

An Essay on Uterine Hemorrhage.

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THE frequency of occurrence, and the dangerous tendency of uterine Hemorrhage, render it peculiarly interesting to the medical practitioner. And this interest is increased when he considers the discordant opinions entertained of its origin, and but in too many instances the inefficacious modes proposed for its treatment. With a view to reconcile the first, and to point out for the second a more decided plan of cure, the present observations are offered.

In the earlier writers upon this subject, we find considerable diversity of sentiment, not only with respect to the source of the disease, but also as to the mode of treatment. While some were of opinion that the neck of the uterus and a portion of the vagina furnished the expended blood, wherever abortion or miscarriage did not take place;* others contended, the discharge could only happen from a separated portion of the placenta or membranes.† A few were content to rely upon the efforts of nature, and thought it might be even mischievous to interrupt it—or at farthest

* Mauriceau, La Motte, De Graaf, &c.

† Puzos, Pasta, Kik, De Graaf.

depended upon temporising applications to the vagina, or upon the exhibition of some inadequate astringent by the mouth—while, a much greater number insisted it was a most serious accident, and that the woman's safety exclusively depended upon the expulsion of the ovum, or the premature delivery of the child—from which it would appear, how vague and uncertain their notions upon this subject were.

We are not, however, to include in this censure, the later writers upon midwifery. From them we confess to have received much important information, and to be indebted *collectively* for nearly all we know of its mode of treatment—though we must at the same time declare, we do not regard any *one* of them as having brought into view all that we consider valuable, or necessary to be known, upon this formidable complaint.

In prosecuting the inquiry into this subject, we do not feel ourselves bound to give a detailed account of the notions entertained by every writer within our reach, and shall merely pledge ourselves to the faithful selection of such opinions and observations as may in our estimation merit most consideration. In doing this, we hope we are performing an acceptable service to those whose leisure or opportunities will not permit them to do it for themselves; and sincerely trust we shall be forgiven when we are found to depart from high authority or generally received opinions, which do not comport with our own views or experience. For the latter, we can with much honesty declare it has been rather ample than confined.

The mode of inquiry we propose to pursue is—

First. To consider very briefly the nature of the connexion of the ovum with the internal face of the uterus.

Secondly. To investigate the causes which may impair this connexion, and thus expose the source from which the blood is derived.

Thirdly. To examine into the mode of action of these agents in effecting this lesion.

Fourthly. To point out the several periods of utero-gesta-

tion at which this may take place—and trace the various consequences which may result from these periods.

Fifthly. To notice the mode of treatment under the different stages, and circumstances, which may accompany the disease.

I. *The connexion of the Ovum with the Uterus.*

Soon after the ovum is deposited within the cavity of the uterus, we find it connected through its whole extent of surface, with the internal face of this organ. Both uterus and ovum contribute to this end—on the part of the womb, we find it produce a soft spongy substance called decidua—on the part of the ovum we discover its external covering or chorion shooting out innumerable vascular fibres—and both when united serve as the bond of union between ovum and uterus. The efflorescence on the uterine surface, like that which covers the ovum is decidedly vascular—and it would seem, that these minute vessels, interlock with each other after a certain period, so firmly, that they cannot be well separated without rupture.*

It is not necessary to our present purpose to inquire in what manner these vessels subserve the purposes of fetal growth—we only clearly understand, that when the integrity of either set be injured, there will follow a discharge

* Mr. Burns, (*Principles of Midwifery*, p. 181. Ed. 2.) who is high authority, is of opinion, that a separation of the maternal and fetal portions may take place—this may be, though not very susceptible of proof, nor is it perhaps of any great practical importance, yet if it be a fact, it should be recorded as such. He says, “at times the fetal and maternal portions separate, and the first is expelled before the second, forming a very beautiful preparation.” We have seen several ova of the kind we believe Mr. B. alludes to, but their appearance would lead us to a very different conclusion. But for fear we may misunderstand him, we will describe what we have seen more particularly. In several instances we have known ova expelled from the uterus, after a considerable continuance of pretty severe efforts, which were decidedly without a vestige of the uterine product attached to them—they were evidently, and indisputably, examples of the ovum being surrounded or covered by the entire product of the chorion, without their having formed any union with the decidua—their discharge was not attended by hemorrhage, though there was slight discharges of blood. We own a very beautiful preparation of this kind at this moment.

of blood, proportionate to the extent of injury—the part of the uterus at which it may happen, and the advancement of gestation. Should a large portion of the ovum be detached in the earlier months, the quantity of blood that may issue will be commensurate with that surface, especially if it be from the body or fundus. If the separation take place near the neck, the discharge will not perhaps be so abundant, as this part is considered to be less vascular than the other portions of this viscus.

But the latter of these circumstances will be influenced by the period of gestation. As a general rule it may be said, that the quantity of blood which may be expended will be in proportion to the advancement of pregnancy.

II. *The causes which may tend to destroy this connexion.*

In consulting authors upon this subject, we shall find that a variety of causes are enumerated as capable of destroying, to a greater or less extent, the connexion between the placenta and uterus—and it is agreed by far the greater number, that no considerable hemorrhage can occur unless this happen. By a few it was believed that a mere separation of the membranes was sufficient for this purpose: but of this we have no good evidence—and should it be even true, it can only refer to this accident after the fifth month—for until this time, the whole uterus may be considered as being lined with placenta. Mauriceau, Lamotte, and others, supposed that a discharge of blood during pregnancy must necessarily produce abortion, if it proceeded from the proper cavity of the uterus, as this could only happen by a destruction of continuity between the ovum and uterus: while Dionis thought this could take place without such a consequence, as he imagined the placenta occupied the fundus of the uterus alone, and that those vessels which furnish the menstrual discharge before impregnation, might also yield it during gestation, if they were in a plethoric state. De Graaf was of nearly the same opinion. It would be a waste of time to labour this point farther at this place. We shall only say, that we agree with those who

derive the blood expended in flooding from the exposed surface of the uterus, by a portion or the whole of the placenta separating from it.

In enumerating the remote causes of hemorrhage, we shall only name such as are most generally believed capable of this effect. 1st. A too short Funis: 2d. Mechanical violences: 3d. Passions or emotions of the mind: 4th. Plethora: and after delivery. 1st. Atony: 2d. Spasm: 3d. Humoral engorgement: 4th. Unequal contraction of the uterus: 5th. Inversion.

Though all these causes have been assigned for the disease we are considering—still it is sufficiently difficult of explanation how some of them act to produce it. When violence of any kind is offered a pregnant woman and she miscarry, or is prematurely delivered, the cause, from its force or extent at first sight, appears capable of the end, and there all investigation ceases. It may not therefore be time ill spent, to inquire into their respective agencies.

III. *Mode of action of certain of the remote causes.*

And first of too short a cord. It was the opinion of Lamotte, that the cord may be naturally or accidentally too short—in which case it might be the cause of hemorrhage. He gives a case illustrative of this assumption—but confesses it was the first and only one he ever met with. The bleeding proceeded from one of the umbilical vessels, at a portion which was folded into a kind of knot, which part yielded from the accidental shortness of the funis. Levret met with a similar instance.* It must however be confessed by all conversant with the practice of midwifery, that though this may be a cause of hemorrhage, it must be a very rare one—or the extensive practice of these three celebrated authors would have furnished more examples.

It is not at all extraordinary that we should have only a few cases of this kind upon record, since we do not well perceive how it can take place. Though the cord may be very short, either naturally or accidentally, still there must

* Baudelocque also mentions a remarkable case of the kind. Midwifery, par. 1084.

be great difficulty in breaking it by any effort of the child, for if the waters be preserved, the specific gravity of the child and them will so nearly correspond that the weight of the child may be considered as almost nothing—so that whenever the cord was put upon the stretch, the child would instantly move towards the force, and thus destroy its influence. If on the other hand, the uterus should be emptied of the waters, it would instantly almost embrace the body of the child so firmly by virtue of its tonic contraction, as to render it almost immoveable, and consequently it could not exert so much force as to injure the continuity of the cord. We may then safely conclude, that if it take place, it must be attended by such a combination of circumstances, as will always render it of extremely rare occurrence.

Another inconvenience is said to arise from too short a cord—namely, a separation of a portion or even the whole of the placenta during labour. Leroux says “that the placenta may be separated entirely or in part in consequence of too short a cord. This case,” he says, “is met with in practice, and he is persuaded that the greater part of the floodings which happen during labour after the escape of the waters, and when the head is in the lower strait and the pains are almost useless, has no other cause.”* We were no little surprised at this declaration, as we did not recollect a single instance, nor could we find it among our notes, where the hemorrhage was attributed to this cause. And we are firmly of opinion, that whenever too great a shortness of cord shall become a cause of flooding before delivery, there must exist at the same time, a preternatural feebleness of union between the placenta and uterus: for if the usual degree of adhesion obtain, the cord would break, before the placenta would separate, as the force which it would exert upon this mass would be at right angles with its surface, and would require a much greater power to separate it, than could possibly be employed by any movement of the child, and more especially at the time indicated, namely, after the discharge of the waters.

* *Pertes de sang*, par. 162.

Besides, were it possible that this cause should produce a separation, it would most probably be opposite to the point of insertion of the cord, which generally speaking, is near the centre of the placenta: if it effected it here, it would almost certainly be concealed, as the surrounding attachment would act as a dyke to the influent blood, and thus conceal the injury at least until after the birth of the child. But, Leroux himself confesses the discharge is not great, and is more dangerous to the child than to the mother—and also that he has received many children which did well, notwithstanding the cord did not exceed in length six inches. Many authors mention this uncommon shortness of cord, and mention it in such a manner as to lead to the conclusion that it is more frequent than is imagined. It may be so—though we have never in a single instance met with a funis, the natural length of which did not nearly double this.

We grant a too short cord may be extremely inconvenient, and create considerable embarrassment at times, especially after the head is protruded through the external parts: at this time all the accidents stated above may happen, and can only happen then.

