, from this cause, that the female becomes completely worn out, and finally sinks, while the child is exposed to the greatest hazard from the delay.

It is in these cases that the patient's strength needs supporting, and that stimulants may be useful. A little wine, or brandy and water, will often rouse the failing energies, and bring on a series of strong contractions that will end the labor at once.

The most usual resort however is to the drug called *ergot*, or *secale cornutum*, a fungous growth which is sometimes found on ears of rye. This possesses the peculiar property of exciting the womb to contract, the same as an emetic excites the

stomach to vomit, and it seldom fails in its effect; but still there are many objections to its use. It not unfrequently causes *delirium*, great restlessness, and anxiety, sickness, headache, and convulsions, or complete prostration, from which the female may be long in recovering. It is also supposed by some to be not altogether free from danger to the child. If however no other means were known of making the womb contract, in such cases, all the probable evils should be risked, because the labor *must* be completed at all hazards; but other means *are* known, which succeed even more certainly than ergot, and without any danger. The application of *galvanism*, if it be used in a proper way, will almost invariably cause the womb to contract, and speedily bring the labor to a safe termination, without the slightest risk or inconvenience to either mother or child. Simple friction over the abdomen will also succeed in many cases, and gently rubbing the mouth of the womb with the finger in others. These simple means should therefore always be used in preference to the ergot, but in case they cannot be resorted to, or fail, the drug must be administered, and I will therefore explain the manner in which this is done. When gathered, the ergot is in large irregular lumps, and should be so kept. When wanted for use, a single drachm should be finely powdered, and divided into three parts; one of these parts to be taken first in a glass of sugar and water, and the others at intervals of ten minutes, unless the effects of the first are very powerful. It is often thrown from the stomach however, even in still smaller quantities, and is then given, by some, as an injection by the rectum, in which mode it seems more powerful, so that a smaller dose is sufficient.

Great caution should always be observed in using this powerful drug, as it will sometimes act so energetically as to *burst the womb*, or expel the child so suddenly as to lacerate the perineum and other parts. The contractions produced by it are different from the natural ones, being almost constant, without any interval, and gradually increasing in force. They usually come on in about ten or fifteen minutes after the last dose, and continue about an hour and a half. Some practitioners depend almost altogether on the ergot, in every protracted case, and even use it to bring on *premature labor*, when that is required. Thus M. P. Dubois was once called to a dwarf, whom he delivered with instruments, the first time, but with great difficulty and risk. The next time she became pregnant, he determined to bring on premature labor, and accordingly he administered ergot, when she was about *eight months* gone. This brought on natural labor, and she was delivered without difficulty. M. Chailly says he believes it will bring on uterine contraction at any time, and that he has never known it to fail. I consider however that there is always more or less risk in its use, and I should certainly prefer any of the other means, particularly *galvanism.*

It is of the first importance however to be certain, before using *any forcing means whatever*, that there is no *physical impediment.* If the pelvis should be deformed or small, if the child's head should be unusually large or dropsical, or if the soft parts of the mother should be undilated and rigid, the most serious consequences must ensue from violent uterine contractions. In like manner, if the presentation be unfavorable, particularly if it be one of the trunk, the danger is equally great. In every case the passage of the child must be *physically possible*, before it is attempted to force it away. A neglect of this rule has frequently led to fatal results. The ergot has been given and the uterus forced to contract, while the pelvis was too small for the child to pass through: and the consequence has been *rupture of the uterus,*

or complete exhaustion, with death to both mother and infant. In other cases the delivery has resulted so suddenly, from the violence of the expulsive efforts, that the vagina and perineum have been lacerated in the most shocking manner.

The ergot is also especially dangerous to very nervous women, or to those who are disposed to congestion, apoplexy, or inflammation.

