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On External Abdominal Examination & Manipulation, as an aid to the Diagnosis & Treatment of Obstetric Cases.

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At the termination of my appointment in the Western Infirmary, Glasgow in November of last year I made up my mind to at once proceed to the Rotunda Hospitals, Dublin. I did so, being alive to the fact of the great importance of a thorough knowledge of midwifery to one about to enter into General practice.

During my residence for three months & for three & a half months being fortunate enough to be appointed Interim Assistant-Master at the Rotunda Hospitals Dublin I never hardly say that I have had unbounded opportunities of studying cases of midwifery, including diseases of pregnancy & the puerperal state, in almost all their various stages.

On my arrival at the Rotunda Hospitals the first thing which struck me in the Wards

was the method of diagnosing the position of the Foetus in Utero by External Abdominal palpation; indeed it was the first thing I was taught to do by the Master of the Hospital after of course the few preliminary inquiries usual in a case of pregnancy. Not having previously had much opportunity of studying this particular method of Examination I determined to take up the subject as far as it lay in my power. I accordingly never missed an opportunity of having recourse to this method of Examination, in fact in the Rotunda Hospital every student is taught to practise this method before the duties of making a Vaginal Examination. The great benefits to be gained by an Examination of this kind will later into more fully at a more advanced period in this paper, but in the first place I intend to give a short account of the History of this subject.

This method has been practised I understand in Vienna & in Germany for many

years, & the reason of this stands is plain, that the Austrian & German Students have much more easier opportunities of practically studying this subject, owing to the greater size of their Maternity Hospitals, as compared with those in this country. Nowhere in England or Scotland are there facilities for acquiring a perfect knowledge of this subject; & these frequent opportunities are I understand even less in America.

A very good book was published a few years ago on this subject by a French Obstetrician A. Pinard of Paris entitled "Traité du palper abdominal au point de vue obstétrical, et de la version par manœuvres externes" & in this book he says "at present Abdominal Palpation is practised by a small number of obstetricians; but how small is the number of practitioners who employ it & recognize its importance".

Before proceeding to the Historical Sketch I wish it clearly to be understood that it is not the superficial manual examination of the Abdomen practised under the clothes to

ascertain the size of the Uterus, & the probable
existence of a foetus which is as a rule
briefly described in all text books to
which Student to refer; but the systematic,
scientific, & accurate manipulation, by
which as a rule we ascertain the existence
of pregnancy, the position in Uteri, approx-
-imate size & general condition of the
foetus, & the relations of the Uterus by which
a real position can be rectified, the
expulsion of the placenta facilitated, post-
-partum haemorrhage prevented or arrested,
& any abnormalities in form & texture of
the upper portion of the Uterus & its appendages,
& of the Abdomen, detected.

As an Historical sketch of this subject
I prefer to commence with the revival of
Medical Science after the Middle Ages
when Midwifery was by popular consent
removed from the hands of Midwives & in-
-trusted to the scientifically educated Male
-physicians. In the 16th Century Eucharius
Rösslin (1513) & A. Ruef (Zurich 1534) in
their manuals of Midwifery first give

an account of version by the combination of External & Internal Manipulations which Rueff gives the following description: —

"The parturient woman shall be ordered to her bed by the midwife, & shall be placed on her back with her head low & her pelvis high. Then a dexterous woman is to stand at the head of the patient, & shall seize the Abdomen with both hands & lift, pull, & direct it gently towards herself; the midwife sits before the patient & waits, & reaching down shall give aid by pushing & directing the child so as to bring it with both thighs & the breech backwards or upwards towards the back of the mother, also to turn the child so that it can be born naturally, with the head below," etc.

By another author Dr. John Peche, 100 years later we find the same advice given. We can at once see from the above that the Rules given for both internal & external Examination & Manipulation were of a most simple & imperfect kind, & only lay no claim to scientific value & much less perfection.

Puzos in his "Traite des Accouchements", seems to be the first who called attention to the fact that pregnancy could be recognized as early as the third month by the combined method of External Abdominal Palpation & Examination per Vaginam, which seems to correspond to what is now-a-days known as the Bimanual method of Examination. In the later months the diagnosis of pregnancy by the last mentioned method, or rather by the External method only, is generally attended with very little difficulty, but Roederer says that it is only during the last half century that this External method has become a well known & commonly practised method; & Schroeder says in the third Edition of his Midwifery published in 1872 "that the importance of External Examination for the diagnosis of pregnancy in the later months has not been properly appreciated until quite recently".