2dly. Mechanical violence: 3dly. Passions or emotions of the mind: 4thly. Plethora. Each of these causes may produce uterine hemorrhage, and they all perhaps have in their turn done so. However, the mode in which they effect this, is not so well understood as it may deserve—the whole of these causes have one operation in common upon the system—they all induce an increased force of circulation, and which is generally considered sufficient under certain circumstances to produce the evil in question. It has been thought, that whatever gave an increase of force or velocity to the circulatory system of the mother, must almost necessarily, in consequence of the large size of the hypogastric and spermatic arteries—the short distance they have to travel before they arrive at the uterus, together with their great increase in that viscus as gestation advances, very much affect the condition of the ovum within its cavity—that the arterial *vis a tergo* must act mechani-

cally upon the ovum, and by mere force of circulation drive it from its connexion with the uterus—that plethora must act pretty much after the same manner—and as a proof of this, it is said that the periods at which the menses are wont to return, are those at which abortion is most readily provoked: for at these times, though the uterus is impregnated, and this discharge has ceased, still the blood is sent in greater abundance than usual, until the demands of the embryo are such as to employ it, without suffering the vessels to become engorged.

But those who reasoned in this manner did not seem to have a very clear idea of the nature of the union between the ovum and the uterus, since they differed as to the mode. While some insisted that the blood was transmitted *pleno rivo* by continuation of canal from the mother to the placenta, others did not think this necessary, as mere turgescency within that mass was all sufficient for the end proposed. Though we do not mean to deny altogether the influence of an increased circulation—we are disposed to very much limit its agency in producing a separation of the ovum, either in part or entirely from the uterus. For, were a mere increase of circulation all that is required to effect this end, no woman should escape aborting who may labour under high arterial action—thus fevers of all kinds should be followed by this accident, which is contrary to all experience. We are obliged then to suppose something more necessary than an vigorated circulation, to produce this effect.

We might indeed insist, that nature has attempted with some success to guard against this contingency, by the peculiar construction of the uterus itself. In the early months there is comparatively but a small quantity of blood sent to the uterus, because the necessity for it is comparatively small—and the force of even this is diminished, by its passing through vessels of small size, and much folded, or convoluted.* This provision is highly important to the welfare of the ovum at this period, since its connexion is

* Baudelocque, &c.

not so well established as it afterwards becomes, as gestation progresses. The liability therefore to abortion is greater in the early, than in the later stages of pregnancy—for as the union between the chorion and decidua is not yet well confirmed—as the attachment of the latter to the internal face of the uterus is proportionably slight—and as the extent of surface which the ovum now presents is very small to that which it offers in the more advanced states of pregnancy, and as it can of course be affected by smaller causes, it will be seen that a separation will be more easily induced, and prove much more injurious to the well being of the embryo, than a larger one at another stage.

In the more advanced periods of utero-gestation, the circulation becomes freer, and the vessels pretty rapidly increase in size.* Yet, as we have just intimated, the woman is not so liable to the accident we are considering—now, were nothing more required to induce hemorrhage than an increase of circulation, why should it not more readily occur at this time, than earlier? since it must be admitted, that more blood is now sent, because more is required—that the vessels are much larger—and arterial action increased in the exact ratio of their augmentation. To comprehend this, we must advert to another part of the uterine economy, in which nature appears to have been studious of the safety of the ovum, by a new provision in organization. Thus however much the vessels of the uterus may have augmented in size, those which directly administer to the necessities of the fœtus, do not alter in the same proportion. There is every reason to believe that the relative sizes of these two sets of vessels bear a much greater relation to each other in the early, than in the later months—so that the risk of injury from an impetuous circulation is diminished instead of being increased.

It must however be understood, that a given space of exposed uterine surface, will yield blood (*cæteris paribus*) in proportion to the advancement of gestation, because the vessels which furnish it have increased, in proportion to

* Baudelocque, &c.

this advancement. Now should the deciduous portion of this viscus be removed, it would necessarily expose the extremities of those vessels which yield a supply to an infinity of others, which terminate in, and in part constitute the placenta.

We know of no one who has clearly explained the manner in which the blood is conveyed into the minute vessels which constitute the decidua. That there is however, a peculiar arrangement for this purpose is certain, because there is an absolute necessity for it, since, were the blood conveyed to the ovum *pleno rivo* by vessels of the same size as those which furnish it from the proper substance of the uterus, or even of much smaller capacity, but subject to the same impulse, it follows, that it would be liable to injury from every increase of arterial action, which, as we have attempted to prove, is not the case.

Besides, injections prove that a portion of the decidua can be completely filled—and that it consists of infinite congeries of vessels, whose respective size bears no proportion to those terminating immediately upon the internal face of the uterus, or those which are directly interested in conveying blood to the ovum.

Is it not more than probable then, that each vessel which may terminate in the uterine cavity, has a great number of very fine ones corresponding with it, and which constitute in part the decidua? Is this not the mode which nature has adopted, to prevent the evils which must necessarily result from a hurried circulation? Is this not partly proved by the fact, that when the placenta is removed, and the uterus does not contract, that we have an overwhelming flooding? and may we not add, that such a contrivance is essentially necessary to the well being of the ovum, as well as to the security of the woman after she has expelled it? for were it otherwise, we should always have a rupture of vessels upon the separation of the ovum, or upon the casting off of the placenta from the uterus—but agreeably to this scheme, we have only an exposure of their extremities, which the contracting uterus almost immediately shuts up.

The decidua then performs two most important offices in the economy of gestation: first, by its great vascularity, as we have just pointed out; and secondly, by its sponginess and compressibility, which arise from the disposition of its vessels. We trust we advance no absurdity when we say, that most probably one of the uses of the decidua being so cellular and compressible in the early months of pregnancy, is to obviate consequences which might result to the feebly fixed ovum, were it otherwise, from external violence, or internal impulse. By its interposition and softness, vibration, however excited, would in part be certainly arrested in its progress to the ovum—and in more advanced gestation, the same immunity from risk of this kind would follow; from the peculiarly soft and yielding texture of the placenta—for at this time, injury could only happen from a separation of one of its portions—a disunion of the membranes yielding little or no blood.

From what has been said, we think we have rendered it probable, that something more is required than an increased force of circulation to effect a separation of the ovum in the early months—or of the placenta in the more advanced periods of pregnancy—and that something we believe to be uterine contraction—as without this we are at a loss to understand the *modus agendi* of the remote causes. We shall not pretend to say how the various causes we have enumerated above induce this action—though we are certain that this effect is produced through their agency, and for the following reasons. 1st. Because, mere circulatory impulse appears from the anatomy of the uterus and ovum to be inadequate to this effect—since neither abortion nor premature delivery follows as a consequence when this condition has been present in its highest degree. 2dly. Because, contraction in every instance is essential to the separation of the placenta, in abortions, premature labour, or delivery at full time. 3dly. Because, we frequently detect this cause, hours, or sometimes even days before the eruption of blood; and because, so long as this contraction continues, hemorrhage will not cease, unless we diminish the

bulk of the ovum, or interrupt its return by proper remedies. We are aware that objections may be raised to the reasons just given: it may be said that all testimony is against our first, as we are told by writers from the time of Hippocrates downward, that plethora is frequently a cause of hemorrhage, and that abortion is often prevented by the loss of a few ounces of blood. Be it so. We also believe such to be the fact. But this is no contradiction, since this condition of the system may act very differently in separating the ovum, than by mere impulse. The vessels in the proper substance of the uterus will and must partake of the general fulness of the system. They are of course distended more than ordinary—in consequence of which they must act as so many wedges to the uterine fibres which, by being thus stimulated, are made to contract.*

To the second, it may be said, that we have no evidence of this in the cases under consideration. It is true, we have no positive evidence, but we have strong presumption that it is so. Thus, in those instances which fall immediately almost under our inspection, we find that the placental mass is separated only by contraction—for when this does not take place, the after birth retains its adhesion with the uterus—hence, it is always solicited for this very purpose when absent at the termination of labour.

To our third, it may be objected, that in many instances hemorrhage comes on without being preceded or accompanied by the slightest pain. This though we also admit, does not prove there has been no contraction of the uterus, for we well know that pain is not essential to this end—The uterus may and does contract, and sometimes with great violence, without the addition of pain—and which is

* We cannot perhaps better illustrate our idea of the connexion of the vessels of the decidua with those of the uterus, than by comparing them to fine camel's hair pencils—the quill part to represent the uterine vessel, and the hairy fibres the vessels of the decidua attached to it—the calibre of the quill being equal to the area of the hairy fibres—by this arrangement, the circulating force will be necessarily so much diminished by its almost infinite division, that little injury can be sustained by the ovum, by a mere increase of circulation.

well illustrated, by what almost always happens after delivery, namely, the spontaneous separation of the placenta as it is termed, in which case, contraction is unaccompanied by pain—and also, by what very uniformly takes place previous to the painful state of labour, the alternate contractions of the uterus, as detected by passing a finger into the os uteri, where it will be found, that the membranes are alternately tense and relaxed, and if a hand be applied to the abdomen, the uterine globe will be felt to harden and relax, as contraction may be present or absent. Yet during this time no pain is experienced. Furthermore, by that peculiar contraction of the uterus called the hour-glass contraction—where the placenta is imprisoned in the upper chamber of the uterus by the body contracting very forcibly below—and so firmly does it maintain this condition, that it requires no common force to overcome it—yet there is no pain.

To the fourth it may be observed, that pain, when it attends, is rather a consequence than a cause—for such disturbance has been given to the uterine economy by an increased circulation, as to call in the aid of pain to free itself from the useless burthen, as the ovum has now become, because of its extensive or entire separation from the uterus, and must be considered rather as an extraneous body than a living substance. To this we would answer, that it is sometimes strictly true as regards the ovum, and is an event which always takes place when the embryo or fœtus has lost its life. But does it follow, that because pain, which must be considered only as an evidence of contraction, becomes necessary for the expulsion of the ovum, that it may not have existed before, or that contractions may not have been often repeated without manifesting themselves by pain? certainly not. Besides, we know that painful contractions may have accompanied hemorrhage for a considerable length of time without the ovum being destroyed, and the woman notwithstanding go her full time. Of this we, as well as others, have seen more than one instance. Yet had these contractions been permitted to have continued, they would inevitably have caused abortion.