Among the special causes which often paralyze the action of the womb, may be mentioned a full habit of body, great distention of the uterus from accumulations of fluid, and extreme thickness of the membranes. In some cases, in fact, the membranes will be so strong that the most violent contractions fail to break them, and the uterus completely exhausts itself to no purpose. It is in such cases as these, when the mouth of the womb is fully dilated, that the accoucheur should rupture the membranes artificially. This is usually done with the finger nail by pinching them. Some practitioners, however, use a pointed instrument or a sharp quill; but there is always more or less danger of injuring the child or the mother by such means. The best time for breaking them is during a strong pain, when they are fully distended. The mere scratching, or pushing on them will frequently suffice. I have known cases, however, in which they were so strong that an instrument was actually necessary to open them.

The death of the infant also seems sometimes to check uterine contraction, though probably not from the mere circumstance of its being dead, but because the womb suffers from the same morbid cause which produced its death.

Any strong moral impression may also produce the same state of things. Thus, in some females the womb will instantly cease its contractions, and the labor be arrested, from *fright*, or from strong repugnance to somebody or something in the room. Instances have been known of women being so alarmed on first seeing the accoucheur, or so displeased because he was not the one they wished, that the uterine efforts immediately ceased, and could not be again brought on for a long time. The presence of some person who is a subject of dislike may also have a very prejudicial effect, and if this is known they should be immediately removed. Dr. Merriman tells us of a female who was seized with a fit, from which she died, simply from seeing a strange doctor enter the room.

Whatever may be the cause which paralyzes the action of the womb, we should endeavor, if possible, to discover and remove it. If, however, it be beyond our reach, the patient's strength must be supported as much as possible, and the simplest means of exciting the contractions tried first; if these fail, the more powerful ones must be tried, always preferring the safest. Finally, if all fail, the hand must be introduced into the womb, the child turned, and brought away by the feet; or the forceps must be used if absolutely necessary.

RIGIDITY OF THE MOUTH OF THE WOMB, VAGINA, AND VULVA.

Sometimes the mouth of the womb, or other soft part, will not give way, but remains obstinately rigid, so as to render the continued expulsive efforts of the uterus of no avail. If this state continues too long, the parts become swollen, hot, and dry, and extremely painful, so that the slightest touch causes acute suffering. The abdomen also becomes exquisitely tender, fever sets in, with cold sweats, the head begins to wander, the features express great anxiety and suffering, and the voice alters so that it can scarcely be recognized. These symptoms will sometimes be established,

and become rapidly worse in a remarkably short time, so that the patient will appear to pass suddenly from a condition of comparative ease and safety to one of extreme peril and suffering. The child also suffers in an equal degree, the continued pressure upon its head having a most injurious effect. The bones overlap to a great distance, the scalp is engorged with fluid, and all its blood-vessels are ready to burst; the brain is severely compressed; the circulation in it is suspended, and apoplexy frequently ensues. Even when one of these protracted cases eventually terminates without immediate mischief, there is much subsequent evil to be feared. The bruised parts frequently slough away, so that fistulas are formed, and the whole remain so permanently weak that they can never afterwards retain their places.

The most usual resort in these cases of obstinate rigidity is *blood-letting*. This frequently induces relaxation immediately, and also checks the tendency to inflammation and fever. In many cases, however, if not in all, it may be dispensed with, and should always be so if possible. Very frequently it produces as much evil as good, by alarming the patient, and by creating a debility which cannot afterwards be removed. Simple warm *fomentations* will often make the rigid parts give way; and so will lubricating them with soothing ointment, or, better still, anointing them with the *belladonna ointment*. This frequently acts like a charm, and opens the rigid os tincæ in a few minutes. Injections of thin starch and laudanum are also excellent, and may be advantageously administered before applying the belladonna. The *galvanic battery* may also be employed, it having induced relaxation in many cases, when all other means failed; and the practitioner should always have one ready, in case of need.

If the labor really does progress, though slowly, it is generally best to have patience, and let it take its course. If, however, the patient is likely to sink before it is completed, or if it is at a stand-still, and cannot be accelerated, artificial delivery may be necessary. It is seldom, however, that all of the above-mentioned means fail.

OBLIQUITIES OF THE WOMB.