The first account, by this I mean the first scientific account of Ballottement by External Palpation or Manipulation was

that described by Wigand of Hamburg in 1807. He placed the woman on her back, & with one hand pressed up the breast of the child towards the Fundus Uteri while with the other he pressed the head downwards towards the Pelvis. This method of Wigands although practised & thoroughly understood by the Germans was not known to the professional world until A. Mattei, a Corsican Physician published a book entitled, "Essai sur l'accouchement physiologique Paris chez Meisin," 1855 in which he very strongly advocates palpation, "le palper", "la palpation", as a therapeutic & diagnostic agent in obstetrics. He advocates & practises Cephalic Version in all Breech & Shoulder Presentations. He considers Breech presentations as not physiological & advocates & practises their conversion into head presentations by External Manipulation; & after turning in these cases he frequently ruptures the membranes when he found it necessary to fix the head in the Brim.

The above mentioned views viz: those of

Pajans & Scatter were endorsed by a physician named Herrgott of Strassbourg. Esterle of Trent from statistics which he carefully took proved that Scatter had overestimated the value of Early version, & showed that out of 500 women examined during the 8th & 9th months there were 22 Transverse Presentations, 9 of which rectified themselves, 10 were turned by the External Method, & 2 by the Combined Internal & External & in 1 only was External version necessary. From what I myself have seen it seems that External version is only of benefit during the latter end of the ninth month, the most certain time of all being just at the commencement of labour.

Two methods of Bimanual Cephalic Version were described by Busch & D'Outrepont, & recommended by them. Busch advises, "introducing the hand corresponding to the side on which the head is situated, seizing the latter with the palm & drawing it down towards the Pelvic inlet, while the External hand elevates the breech". D'Outrepont

introducing the opposite hand into the Uterus seizes the Thorax of the child between the fingers & thumb, lifts it up, & turns it head downwards, while the External hand pushes down the head". From the results of these methods it appears that the former is the least severe the latter the most efficient.

Now wish to bring before you two other well known methods viz: those of Dr. Braxton Hicks & Wright. For a length of time these were confounded & considered to be the same whereas they are essentially different. Dr. Wright's method consists in passing the hand corresponding to the side where the head is into the Vagina, & the fingers & thumb through the cervix; with the External hand he pushes up the Breech & with the Internal he pushes up the Shoulder, at the same time pushing it laterally towards the point from where he has removed the Breech; the head is thus brought down into the Brim & fixed there by suitable means.

Dr. Braxton Hicks's method differs from the

in that he only introduces one or two fingers into the Os with which he pushes up the presenting part & with the External hand he pushes down the head towards the Brim. Wright- thus uses the External hand to push up the Breech & Braxton Hicks to push down the head.

Hicks method is perhaps the preferable of the two as being less severe, but from what I have seen not so effectual as that of Wright.

With regard to External Palpation, little is said in almost any of the recent works on Midwifery on the detection of the Foetal position by External Abdominal Palpation; Lusk I think giving the best account of any one, ~~suggest~~ of course books published on this subject, such as that by Pinard of Paris. The great advantages of this method no one can gainsay, & I think it ought always to be adopted before making a topical examination. There seems to be some objection among the upper classes in this country to this method of examination, as exposing the

person unnecessarily, but I think that when the necessity of the Examination & the amount of information to be gained by it is fully explained, one will find that no objection would be made to it; & instead, as some would say, of lowering the medical attendant in the Estimation of his patient, it would rather inspire her with confidence & convince her that he thoroughly knew his business. Take for example the simplest case of all, a Transverse Presentation, one has as a rule only to look at the Abdomen to say what it is, whereas if we only make a vaginal Examination in this case when labour has just commenced, we may not feel, or be able to reach any presenting part by the ordinary method of vaginal Examination. Myself while in Dublin met with just such a case as I mention above, proceeding to palpate the Abdomen as I always did before making a vaginal Examination found the head in one Iliac Fossa & the Breech in the other. No presenting part could be felt per Vaginam labour having just

commenced.

If this method of examination was adopted generally throughout the country & insisted upon by the older physicians, I think it would soon become an understood thing & I am sure a great boon to the obstetrician.

It would also be a great benefit I think if we could accustom our patients to consult us before the termination of the ninth month, or certainly some days before the expected confinement, so that any mal-position might be rectified by External Manipulation.

In my opinion one ought also to turn Breech Presentation into Head Presentation when this is practicable, thus doing away with the great risk there always is to the life of the child in such cases.

I understand that in Germany no Physician would think of giving his opinion about a case until he had made a thorough External as well as an Internal examination; & I think it is only doing our duty as physicians to our patients, at the cost perhaps of some slight personal inconvenience on both sides, to

examine every case in the most thorough & scientific manner possible. The exact position, & various parts of the Foetus can be so easily & surely mapped out after some experience at this method, that one is astonished when we find it is not universally adopted. As Resident Interne for 3 months & Assistant-Master for 3½ months at the Rotunda Hospitals, Dublin, I examined by this method between 400 & 500 cases & must say that I am fully convinced of the great practical utility of this proceeding.

I shall now proceed to give a short account of the rules laid down for examining cases by External Abdominal ~~Palpation~~ Manipulation according as the procedure is used for the purpose of (I.) Diagnosis or (II.) Treatment.