Again it may be said, and truly, that uterine contraction may take place, and even of a very powerful kind, without being followed by a separation of the ovum or placenta—Were this not the case, indeed, hemorrhagies and abortions would be much more frequent than they are. But to obviate the force of this objection we may only state the fact, that ova do not always adhere with equal firmness to the uterus, nor does even the placenta itself, after it has become located to a certain portion of the uterus. Of this we have abundant proof in the many instances of habitual aborting, and in those where apparently very slight causes will occasion premature labour or early miscarriage. Some women appear to have ova so ill established, as to require but the slightest mental emotion or corporal exertion to have them cast off. This is notorious to every practitioner.

It may also be alleged, that those cases of hemorrhage which are accompanied by pain, consequently by contraction, are less dangerous, and of more easy management, than where this does not obtain. Now were contraction necessary to produce this disease, how is it that it can serve to remove it? This presents no difficulty. The whole truth is not told. Where the ovum is about to be cast off either in the early, or later periods of the pregnancy, or where there is no chance of its preservation from the effect already produced upon it, then contraction is useful, as it proves the healthy disposition of the uterus, so far as this circumstance is concerned. By it, the ovum is completely separated—and cast off,—the bleeding put a stop to, and the woman secured from danger. But, let us ask any practitioner of experience, whether he has not uniformly found those cases which have been attended with pain, always of more difficult management, than where none existed? We are sure he will answer yes. Now, if this be true, and that it is so cannot be doubted, does it not decidedly prove that contraction tends to increase the disunion or maintain the separation, as well as to have produced the original lesion? This fact too is so notorious, that every body who has a view to the security of

the ovum, endeavours in the first instance to diminish or destroy uterine contraction by the exhibition of such remedies as may be capable of such effect.

It may not be amiss to inquire, how far we may have a control, or whether we have any, over uterine contraction after it has once been called into action. The no small authority of Mr. Burns is against us when we say, we think we have—though confessedly difficult of subjection. Yet, as it is a matter of high consequence to ascertain the truth upon this subject, we hope to be forgiven if we differ from that respectable writer. He says, "when abortion is threatened, the process is very apt to go on to completion, and it is only by interposing, *before the expulsive efforts are begun*, that we can be successful in preventing it; for whenever the muscular contraction is *universally established, marked by regular pains, and attempts to distend the cervix and os uteri*, nothing I believe can check the process."

That it is a matter of uncertainty whether we succeed in our attempts to arrest uterine contraction after it is "established" must be acknowledged. But that it is never attended by success we cannot concede—nor should the principle ever be inculcated, as it paralyzes exertion, and withholds from the suffering female that comfort which the attempt rarely fails to give. Our own experience would, we think, in more instances than one declare, that we have been rewarded for the attempt to interrupt uterine contraction—and should it fail nineteen times out of twenty, we are surely not justified in withholding the probable means. We therefore make it an invariable rule to treat the case as if we expected to meet with success—and have had reason to suspect we are not doing our duty. There is one case however, in which we never interfere with the slightest prospect of an happy issue—and that is where the process of gestation has unequivocally ceased—and of which we take but one circumstance as absolutely certain, namely, where the breasts have become tender and tumid, and then pretty suddenly

subside. It would here be a forlorn hope to administer remedies with a view of retaining the ovum.

We are disposed to believe that this circumstance is the only one which marks the loss of life of the ovum with sufficient certainty: it is perhaps the only one that is unequivocal, since all others may be said to be deceptive. This mark was known to Hippocrates, and has, we believe, ever since his time stood the test of experience. So long then as this sign be absent, we do not relax in our attempts to preserve the ovum. It must however be confessed that we have known the ovum cast off where this symptom was wanting. Yet we are persuaded in each of these instances that the ovum preserved its vitality almost to the last moment, and that its expulsion was owing to the indomitable nature of the contractions of the uterus—and we think that this has obtained most generally with women who are in the habit of miscarrying. We do not stand alone in our opinion upon this subject. Puzos (*Mem. de l'Acad. de Chirur.* Vol. I. p. 203.) declares that neither pain nor hemorrhage necessarily produces abortion. Lamotte (*obs.* 305.) gives an instance where the woman went her full time after the orifice of the uterus was considerably dilated. And above all we may cite Mr. Burns, himself, for an example most strictly in point. (*Princip. of Mid.* ed. 2d. p. 195, in a note.) He relates with seeming belief that cases have occurred of twins, one of which has been expelled, while the other remained, and the “action of gestation,” as he happily terms it, was still maintained to the proper period. Now this is demonstration that after muscular action has been universally established, it can be suspended for a considerable time: if this be so under the circumstance of one fœtus being expelled, and the uterus by a cessation of action shall permit a second to remain until the proper time, we *à fortiori* should expect it when the uterus is not so extensively or powerfully excited. Besides, we might urge cases related by both Mauriceau and Lamotte, where the uterus was emptied of its waters, and yet the women went their full time, though they were not within six or seven weeks

of it.—In these instances the uterus could not fail to have contracted. We however must fully agree with Mr. Burns, that where the “action of gestation” has ceased, it would be unavailing if not injurious to attempt the preservation of the ovum—for it *must* sooner or later be cast off. Denman is also of opinion that uterine contraction can be subdued. He says, “that experience has fully shown, that women who have had not one, but repeated discharges, with *considerable and regular pains*, have gone to their full time.” *Introd. to Mid.* p. 472. Francis’ Edit.

The remote causes which we have hitherto been tracing, may with much propriety be considered as contingent or accidental in their application and influence. But there is one still remains to be noticed, which must be regarded as absolute in its effects, whenever it may chance to exist—we allude to the implantation of the placenta over the mouth of the uterus.

The knowledge of this particular location of the placenta is of modern discovery—and perhaps Levret is the first, who decidedly taught this doctrine. Mauriceau, Lamotte, and others before his time, met with the placenta in this situation, but they all believed it was a mere precipitation of this mass, after an entire separation from the fundus of the uterus. The whole process of generation is involved in such complete obscurity, that conjecture is constantly made to supply the place of facts, or of well ascertained processes. It would seem that the daring, or hardihood of the theorist was augmented in proportion to the obscurity of the subject, or the difficulty of ascertaining truth—hence we have nothing to rely upon but conjecture, on the manner in which the placenta becomes situated over the os uteri—nor shall we perhaps ever be more enlightened than at present upon this subject. Generation with all its attendants most probably will ever remain among the inscrutable arcana of nature.

Lereux,* says “Lorsque l’œuf humain fécondé a par-

* *Obs. sur les pertes de sang.* p. 13.

coura le trajet de la trompe, et est tombé dans la matrice, il se trouve dans une cavité qui est beaucoup plus ample que le canal d'où il sort. Son pédicule, qui doit former le placenta, et qui est sorti le dernier de la trompe, reste le plus ordinairement supérieur; cependant, comme l'œuf est encore flottant, le pédicule peut se tourner par quelque accident plus ou moins inférieurement."

Mr. John Burns* follows Lereux very closely in his conjectures, or rather his assumption of facts upon this subject. He says, "as that part of the membranes of the ovum to which the embryo is attached, generally enters last, it follows, that the placenta will be formed originally over that part of the uterus where the tube enters the decidua, at that spot joining with the chorion to form it. But in some instances the case is reversed, and the embryo enters foremost, the rest of the membranes following it. When this happens, then the inner layer of the decidua which was stretched across the orifice of the tube, and which is afterwards to become the decidua reflexa, will contribute to the formation of the placenta. In this case, by the distention of the ovum, and the yielding of the decidua reflexa, the placenta will come at last to be inserted over the mouth or over some inferior part of the uterus."

In this manner do these writers account for this unnatural situation of the after birth—The only difference in their views is, that Lereux, not understanding the nature of the decidua, or perhaps ignorant of its existence,† supposed that the ovum, after it was deposited in the uterus, was unconfined, or rather floating in its cavity, and might in consequence of this, by some accident turn its "pedicle"

* Gravid uterus, p. 153.

† It is remarkable (so far as we at present recollect) that none of the French physiologists have faith in Hunter's description of the decidua. Baudelocque, Meygrier, and Gardien, declare, if it exist at all, it is only in the early months of gestation, and then perhaps only observable towards the lower part of the uterus. From our own observations, we have no hesitation to declare its existence, but not precisely as laid down by either Hunter or Burns.

which was to become placenta, downwards, though it generally remained upwards, and thus become situated over the os uteri, while Mr. Burns supposes the portion which is to constitute this organ, enters the uterus by some chance first, and thus will have or assume this inferior situation.

From this it will be seen, that much is taken for granted, which, as it can never be proved, one conjecture may be as good as another, provided it is not found at variance with any well established fact. In this instance perhaps hypothesis can do as little mischief, as in any case with which we are acquainted—and as all practical ends are answered by the knowledge that the placenta is sometimes thus engrafted, we shall not attempt a refutation of it, especially as we have none better to substitute.

The order of developement of the uterus is so uniform, that a deviation from it can only result from accident, or such a combination of circumstances as can very rarely happen. We can then with absolute certainty declare, that when the placenta is unhappily situated over the mouth of the uterus, a flooding towards the latter periods of gestation must be inevitable—hence, the propriety of the term “unavoidable,” for this kind of hemorrhage.

During the first six months of utero gestation, the body and fundus alone yield to the distending power of the ovum: after this time the neck is called upon (if we may so term it) for its proportion, as the other parts of this organ seem to refuse any further supply—in consequence of which, it, in its turn, becomes distended, and in this act, a portion of the placenta is necessarily removed—and a bleeding, according to the extent of injury, or the number of vessels exposed or ruptured, ensues. After discharging more or less blood the hemorrhage may cease, or be so reduced in quantity, as to excite little apprehension. But this is a false security—it is sooner or later renewed, either by a farther stretching of the neck, by the augmentation of the ovum, or by the removal of the coagulum which had until now stopped the bleeding.

In this manner may things proceed, until near the last

stage of pregnancy—or the extent of separation may be such, or the size of the vessels exposed be so large, that the woman's life is instantly jeoparded, and from which she can only be protected by the most prompt, and decided remedies.