Sometimes the womb is so much inclined in a particular direction that its mouth does not present to the middle of the passage. Thus it may lean over so much to the right side that the mouth may open against the left wall of the pelvis, or it may lean to the left side, or to the front. In all these cases, the expulsion of the child may be totally prevented, because it is forced against the walls of the passage instead of down its axis.

Obliquity is sometimes righted spontaneously, but more frequently it requires the interference of art. The mode of rendering assistance is to support the womb on the side to which it falls, particularly during the pains, so that its mouth may be directed toward the middle of the passage.

PROLAPSUS UTERI.

Falling of the womb may retard labor, but is not likely to make it more than usually difficult, or dangerous. It is requisite, however, to bear in mind that the head of the child may, by this displacement, be found in the vagina, and even at the vulva, before it has passed through the mouth of the womb, because the neck itself is already in the passage. The head may therefore be felt low down, and the

accoucheur may think the labor will soon be completed, when in reality it has scarcely begun. In such cases it merely requires patience and *non-interference.*

SMALLNESS, AND DEFORMITY OF THE PELVIS.

These constitute by far the most serious obstacles to delivery, and are most to be dreaded. In treating upon them, it will be first necessary to explain the chief kinds of deformities, and the causes from which they arise, after which it can be shown how they interfere with the progress of labor, and how they can be best remedied.

Deformities of the pelvis may either be congenital, or they may be produced by certain diseases in after life, and also by bad physical education. The principal causes however are two diseases, *rachitis*, or *rickets*, and *malacosteon*, called also *mollites ossium*, or softening of the bones. Rachitis usually attacks children somewhere between nine months and two years of age, and produces a variety of well marked symptoms; such as large head and belly, protrusion of the breast-bone, flattening of the ribs, emaciation of the limbs, and various deformities of the bones. The patient may recover from the disease, but the deformity of the bones often remains, and therefore no female should become pregnant, who has had rickets, till the shape and dimensions of her pelvis are known, or it may cost her life.

Malacosteon, or softening of the bones, may come on at any period of life, and frequently occurs without any serious constitutional disturbance. It consists in a gradual absorption from the bones of all their solid matter, so that they become soft, and may be bent or twisted like horn. Sometimes this state will be reached very soon, but at other times the disease progresses slowly. The causes of it are unknown, and it is incurable. I have seen a patient who could bend the bone of her leg *nearly double*, as if it were a piece of rope.

In several previous chapters, I have spoken upon various other causes which may deform the bones in young females, such as wearing corsets, improper attitudes in sitting, and want of sufficient *unconstrained* exertion of the body in the open air.

The deformities may be of various kinds, and may either alter the general appearance and the walk, or may not be discoverable except on examination. Sometimes the pelvis is *too large*, so that the womb and other parts are continually falling down into its cavity, but this is very rarely seen; more frequently it is either too small, or irregular in its form.

In all cases where the irregularity in form, or diminution in size, is such as to prevent the passage of the child, an operation becomes necessary, either upon the mother or her infant, and great danger is consequently incurred by both.

It is therefore the duty of every mother, if she has the slightest suspicion that her daughter is deformed, though it may not be apparent, to have her examined before she is allowed to marry. *Many have lost their lives for want of this precaution.* Severe blows or falls in early life may also create a pelvic deformity, and this, as a possible consequence of such accidents, should always be borne in mind. The means by which the form and size of the pelvis are ascertained, as before stated, are simple, and such as need not in any way be feared.

To enumerate all the varieties of deformed pelvis, as described by different authors, is unnecessary, and would not be useful here. I shall, therefore, only refer to them generally. Sometimes the pelvis is regular enough in its form, but singularly small altogether, not larger perhaps than that of a child eight or nine years of age. More frequently, however, one part only is small, while the others are full sized, or the different parts are not in a proper position in regard to each other. Thus sometimes the pubic bones will be flattened backward near to the sacrum, so as to narrow the antero-posterior diameter of the upper strait; at other times one of the sides will be flattened towards the other, as if crushed in, and thus diminish all the diameters; and at other times one side will sink down lower than the other, and thus effect similar changes in another way.