IV. The periods of pregnancy at which hemorrhage may take place.

There is no period at which this may not take place, after the first month of pregnancy, since it is presumable, that after the fourth or fifth week, a union more or less strict is formed betwixt the ovum and the uterus by means of the chorion and decidua: it must therefore necessarily follow, that a separation may be effected, and a bleeding ensue. Until about the fourth, or between it and the fifth month of gestation, this accident may happen to any portion of the ovum, since up to this period, the placenta or what is to become placenta completely surrounds the ovum.*

After this time, there is a portion of its surface that becomes transparent, and which uniformly augments in extent, so long as the uterus continues to increase in capacity. This transparent portion is what is technically called the membranes—and towards the full completion of pregnancy they occupy a larger surface than the placenta, from which they appear to emanate. In consequence of this, there is a portion of the uterus from which no hemorrhage can proceed, so soon as this transparent portion shows itself—and this portion relatively increases as gestation progresses—

* We believe that the whole of the vascular covering, until the time above indicated arrives, is destined for, and converted into placenta.—We do not believe any of these vessels become "blighted," (Burns' gravid uterus, p. 196.) as it would seem to be a work of supererogation—and we believe further, that there is a point in every ovum from which the transparent portion of the membranes proceeds, and that that point is always opposite to the insertion of the cord into the placental mass—this however is not the place for us to give our reasons for this belief; or we think we could satisfy on this head.

and of course, the source of flooding is confined to that part which is covered by the placenta—for all the remaining surface is lined by these membranes, and is incapable of furnishing such a quantity of blood as shall be denominated a flooding. We are aware that some have supposed the contrary of this, and declare that a separation of the membrane will yield sufficient blood for this purpose. But this is decidedly an error, since the whole transparent portion of the ovum is connected with the internal face of the uterus, by a very fine cellular substance only, in which very few red vessels enter, and these of very small size. Were this not so, we should have with every labour, a discharge of blood when the membranes protrude beyond the opened circle of the mouth of the uterus—which it is well known does not happen.

As a general rule then, we find the risk from floodings in proportion to the advancement in pregnancy—because the vessels are larger, and will in a given time yield a much greater quantity of blood—though the chance of occurrence is in the earliest months. Puzos says that abortions under the fourth month are rarely fatal—and this observation is perhaps confirmed by the experience of almost every practitioner—provided a sufficiently early attention has been paid to it. It must however be confessed, that it is very difficult to establish any certain rule upon this subject—since we have seen as alarming symptoms attend an abortion at six weeks, as we have witnessed from a premature labour of the seventh month, or indeed at any other period. It may however with confidence be advanced, that alarming symptoms do not show themselves as quickly in the early as in the latter months, and of course we have much more time for the employment of proper remedies. We may farther observe that it is frequently from neglect that any danger arises in the early stages of pregnancy—this inattention may proceed from the aversion that many women feel to let any thing be known that has any reference to their situation—from an ignorance of consequences, and from a long established opinion that a moderate discharge

is useful, especially in plethoric women, &c. Time, of great consequence, is lost by this improper procrastination, and many an ovum has been cast off, attended with threatening hemorrhage, which by early attention and proper care might have been preserved. Besides, the period of gestation has sometimes been permitted to lull the practitioner into dangerous security. Many of considerable experience maintain, that they have never seen danger from floodings before or at the period of three months. This is decidedly an error, and the sooner it is corrected the better. Whenever there is pregnancy with flooding there is danger—nor will the period of advancement, however short, protect of itself, against hazard. Of this, Mauriceau, Lamotte, Gifford, &c. give us examples—and we may add, our own experience furnishes the same results.

We are not to wait for extreme symptoms before we act: it is this delay, which creates in most instances the danger—and sometimes it has its victim. The authors just mentioned, and more could easily be cited, have furnished us with cases, not only of great danger, but of death, before and at the fifth month. It is wrong then to treat such cases with indifference,*—for though death may not be the consequence—extreme weakness, or a state of subsequent ill health, or the calling into action of some latent disease, may result from it. In another point of view, it is highly important that early attention be paid to such cases—namely, the prevention of its recurrence: for after a woman has once aborted, there is no security against the second, and presently a habit of it is established, which the best devised means within our knowledge is not always sufficient to destroy.

(To be continued.)

* Rigby treats this subject with great indifference; and the weight of his authority no doubt has tended to perpetuate if not to establish a most erroneous practice in the early months of gestation—he says, “the treatment of floodings that come on before the uterus has acquired any considerable size, must be very obvious, and the consequences of them at that early period of pregnancy are seldom to be dreaded, as, if the patient lose blood from the arm, be kept cool, and in a horizontal posture, and such

Part 2 of Dewees' essay may have been published in V-5 of this journal; unfortunately, I could not locate it on the WEB

ART. VI. *An Essay on Uterine Hemorrhage.* By WILLIAM P. DEWEES, M.D. Concluded from No. 10, p. 303.

IN entering upon the third and fourth divisions of our subject, it will be important to their consideration, that we say a few words upon the changes effected in the uterus itself, by the delivery of the child, and the expulsion of the placenta.

We regard the uterus as a hollow muscle; and like the other hollow muscles, it has no separate or independent antagonizing power; but like them, it has a compensating one within its own organization or structure.† And also, like

* New York Medical Repository, volume XIII. page 66.

† We say that the uterus has, like the heart, and perhaps all other hollow muscles, an antagonizing power within itself, and this by its own organization. We shall attempt to prove this by stating, that in consequence of that contraction, which we call the alternate contraction of the uterus, having taken place, a considerable portion of the blood which at that moment occupied the uterus, is driven quaquaversum into the general system; a facility for which is derived from the frequent anastomoses of the arteries and veins, and by the latter not having valves—this is proved by the diminished thickness of the uterine parietes, and by the whole surface becoming paler

all the muscles of this kind, when not distended by some distracting force, will contract by virtue of some power of its own, and upon the healthy disposition of this power in the uterus, does the welfare of the woman depend in every instance of child birth or abortion. We shall not stop to inquire, as its consideration is not immediately involved in our present investigation, whether this is a legitimate muscular contraction, or the exertion of that power common to many organic, as well as inorganic substances, termed elasticity: our own opinion, however, is decidedly made up, that the efforts the uterus makes to expel its contents, and to close itself after it has performed this office, is by virtue of a genuine muscular contraction. In the performance of these duties, two distinct powers are concerned. One is shown by its constant disposition to lessen the cavity of the uterus, whenever it may be put upon the stretch, or at least whenever the cause is removed, that placed it in this condition. The other declares itself by alternate contraction, and is, perhaps, only an exalted degree of the same power, when urged by stimuli to this exertion, as in child birth, abortion, or from any other circumstance which may require its interference, to expel a foreign body from the uterine cavity.

The first of the powers just noticed, has been termed "tonic contraction," and the second, "spasmodic contraction," from its being usually, though not necessarily, attended with pain—this latter, it must be remembered, can-

at the moment of contraction; this state of things continues, until this effort has ceased—so soon as this happens, (which may be longer or shorter, according to the power which governs the contraction, and the state perhaps of the muscular fibres of the uterus itself,) the vessels which had been just before deprived of a portion of their contents by the contraction, will at the moment of relaxation be but imperfectly filled, and perhaps even a genuine vacuum be induced; so that, so soon as the restraint imposed upon the whole of the uterine vessels by this contraction is taken off, the blood will instantly rush into them, to restore the disturbed equilibrium, and thus again distend these vessels; which distension will prove a stimulus to the uterine fibres, and thus induce a new contraction—and in this way would we account for the alternate pains of labour.

not take place without the former having preceded it, though the former can happen without the latter.*

Such, then, is the economy of the uterus in its healthy condition, that it immediately exerts the tonic force with which it is endowed, to close upon its contents, and accommodate itself to the precise size of such contents—thus, so soon as the liquor amnii is discharged, the uterus instantly diminishes its size, by virtue of this tonic power, in the exact proportion to the quantity of water displaced; and so plastic is this power, that it makes the parietes of the uterus take the inequalities presented by the surface of the child; and when this is expelled, it reduces itself so much, as to compress the remaining placenta, and force it from its attachment with itself, and eventually to expel it from its cavity; when this is achieved, it goes on reducing itself, until it interrupts in a great measure the supply of blood from the spermatics and hypogastrics; closes almost completely the mouths of the vessels exposed by a separation of the placenta, and thus prevents any inordinate flow or hemorrhage.

From this it would appear, (and it is what all experience confirms,) that the safety of the woman depends almost entirely upon the healthy exercise of that power, we have just termed the “tonic contraction;” and on the contrary, that the risk she may run in giving birth to her child, is in exact proportion to the diminished force of this power; of course the preventing and stopping of floodings, will depend upon recalling it when absent, or upon augmenting it when deficient.

The tonic power of the uterus may be feeble, or altogether wanting—it may be lost in every portion of the uterus, or only in a part; thus the fundus may possess it, and the body and neck be without it; this may give rise to the inversion of the uterus—the fundus and neck may be deprived of it, while the body may enjoy it—this may occasion the hour glass contraction; the body and fundus may

* See essay on the means of lessening pain in certain cases of labour, &c.

be exhausted of it, while the neck retains it; this may produce the concealed hemorrhage. The body and fundus may be firmly contracted, while the neck of the uterus may be flaccid; this may occasion flooding, if the placenta has been attacked in that vicinity.

The remote causes of uterine inertion, are said by Le Roux and others to be—1st. A general morbid condition of the body, as tendency to scurvy, &c. 2d. Long illness: 3d. A depraved condition of the circulating mass. 4th. Unusual laxity of fibres, as in leucophlegmatic habits, &c. 5th. Over distension from an excess of liquor amnii. 6th. Strong emotions or passions of the mind. 7th. A long protracted labour. 8th. A previous hemorrhage. 9th. Lesions in the proper substance of the uterus itself, &c.

But the condition of the tonic power, is far from being always regulated by the contingent situation of the system generally; we cannot infer its absence from the debilitated state of the body at large; nor can we calculate upon its presence with certainty, because every other function is carried on vigorously—this is a fact well known to every practical accoucheur, and should teach us this highly important caution, to act as if this power were, or easily might be expended, and to consider no woman safe from the casualty of its exhaustion, until we are assured to the contrary, by a careful examination made with the express view to ascertain it.