By referring to the description of the perfect pelvis, given in the early part of the work, the nature of these changes will be readily understood, particularly if the figures given there are compared with those given here.

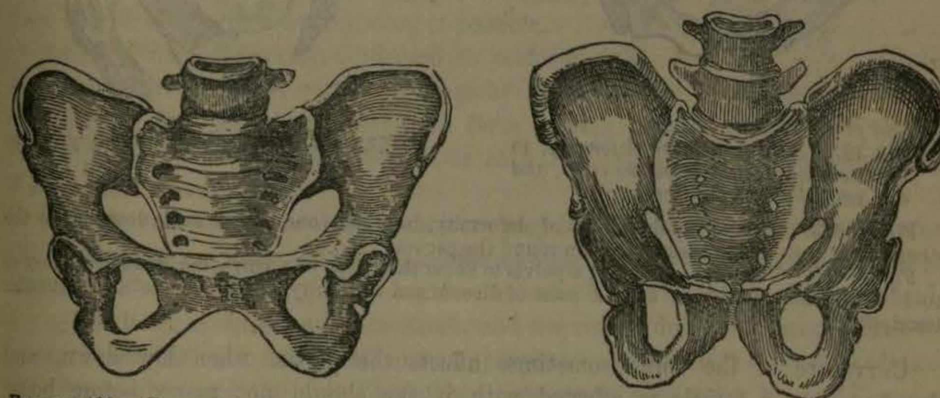

FIGURE 183.—*Represents the standard form of the Pelvis.*

FIGURE 184.—*Masculine Pelvis.*

Figure 183 represents the *standard* form, with which the rest must be compared.

Figure 184 represents a pelvis which resembles that of the male in its form, and is therefore called *masculine*. It is deeper, and less capacious altogether, than the standard one. This form is occasionally met with in females of a peculiar general conformation and temperament, approaching that of the other sex. It is not a sufficient deviation from the natural form to create any great difficulty, though it may cause delay.

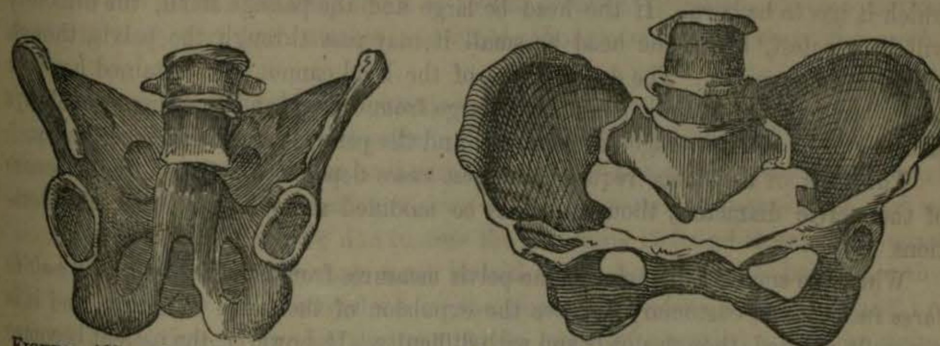

FIGURE 185.—*Represents the peculiar deformity most frequently produced by Mollites Ossium.*

FIGURE 186.—*This is called an Ovate Pelvis.*

Figure 185 represents the peculiar deformity most frequently produced by *mollites ossium.* The different parts are stretched out as it were, and crushed inward toward each other. The size of each strait is diminished in nearly every diameter, and the whole form is very unfavorable to delivery. This is sometimes called a *cordiform* pelvis. Observe the difference between it and the standard one.

Figure 186. This is called an *ovate* pelvis. It appears as if it had been crushed by a heavy weight, from above downward, the sacrum being depressed below the plane of the pubes. In this case the antero-posterior diameter of the upper strait is so much lessened that the two halves appear nearly separated, and form almost a figure of eight (8).