Fortunately for the patient, as well as for the practitioner, this power when weakened, nay even to excess, may almost always be recalled by proper means, and is almost certainly obedient to the judicious use of appropriate stimuli; but upon the time and manner of this application much will depend, as we shall show presently.

We are now to consider such hemorrhagies as may occur, before the placenta is expelled. And it must be constantly recollected, as we have said above, that this cannot happen, but when the placenta is in part or wholly separated from the uterus; and that this separation is only effected in the cases we are now speaking of, by uterine contraction, unless

some mechanical violence has been previously offered, which was capable of producing this effect. For so long as the placenta preserves its entire continuity with the uterus, no flooding can ensue, should this viscus be even in a state of complete atony or exhaustion.*

As there is considerable variety in these cases, it will be well for the sake of perspicuity, to consider them under the following heads:

1st. Where there is a partial separation of the placenta, but the uterus enjoying some tonic power.

2d. Where there is a partial separation, but the uterus possessing very little or no tonic power.

* Unless some mechanical violence has been done to the uterus, either from external impressions, or from some incautious manœuvre performed within its cavity, as in the act of turning, or the injudicious use of instruments, the placenta will preserve its connexion with the uterus, and there will be consequently an exemption from flooding; but this connexion may be destroyed in a moment, by the causes just stated. Since writing the above note, an interesting case has occurred, which completely proves our position. Mrs. —, on the 23d of March, 1823, was taken at her full period with slight pains, and the other marks of approaching labour—soon after these had manifested themselves, she was seized with violent vomiting, and considerable hemorrhage; there was almost a constant effort in the uterus to throw off its contents, together with occasional increase of pain; we were now sent for, and found the patient as above stated; the vomiting returned from time to time, and whenever it did so, there was an increase of the hemorrhage; and this also occurred when the alternate pains were on, which gave rise to a suspicion, it was a placental presentation. We ordered the patient to her bed, and upon examination, the membranes were found protruding, and the child rapidly advancing—we ruptured the membranes immediately, and the hemorrhage was instantly suspended; in a few minutes more the child was expelled, but still born; the naval string was cut, but not a drop of blood issued from either portion of it; every effort was unavailingly made to resuscitate the child; the placenta was found loose in the vagina, and upon examining its surface, it was found covered over its whole extent with a thin black coagulum, an evidence it had been entirely separated, and the child thus made to perish. The uterus appeared to contract well, and every thing was promising for an hour; at the expiration of this time, the uterus relaxed, and a profuse discharge instantly took place; when we arrived, for we had taken our leave, the patient was very faint and extremely sick at stomach, and very restless, which necessarily augmented the discharge; we immediately commenced a pretty

3d. Where there is a partial separation of the placenta, while the remaining portion is too adherent, and the uterus contracts but feebly.

4th. Where every thing is as at 3d., but where the uterus enjoys its full power.

5th. Where there is an entire or partial separation, but the uterus in a state of exhaustion or syncope.

6th. Where there is either a partial or complete separation of the placenta, and where the body and fundus are in a state of inertia, while the neck enjoys its tonic power.

I. Where there is a partial separation of the placenta, but the uterus enjoying some tonic power.

In this case, the last efforts of the uterus to expel the child may occasion a partial separation of the placenta, and of course there will be a greater or less discharge of blood.

1st. As the exposed surface may be large or small. 2d. As the contractile power of this organ may be more or less perfect. 3d. As the circulation of the blood may be more or less hurried. In almost every instance, after the birth of the child, we find a quantity of blood issue from the vagina; but the young practitioner must not look upon this as an hemorrhage, unless it continue some time, and has an evident effect upon the pulse.* In this case he is immediately to attempt to arrest it, by soliciting an increased contraction of the uterus, by pretty briskly passing his hand over the region of the uterus, and from time to time at-

brisk friction upon the abdomen, the uterus soon contracted and did not again relax. Two grains of opium were ordered every two hours, until the patient should become tranquil: on the following morning she was found much recruited, and so far since (four days) has had no unpleasant symptom.

* Some women will bear a much larger loss of blood with impunity than others; and therefore we are to decide upon the propriety of interference, from the effect which this loss has upon the system, rather than from the quantity which has been expended; if we do not attend to this rule, we shall be unnecessarily interfering, where the powers of the system are every way competent to the exigences, and in other cases we may delay assistance so long, as to render it unavailing.

tempting, as it were, to grasp the uterus by closing his fingers upon it.

By proceeding in this manner, he will almost instantly find the uterus harden under his hand; a coagulum of a greater or less size will escape from the vagina; a slight pain may come on, and the placenta may be thrown down into the vagina. When this contraction takes place, as it almost always does, where the woman has not been too much exhausted previously, either by a long protracted labour or disease, the discharge of blood is quickly put a stop to; the uterus diminishes much in size, and retires almost within the pelvic cavity, while the placenta is entirely detached from the uterus, or may be even expelled from the vagina. This is, perhaps, the most simple case of flooding that can occur, and we believe it never requires any other management, than the mere friction upon the abdomen; its termination may not always be so sudden as we have now stated, but it is sure to take place in a very short time, and just as fortunately as we have described it to do.

II. Where there is a partial separation, but the uterus possessing very little or no tonic power.

In this case, the same cause may produce the same effect as in I.; but the uterus may be in a very different condition; here there will not only be a discharge of blood in proportion to the surface exposed by separation, and the state of the circulation, but also a continuance of it, commensurate with the atonic condition of the uterus. This state may continue for a longer or a shorter time, as may be governed by the force of the remote cause which induced the atonic state of the uterus, or as it may be of easy, or of difficult removal.

In this, like every other case of flooding at this period, we should endeavour as quickly as possible, 1st. To remove the remote cause which induced the atonic state of the uterus, wherever it is either evident or practicable; 2d. To excite, as soon as may be, uterine contraction. It will be readily perceived, that we cannot have a control over some

of the remote causes of inertia just enumerated, and therefore that our chief attention should be directed to the fulfilment of the second; and this should be immediately attempted by, 1st. Frictions upon the abdomen as above directed; in this we have the greatest confidence, and never fail to employ them, whether there be hemorrhage or not, with a view to promote contraction, if the uterine globe be not felt firm upon the application of the hand to the abdomen immediately after the child is removed from the mother; and when there is a flooding, it is what we chiefly rely upon to restore the energy of the uterus; and in this we have hitherto never been disappointed—its influence is as prompt as it is efficacious; indeed we consider this as indispensable, let whatever other means be employed. We have never yet had the misfortune to meet with an uterus, that was insensible to this mechanical stimulus, or to have lost a patient from the immediate loss of blood; and we can with great truth affirm, that this simple plan has constantly appeared to us, to be the chief agent in arresting the most formidable floodings of the kind we are now considering. The external face of the uterus as felt through the abdominal parietes, appears to us to be equally sensible to stimuli of the mechanical kind, as the internal surface of it, and certainly offers facilities and advantages, the cavity does not—1st. It is always at hand to be acted upon; 2d. No risk is run by very freely stimulating it with the extremities of the fingers; 3d. It excites but very little or no pain if judiciously managed; 4th. No fear is to be apprehended of increasing the discharge, which is not always the case, when the hand is employed within the uterine cavity; 5th. No danger of inducing inflammation or other injury, as may readily happen by the introduction of the hand.

This mode of arresting hemorrhage by reviving the powers of the uterus, is not new—it was long since recommended by a Mons. Dassé,* an accoucheur of Paris, whose method, though we do not exactly follow it, we will give in

* Journal des Savans, d'Aout 1722, p. 494.

his own words. " Il ne faut que porter les deux mains sur la region hypogastrique, et comprimer mollement le corps de la matrice par un mouvement tantôt circulaire, tantôt de droite à gauche, de gauche à droite, de haut en bas et de bas en haut. Tous ces différens mouvemens, sont absolument necessaires, à cause des différens plans de fibres que s'entrecroisent et forment une espèce de réseau." We have just observed, that we do not follow exactly his method, though the effect is precisely the same—one hand is all that is necessary, or that can be conveniently employed ; and if this be industriously, and properly used, we are persuaded that it will rarely fail. We must, however, in justice to ourselves declare, we were in the habit of employing this method long before we were aware it had been previously recommended by M. Dassé.

But in adopting this method, we are to take care we do not abandon it too soon ; for it is not sufficient that we procure the contraction of the uterus, but that we maintain it in this condition for some time, by the continuance of the friction. And we would here caution the inexperienced practitioner against alarm, when almost at the instant he feels the uterus hardening and diminishing under his hand, he hears very plainly a considerable discharge of coagula and fluid blood from the vagina ; and at the same moment he finds the uterus retiring as it were from under its pressure. This discharge is but the effect of the contraction induced by his manœuvres upon the external surface of the uterus, and must be regarded as a favourable omen, as it assures us that the uterus is about to regain its powers. Perseverance is now all important ; the frictions are to be continued until he has sufficient evidence of the permanency of the contraction, by noting that the uterus no longer relaxes itself, as it did most probably at the commencement of his operations.

Should this plan, however, not succeed in detaching the placenta, and stopping the flooding, we are, 2dly, to deliver the placenta by the introduction of the hand within the cavity of the uterus, which must now be considered as the

cause of the continuance of the hemorrhage, by preventing the uterus from contracting sufficiently to shut up the mouths of the bleeding vessels. It will be found either partially or entirely detached; if in the first condition, we insinuate carefully the fingers behind the loose portion of the placenta, and gently separate the adhering part; we then grasp the mass in the hand, and rotate it several times against the internal face of the uterus, with a view of more certainly procuring subsequent contraction; nor must the hand be withdrawn until this is perceived—should the uterus, however, be found to contract firmly upon the hand immediately after it has effected the separation of the placenta, it may be gradually, but never suddenly withdrawn.* If the placenta be found detached from the uterus, it must be withdrawn, but practising the precautions just inculcated. We must not, however, consider the patient free from all risk because the placenta is extracted, we should examine the condition of the uterus by again placing the hand upon the abdomen; if it be well contracted, it will be found hard, and about to sink within the pelvic cavity, which will give us strong grounds to believe, that the woman is about to do well; but if, on the contrary, the uterus is found large and not very firm, we have every reason to fear there will be a renewal of the flooding, and the frictions must be again had recourse to.

It must be confessed, however, the young practitioner may not be able without some farther directions, to detect the flaccid condition of the uterus, though he may be very able to perceive a contracted one—we shall therefore state, that when the uterus is not contracted, the whole abdomen appears equally soft and pliant—if the fingers be pressed backwards from the pubes, no hard unyielding tumour is perceived; and if he inquire into the state of the discharges from the vagina, he will find them, if not profuse, more abun-

* If the uterus gains its wonted powers, the hand with the placental mass will be expelled almost immediately from its cavity; but when this effect is even perceived, the hand should not be permitted to leave it too suddenly.

dant than they should be—when all these circumstances combine, he may be certain the uterus is in a state of inertia ; and he will soon be convinced of this after he has commenced his friction upon the abdomen, (and he should not now lose a moment before he commences it,) by finding it harden sometimes suddenly, at others gradually under his hand, and presently sink when well conditioned, into the pelvis, or at least the fundus will be found below the umbilicus.

In all cases of severe flooding of this kind, we are in the habit of directing the nurse or any other intelligent woman, to perform this duty from time to time, for an hour or two after our departure ; and more especially, should there be a return of discharge, that no evil may arise until we can ourselves again attend to the patient.

3dly, We think it best to call in every aid in such cases that may be at command ; and we frequently exhibit a few grains of the sugar of lead, with a pretty full dose of opium ; repeating the former with a diminished dose of the latter, every fifteen minutes or half hour, until we are pretty well assured it will be no longer necessary in such crowded doses—we, however, do not give up the use of the acetate of lead, unless the stomach be very sick, for at least twelve hours, though we diminish the quantity. In alarming cases we first exhibit from five to ten grains at a dose, unless contra indicated by the state of the stomach ; but when the necessity is less, we reduce it to two grains every one, two or three hours, as the case may require. Should much pain attend, we give laudanum or opium until it is either relieved or much subdued.

It is not unusual, where the woman has sustained considerable loss of blood, for the stomach to become much deranged—vomiting or great nausea, is almost always an attendant upon it ; and when either takes place, it becomes very fatiguing and distressing to the patient. If she vomit, the exertion is so severe as sometimes to exhaust almost to syncope ; and during this act, there is almost always a greater or less discharge of blood, which at this moment

can be but ill spared—if it be sickness of stomach, it renders the patient so wretched, that she cannot rest quiet for a moment together in one position; she therefore tosses about from place to place until she is almost spent—we dread this latter condition more than an occasional effort to vomit, as it seems to interrupt the tonic contraction of the uterus, by the influence which nausea is wont to exert upon all muscular power; as well as to induce immediate exhaustion, by producing unceasing jactitation. Nothing tranquillizes the stomach under these circumstances, so far as we have observed, like opium in the solid form—a newly prepared pill, of two grains of the opium with a very small portion of soap, to facilitate its solution in the stomach, should be given every hour or two, until the vomiting ceases or the stomach becomes reconciled.

Should there be a too abundant discharge after the expulsion of the placenta, though not amounting to a flooding, it should be moderated by the use of the lead; and the most effectual mode of exhibiting it, is a watery solution of it with laudanum in form of enemata, unless the woman be too weak to have it administered in this manner—we have already directed the quantity, &c. when thus used.

III. *Where there is a partial separation of the placenta, while the remaining portion is too adherent, and the uterus contracts but feebly.*

A flooding may be excessive under the circumstances mentioned in this variety, and considerable time may be lost in vainly soliciting the extrusion of the placenta by frictions upon the abdomen, and efforts exercised upon the cord,* before it is suspected that this mass may be too ad-

* Great care should be taken in every attempt to deliver the placenta by a force applied to the cord, that it does not exceed the degree it will bear; great inconvenience is sometimes experienced, from its separating at its union with this mass, when it becomes necessary to deliver it by the hand, as it is not easily distinguished from the uterus itself, especially if the hand be compressed by the contractions of this organ—should this accident, however, happen, the placenta may be known from the uterus,

herent—it is fortunately but of rare occurrence, but its management on that account should be the better defined.

We can never know with certainty, that the complication here spoken of exists, until the hand be passed into the uterus, and a proper examination made of the condition of the placenta; for this case, as far as regards common symptoms, resembles almost every variety of retained placenta, and nothing but a strict search can justify its being pronounced a case of adherent placenta; this excuse is, we are aware, but too frequently employed to justify the introduction of the hand into the uterus to bring away the after-birth by force, when it required but a little more time, or a little more address, to have it delivered by the natural agents. We frequently hear young practitioners boast of the difficulties they have encountered in delivering the placenta, but we rarely meet with an experienced one who declares the same thing.

In this country, (at least so far as our own experience will warrant the remark,) we may say, that the adherent placenta is of very rare occurrence; while in Great Britain, or rather perhaps in London, it is comparatively frequent, agreeably to the testimony of Dr. Ramsbotham.* This condition of the placenta may be suspected, when the uterus continues large, though pretty firmly contracted; when there is a constant issue of blood, and that florid: when the placenta is not within reach of the finger, and when after a gentle force has been applied to the cord, it is found to retract, as if an elastic string had been stretched; when, then, the quantity of blood expended from the vagina would render manual interference necessary, and more especially when frictions, the exhibition of the sugar of lead, and other “appliances,” have failed to stop the discharge, or to

1st, By the vascular plexus that spreads itself over its internal surface;
2d, By the woman not complaining of pain when this part is touched; and
3d, By the thickness of the uterine wall at this place, as may be determined by the hand which is externally applied, and the one within the uterus.

* Practical Observations on Midwifery, page 80, American edition.

expel the placenta, the hand should be introduced, and the separated portion of the placenta sought for—from this part the hand should take the direction of the adhering portion, and if it appear that it would require considerable force to destroy its connexion with the uterus, every attempt to detach it should be instantly desisted from, and only the piece or pieces found loose, or not adhering, be removed; the remaining part must be trusted to the efforts of nature.

There will necessarily be both a difference in degree, as well as of extent of adhesion in individual cases—while some may be only rather more strict than is usual, others will seem to have the substance of the placenta identified with that of the uterus—and while a small portion only may be too adherent in one case, a large one may be so situated in another; but in every instance where there is a separated portion, there will be a discharge of blood, either fluid or coagulated, and that, in proportion to its accumulation, or the activity of the uterine fibres. These cases are almost always accompanied by pain, though not of the most severe kind; they, however, make but little impression upon the placenta, nor do they much diminish the size of the uterus, yet with each return, there is more or less blood discharged, and the woman rendered faint by the frequency, rather than the quantity evacuated at each contraction, except where there is a large portion separated; then, as in every other instance, she will be more quickly exhausted. In cases like these, it seems to be agreed, that nothing but putting the uterus in a condition to contract itself into a smaller compass, by the removal of such portions of the placenta as can be readily detached, will put a stop to the flooding, or even moderate it; and it seems also well understood, that even this does not place the woman beyond danger—the efforts of nature are not always availing, and the woman dies from the mischief created by a retained portion of the placenta.

Should the discharge continue after a piece of the placenta is removed, the acetate of lead, and frictions, should

be continued ; and astringent and detergent liquors should be thrown from time to time into the uterus itself, by means of a proper syringe.* Let this case be treated with what address it may, it is one always replete with danger to the woman ; she may sink from the pertinacity of the discharge, or succumb under fever, or other evils excited by a putrefying placenta. It is not part of our plan to speak of the subsequent treatment of such cases ; we can with much confidence refer for more information upon this head, to the very able treatise of Dr. Ramsbotham, just mentioned ; and we may here take occasion to say, that not only for this subject, but several others of high interest, we would recommend every practitioner of midwifery to the perusal of his work.

IV. *Where every thing is as at III., but where the uterus enjoys its full power.*

This variety is not only less frequent, but is much less dangerous, than the one just spoken of ; for the uterus when enjoying its full powers, will contract, with sufficient force to prevent any serious mischief from hemorrhage, though there may be considerable waste before the uterus is emptied of the placenta—this requires the same manual treatment in the beginning, and the same medical routine for the subsequent symptoms.†

* A considerable variety of substances have been proposed for this purpose, as alum and water, wine and water, wine alone, vinegar, &c.—but what has answered best in our hands, in the very few instances of this kind which have fallen under our notice, has been a strong infusion of camomile flowers, in which a lump of quick lime has been slacked, and then permitted to settle perfectly clear—this may be used very moderately warm, three or four times a day, or oftener if required—the common pewter syringe for enemata, with a flexible tube attached to it, answers perfectly well—the gum elastic tubes for the throat or bladder, may be very readily fixed to the extremity of this instrument. We saw in one instance, port wine and water, with a little alum, used with advantage.

† There is a variety in this division, which cannot be treated of, as strictly belonging to the subject of consideration, yet its importance in itself will, we hope, be a sufficient apology for our introducing it here—it is

V. *Where there is an entire or partial separation, but the uterus in a state of exhaustion or syncope.*

This variety is most truly alarming, and requires the most prompt and judicious interference, that the woman may not almost instantly die. This case occurs, 1st. Where a long protracted labour has exhausted the patient, previously to delivery, and where this has been unexpectedly sudden. The uterus from previous fatigue and exertion becomes enfeebled, though capable for the moment of a powerful effort, which suddenly terminates the labour, but by this its remaining power is expended—the placenta, from the long continued, and frequently repeated pains, was ready to separate, and waited but for the contraction which expelled the child, to destroy its connexion with the uterus, and to fall loose or nearly so into its cavity, and thus give opportunity to the exposed vessels to pour out a torrent of blood. 2d. It takes place, and that more frequently than from the causes just mentioned, when the labour has been very rapid, and where the child seemed to be floated from the uterus, by the sudden gush of the waters—under such circumstances, the uterus is sometimes instantly deprived of its tonic power, and thrown into a state of absolute *syncope*, as it has been happily termed by Le Roux. Or, 3dly, It may arise (and it but too often does,) from the too hasty

where the placenta is completely adherent; and the uterus powerfully contracts upon this mass, and prevents the introduction of the hand, or even of a couple of fingers, for the removal of it, were this even practicable—it is, fortunately, of rare occurrence; we have seen but two cases of it, in neither of which was there the slightest flooding; indeed, scarcely a drop of blood was discharged in the one instance, and in the other, only a few small coagula were expelled, the whole amounting not to four ounces. This case must be trusted to nature; for after repeated examinations, the uterus was not found to relax sufficiently, even to attempt the removal of the placenta. This mass was expelled on the third day entire, in the one case, without any unpleasant consequences; but in the other, it employed many days before it was thrown from the uterus, and then in small detached masses, accompanied with great fetor, thirst, and fever—the patient eventually did well, though she remained weak a considerable time.

delivery of the body of the child, after the head has escaped through the os externum—we would wish here to caution the young practitioner, against one of the most formidable errors, that can be committed against sound practice, or just principles; for at this moment, the uterus has expended much of its power, in pushing the child thus far; and if some little time be not allowed it to recover from this state of expended strength, before the body is hurried through the pelvis, it will be sure to increase, and perpetuate the inertia, into which the uterus has just fallen from severe exertion—hence, we have always to apprehend a flooding, where the shoulders are expelled by the same effort that delivers the head, more especially if the child be large, and the waters but very recently expended, or where the child is small, and the quantity of water great, and that but a short time discharged. Should this condition be accompanied with a partial separation of the placenta, an alarming hemorrhage will necessarily ensue; and if with an entire one, death may be the almost immediate consequence.

When hemorrhage proceeds from either of the causes just stated, it will be evident, that nothing but the most prompt interference, and the employment of the most active agents, can prevail against the formidable issue of blood, that pours from the vagina—no time must be lost by temporizing; the woman will sink if not instantly succoured—frictions upon the abdomen should be quickly commenced, and be actively pursued; large doses of the acetate of lead and opium should immediately be exhibited—cold water poured from a height should be let fall upon the abdomen, if the frictions do not very soon recall the contractile power of the uterus; and if much faintness from the loss of blood attend, a small quantity of moderately strong brandy and water should be given every few minutes until this disposition is relieved; this will pretty soon follow its exhibition, if the means for re-exciting the uterus should be successful—fresh air should be freely admitted, but the feet and legs should be kept warm, by bottles of warm water or heated flannels;

the ergot, if at hand, or readily procured, might be tried, provided nausea or vomiting do not attend.*

But we must here repeat, our great dependence is upon the abdominal frictions; having, so far, never known them to fail. Some practitioners have introduced ice† into the cavity of the uterus, under these circumstances, and it is said with success. For our parts, we can say nothing upon the influence of this remedy, from our own experience; and were we tempted to employ this substance, we should not judge it necessary to conduct it within the cavity of the uterus, from a belief (not, however, we freely confess, confirmed by trial,) that it would be every way as effectual if it were held in the vagina.

We shall illustrate this condition, by a case taken at random from a number of similar ones—for all these cases are so much alike, as to require but one general mode of treatment.

Mrs. — was delivered by a midwife, after a very easy, but rapid labour—the placenta was very quickly delivered, as it was found, as the midwife said, loose in the vagina; a very profuse flooding immediately ensued, for which she attempted nothing, assuring the friends of the lady it was a common occurrence, and from which nothing was to be apprehended—but the patient becoming pale and faint, her friends were alarmed, and we were sent for in very great haste; when we arrived, it was said the patient had been delivered about twenty minutes, and the placenta had been extracted about fifteen of that time. When we came to the bed side, we were truly persuaded the patient was dead—no pulse could be felt, and for some time there was a sus-

* We do not mention the ergot as a remedy in uterine hemorrhage from our own experience, but have no hesitation in believing from theory, and from the practice of others who are every way worthy of credence, that it may essentially and promptly be useful. The proper dose will be twenty grains, and repeated in fifteen minutes should the first not succeed.

† Levret, we believe, was the first who had recourse to this remedy in the manner above stated, and it has since been recommended by others; it has lately been advised by Mr. Barlow.

pension of respiration; syncope having just taken place; we instantly commenced a brisk friction upon the abdomen—ordered brandy and water by the tea spoonful to be given with frequency, warm applications to be made to the feet and legs—the curtains to be opened, and fresh air admitted from door and windows, and immediately sent for pills of the acetate of lead and opium. In the course, perhaps, of two minutes after the abdominal frictions were commenced, we had the satisfaction to feel the uterus beginning to harden under the hand, and every instant to acquire more and more firmness, and in about ten minutes it was found much diminished in size, and much more solid—in the act of puckering itself up, there was a large quantity of coagula and fluid blood expelled from the vagina, which so alarmed the ignorant midwife, to whom was consigned the task of watching the discharge, that she declared the woman must die, if we did not desist from “rubbing the womb so violently;” but what to this poor creature was so alarming, was to us great comfort, and only induced us the more steadily to persevere in our plan of irritating the uterus.

The disposition to syncope was now much less, and the pulse could, by a nice examination, be felt returning to the wrist—this gradually increased in volume and force, as the faintness diminished, and in about half an hour the patient was considered out of immediate risk, provided there should be no further return of the flooding; to guard against this as effectually as we could, we directed two grains of the acetate of lead, and an half grain of opium, to be given every half hour; the frictions upon the abdomen to be renewed, should the uterus be found to relax ever so little, and for this end a very intelligent lady who was present, was instructed to perceive any change of this kind, that might take place—the brandy and water to be given only *pro re nata*, and the most perfect rest was enjoined, though the position of the patient's body was a very constrained one. We again saw our patient in about two hours, (having given orders to be instantly sent for, in case of any unfavourable change, before we returned,) and found her situation in

every respect improved; she had had no return of hemorrhage, but was occasionally troubled with after pains—her faintness had gone off entirely, and her system was re-acting with considerable force—her position was now altered very much to her satisfaction; the brandy and water was forbidden, and she was permitted, instead of it, to take a few spoonsful at a time of tapioca, seasoned with lemon juice and sugar—the pills of the acetate of lead were directed once in two hours. From this time her recovery was as rapid, as such a prodigious waste of blood would permit; milk was formed in sufficient quantity, after rather a longer period than usual; and the only subsequent inconvenience she experienced was the head ache, which so almost invariably follows excessive uterine hemorrhage; this was relieved by keeping the bowels freely open.

VI. *Where there is either a partial or complete separation of the placenta, and where the body and fundus are in a state of inertia, while the neck enjoys its tonic powers.*

This is the most insidious situation in which the uterus can well be placed; and it is one in which young practitioners have more frequently lost patients from hemorrhage, than any other, after the birth of the child. The neck of the uterus enjoying its powers, at a time that both fundus and body are in a state of inertia, will give rise to such an accumulation of blood within the uterine cavity as will destroy the patient, should this condition be accompanied by either a partial or total separation of the placenta, without its being suspected that such discharge is going on—in this case, the hemorrhage will be concealed; for a coagulum being arrested at the os uteri, in consequence of its contraction, will prevent either fluid blood or coagula from issuing, and as there is no apparent flooding, the inexperienced accoucheur rests satisfied that all is going on well; nor is he roused from this state of security sometimes, until the patient is in articulo mortis, or when, perhaps, all human aid is nugatory.

This case should warn the practitioner of limited experience, against a false estimate of his patient's security, and

should teach him never to omit to ascertain the state of the uterus, by a careful examination of it through the abdominal parietes, as we have already advised. If, upon placing his hand upon the abdomen, he find the uterus voluminous but far from being hard; if upon inquiry he learn, that there is little or no discharge from the vagina; if he observe his patient become pale and faint, with an hurried breathing; if, upon touching the wrist, he find the pulse weak, frequent, or extinct, and the skin cold and clammy, he may be pretty certain there is a concealed hemorrhage;* he has now not a moment to spare, that he may rescue the woman from an impending fate—he must be firm, prompt, and self collected, and instantly put in practice every requisition that may promise relief to his almost expiring patient.

He should commence by abdominal frictions; and if he find the uterus becoming harder in consequence of them, he should persevere, until he thinks it has acquired a disposition to contract—should the hardening of the uterus not be attended with a discharge of coagula, &c. from the vagina, he must conclude, either that the neck of the uterus is too resisting to be overcome by the contraction of the body and fundus, without further aid; or that these are too feeble to overcome the resistance of the os uteri, though the latter may be comparatively weak—in either case, he must attempt to give to the uterus an increase of power by removing its contents.

This must be conducted with much cautious coolness, that the remedy may not increase the evil—the frictions upon the abdomen must be entrusted to some proper assistant, and they should be kept up with persevering constancy, while the practitioner carefully inserts his hand into the vagina—should he find clots here, he should remove them, if they are not immediately forced off by the effort which will most probably be excited by the introduction of

* We say, "pretty certain, there is a concealed hemorrhage," for we cannot say he may be altogether certain, since a rupture of the uterus may be attended with all these symptoms.

the hand. This being done, he is to insinuate finger after finger into the os uteri, and gradually attempt its dilatation; should it be very resisting, it must be cautiously overcome; and we believe, if this be properly conducted, it will never offer such opposition, as to render any considerable force necessary—perseverence in a well directed manner, we are persuaded, will overcome any resistance this part may offer, under the circumstances we are considering. When the hand has gained possession of the cavity of the uterus, the wrist should be so pressed against the side of the neck of the uterus, as to make room for the escape of any coagula or fluid blood that may be now disposed to issue—by managing in this way he may empty the uterus so gradually as almost to insure its subsequent contraction; and in this he will be much aided by the external friction. He is now to search for the placenta;* if it be but partially detached, he must cautiously separate the remaining adhesions—when this is done with care and under the precautions above suggested, he is to remove it by rotating his hand, now grasping the placenta, against the internal surface of the uterus, until it manifest a disposition to contract; and then, and not till then, should the hand be withdrawn. Should the placenta be found entirely detached, it must be delivered with the same cautious regard to uterine contraction. After the delivery of the placenta, pressure and friction should be continued upon the abdomen, nor must these be abandoned

* It may be well to observe, that in every attempt to separate the placenta, we should, before we commence the operation, fix the uterus as firmly as it can well be done, by the external application of the unemployed hand upon the fundus—in fact, it should never be attempted without this precaution, as the operation is not only very difficult without it, but is also very uncertain—the woman, if possible, should be placed upon her back on this occasion, as we have directed for other purposes. It may be also proper to suggest another caution connected with this operation, which is, that we be certain that we have removed the whole of the placenta, except in those cases where it is expedient to leave a portion to the natural efforts of the uterus, as in the too adherent placenta. It is, however, sometimes almost impossible to determine this, where the placenta is lobulated, as now and then happens. See Leroux, Baudelocque, &c.

until the contracted uterus give assurance of recovered energy.

In addition to what has now been directed, the other remedies which have been suggested should be had recourse to—the sugar of lead, ergot, and cold applications under the restrictions already proposed, should be tried—this case, and the one next to be considered, offers, perhaps, the best chances for the ergot, should it possess its reputed powers, to be successful in—the brandy and water should not be omitted, if the woman be very faint and much exhausted. The after treatment will suggest itself; and after symptoms must be treated *pro-renata*.

When the placenta has been expelled, and is followed by flooding, the mode of proceeding is so similar to where this happens before that has taken place, that it will require but a few words to make its management perfectly clear. In this kind of hemorrhage, like the one we have just been considering, it is required that the uterus should contract before it can be possibly arrested; therefore, it will be necessary to employ all the means already pointed out for this purpose; and here, like in the other cases, we rest our great dependence upon abdominal frictions, the acetate of lead, ergot, cold applications, &c. Should the concealed hemorrhage take place, it must be treated very similar to those before the placenta is expelled,* that is, the hand must be introduced into the uterus, and the coagula suffered gradually to escape, while the uterus is gently stimulated by the hand passing cautiously over its surface; and when it is found to contract upon it, it may be slowly withdrawn; the

* This case is sometimes very suddenly fatal—we were once called by a midwife to visit one of her patients; but upon our arrival we found the woman dead—the midwife was much surprised, as she could not account for her death, since “the labour was natural and easy, and the placenta had come quickly away,”—we told her our suspicions of the case, which was afterwards confirmed, by opening the body—the whole cavity of the uterus was filled with blood, and was distended to nearly the size of one at the full period of gestation—the mouth of the uterus was found sufficiently closed to retain the blood discharged from the surface to which the placenta had been attached.

after treatment must necessarily be the same. This case, generally speaking, is of much less difficult treatment, than where we have the placenta to contend with; and will always, so far as we have yet experienced, yield to the treatment proposed, provided a proper chance be given to their employment—it cannot be supposed they will be availing when the patient is in articulo mortis.

It sometimes, however, happens, that a portion of the placenta may be left, either entirely or partially attached to the uterus, which will give rise sooner or later to hemorrhage—this may sometimes be immediately detected by the inspection of the placenta itself—at other times this is impossible, especially in those cases where we are under the necessity of bringing away this mass piece-meal—if this accident be discovered at once, it is best, we believe, always to remove it, unless it should be a portion that is too adherent to the uterus. Should this not, however, be discovered before the uterus has firmly contracted upon it, it will be much better to suffer it to remain, and trust to nature for its expulsion, than to run the risk of provoking a flooding, exciting a great deal of pain, or of producing inflammation. But should flooding attend, we must deliver the retained portion; and this can almost always be done, as the mouth of the uterus is generally found open or yielding, when hemorrhage attends; but should it be found otherwise, it must be trusted to nature, and the excess of discharge moderated by the tampon—if this be employed, it will be well to renew it every twelve hours, taking care to wash out the vagina with the infusion of camomile tea, wine and water, &c. before it is replaced.

The retained portion of placenta may not, however, be suspected, sometimes, for several days after delivery; but we have right to conclude this to be the case, when there is frequent return of pains, pushing from the vagina coagulum after coagulum, and these followed by fluid blood upon each relaxation of the uterus. When the discharge of fluid blood happens in quick succession, and in weakening quantities, we should immediately attend to the condition of the uterus;

if it be found sufficiently yielding to admit the hand, it should be carefully introduced, and the portion detached and withdrawn.* We may sometimes succeed in detaching it by insinuating a couple of fingers into the uterus, and moving them in a circular manner between it and the placenta, so as to loosen it, and it then may be removed either by hooking it with the finger, by the natural efforts of the uterus, or by the small crotchet we recommended for the removal of the secundines in cases of early abortion. If neither the finger nor the crotchet succeed, we must trust to nature; taking care to keep the discharge in subjection by the tampon.

The young practitioner is cautioned against treating this case with indifference; it is one not unfrequently attended with danger, and sometimes death has ensued very quickly, as Lamotte and others assure us. Should he be doubtful of his own judgment in this case, let him, by all means, (as well as in every other case of danger,) request the advice of an older practitioner.

On the means of preventing Flooding.

Having at some length considered hemorrhages which may accompany pregnancy, and follow delivery, let us say a few words upon the mode of preventing those which may succeed to labour, as we are of opinion that much may be done to this purpose. From what we have said it will be evident, that whatever interrupts the contraction of the uterus, or produces its relaxation after it has contracted, will occasion a flooding, provided there be a separation of a part or of the whole of the placenta; it is equally evident, that whatever will ensure this contraction, or contribute to it, will either prevent or interrupt hemorrhage from this part. Much, then, will depend upon the manner in which the last stage of labour is conducted, to ensure the future contrac-

* Baudelocque tells us he has known this kind of hemorrhage show itself on the tenth day, and has been obliged to pass his hand into the uterus to extract it.—System of Midwifery, vol. ii. p. 27.

tion of the uterus. This subject has been treated of by Dr. Denman, with much apparent interest; and he has given advice, that is neither conformable to theory, nor warranted by experience, if our own observations upon this point be correct. We shall quote his own words upon this occasion, that no error may arise from substituting other than his own language. The Doctor says, "When I have been attending women, who were prone to violent hemorrhages after the birth of the child in former labours, I have made it a rule to keep them in an erect position, till the waters were discharged by the spontaneous breaking of the membranes, and the child was on the point of being born. By this method it appeared clearly to me, that the uterus acted more favourably, the placenta came away more naturally, and the quantity of blood lost was often much diminished."*

Now, we would ask any one at all conversant with the economy of the uterus during and after labour, how an erect position, the sudden evacuation of the waters at the moment "the child was about to be born," can possibly contribute to the only circumstance at all available in the case under consideration, namely, the permanent contraction of the uterus? In the first place, an erect position will always be attended with a quicker circulation than a recumbent one; it will permit the waters to escape with more suddenness and rapidity than a horizontal one, and, consequently, the risk of atony must be increased. It is admitted, upon all hands, and by Dr. D. himself, in other places, that if the uterus be too suddenly emptied, there will be a risk of inertia, or, at least, of great irregularity of action; if this be so, how can the interest of the woman be improved by this practice? All writers upon midwifery declare, that the suddenly emptying of the uterus by the evacuation of the waters, and the rapid delivery of the child, are the most common causes of the atonic state of this organ; yet we are advised by Dr. D. to permit all this, with a view to the

* Introduction to Midwifery, Francis's ed. p. 494.

prevention of it! So far all theory is against it; we will now appeal to our own experience to prove it to be a bad practice.

There was a period of our lives at which we looked upon Dr. Denman to be the highest authority in midwifery; and at that time almost implicitly followed his instructions upon every point of practice, and consequently upon the subject in question, as being one of high importance: but in doing so, we were persuaded, from sufficient experience of the plan, that it not only did not answer the end for which it was proposed, but that it was decidedly mischievous; it was of course abandoned, so soon as we convinced ourselves of this truth, and substituted one almost diametrically opposite, with which we have every reason to be perfectly well satisfied. As it was impossible, *à priori*, to determine which patient might be attacked with a flooding after delivery, it became of consequence to follow some general rule with all, (where practicable,) by which the risk of this accident should be diminished. It therefore suggested itself, that whatever would insure, with most certainty, the tonic contraction of the uterus, would best guard the patient against the contingency of a flooding; and what appeared to us the most rational to insure this, was to take of the distension of this viscus as gradually as possible, by the early evacuation of the waters; and to diminish the force of circulation as much as was practicable, by making the woman preserve a horizontal posture when the pains became urgent, and to interdict stimuli of every kind, as wine or any other liquor, heat, and all unnecessary exertion.

Let us now make ourselves understood, when we say "the early evacuation of the waters." It is a fact notorious to every practitioner, that the membranes, if left entirely to the force of the uterus, would preserve their integrity in many, and perhaps in most instances, until the child was about to be pushed through the *os externum*. If this plan then were to be pursued, the uterus would be suddenly, instead of gradually emptied, and consequently the risk attendant upon this, (as agreed upon by all,) would be in-

curred, and the most probable consequence would be a flooding. But if, instead of this, we rupture the membranes so soon as the labour is active, and the os uteri sufficiently dilated or easily dilatable, we should give opportunity and time for the uterus to contract, before the child would be expelled, and thus guard against the evil we were apprehending. The uterus would, by this plan, diminish in size, in the exact proportion to the water displaced; it would apply itself to the whole surface of the child, the inequalities of which would serve as an important and healthy stimulus, (all things being equal,) and prompt it to more certain contraction.

Daily experience proves the justness of this reasoning and practice; for how rarely do we see a flooding follow those deliveries where the liquor amnii has been discharged even some hours previously! and what can produce the exemption from this accident, but the uterus having had sufficient time and opportunity to contract? It is true, that this alone may not always be sufficient to protect the woman against an hemorrhage, but we are convinced, from many years of experience, it is the principal one. The directions given in this paper for the delivery of the body of the child, after the head has escaped, and the abdominal frictions, must also be considered as matters of great moment, and should never be neglected, especially with women who are "prone to flood" after delivery.

There is a cause of hemorrhage, which we have not noticed, namely, the "inversion of the uterus," as we intend at some leisure moment to make it the subject of another paper.