I. Diagnosis.

For purposes of diagnosis we must consider several sub-divisions of the procedure these are (1) Inspection, (2) Palpation, (3) Percussion, & (4) Auscultation.

The proper time for making the examination is during the last month of pregnancy, so that

any existing malposition may be corrected, or at any rate preparation made to meet any difficulty; + as I have already mentioned one should always practice the External Examination before proceeding to the Internal one.

Position of the Patient. The woman to be examined should be placed in a recumbent position on her back, the head should be slightly elevated + the legs straightened + laid down on the bed; the thighs not drawn up as is recommended by some authors on this subject, & tell her to keep the mouth open & breathe freely. Drawers, corsets, & any constricting bands round the waist must be removed, & the Abdomen thoroughly exposed. One most important point before beginning to palpate is to see that the Bladder is empty; + although it is away from my point here, it is extraordinary the ease with which one can diagnose a full bladder by palpation in the pregnant woman.

1. Inspection. By looking at the Abdomen

of a pregnant woman various diagnostic signs may be made out. In the first place the size & shape of the Abdomen, by some experience one is able to estimate approximately the probable stage of pregnancy & sometimes also the position of the Foetus in Utero. One however must not be too rash in judging the stage of pregnancy by the size of the Abdomen, as it varies so much in different individuals according as the foetus is large or small, the quantity of Liquor Amnii & the amount of adipose tissue on the Abdomen. I have seen more than one case in which the Abdomen was very large & firmly distended, this distension being due to an unusually large amount of Liquor Amnii, the child being of small size & very difficult to palpate. The shape of the Abdomen is also very characteristic in some cases; for example in Transverse Presentations it is very much broadened out with usually a groove or hollow above the Umbilicus. In Twins also it is as a rule much broadened out, & more especially so when they are lying transversely with sometimes a groove between them.

In Breech Presentations also, from what I have seen, the Fundus appears much smaller than when the Head presents. As I have already mentioned in a former part of this paper a full bladder may be very often diagnosed simply by inspection.

The Abdomen as a rule is marked with Red, or white lines, or both, which are due to the rupture of the deeper layer of the Epi-dermis, the rete mucosum. In Primiparae, only the red lines are seen, these being of recent origin; & this may be looked upon as a fairly good diagnostic sign in first-cases, although it must be taken with caution, as you may have them produced by Ascites, or Tumours which distend the Skin greatly. In Multiparae you have as a rule both red & white lines, the red being of recent origin, & the white being cicatrices of old ruptures pointing in all probability to a former pregnancy. The Linea Alba as a rule in first-pregnancies assume a dark colour, & this pigmentation remains through-out life, so that this sign is only of use in

first cases.

The movements of the child are as a rule very characteristic on inspection, & by one watches carefully you can in almost every case see twitchings* over the surface of the abdomen, & in thin persons you can recognize the distinct protrusion of the feet, & the outline of the head in Transverse Presentations. (*one must be careful to note that these twitchings are really due to parts of the foetus being protruded, & not to muscular contractions).

During a pain one can distinctly see the position of the back of the child down one or other side of the Uterus in 1st or 2nd Cranial positions, or Dorso-Anterior positions of the Breech.

The shape of the Umbilicus is also of some use, being flatter & less depressed during the last four months, & often protruding towards the end of Pregnancy. This however is not by any means a certain sign as we may have it in Ascites, or anything which causes distension of the Abdomen.

There is another fact in connection with Inspection of considerable practical importance

to which I will here refer, & that is a distinct transverse furrow, or groove which appears on the Abdomen midway between the Umbilicus & the Pubis in cases of Contracted Pelvis, where there is some obstruction to the passage of the child. This furrow corresponds to the junction of the body & the cervix of the Uterus, & is due to the wedging down of the cervix into the Contracted brim & the continuous contraction of the Uterus, which latter however is unable to force down the presenting part. This of course would ultimately lead to Rupture, & this furrow, or "Ring of Bandl" as it is called, having been first described by Dr. Bandl of Vienna, would be a valuable indication as showing when operative interference would be necessary. Once during my residence in the Rotunda Hospital, Dublin, I had the good fortune to see this "Ring of Bandl". The case was one of generally contracted Pelvis in which Craniotomy was ultimately performed.

2. Palpation. We now come to describe the method of palpation itself by which we

can tell the size, & shape of the Uterus, the position, life, & approximate size of the Foetus, the quantity of Liquor Amnii, the different members of the child, whether there is more than one Foetus, the fulness of the Urinary Bladder, & any tumour that may be present within the Abdomen.

The woman being placed in the proper position as mentioned in a former part of this paper, the Physician, having warmed his hands so as to bring them as near as possible to the Temperature of his patients body, (this is an important point) stands on her right side looking first of all towards her head, then applying the palmar surface of the fingers, & palms of the hands to the Abdominal surface, he gently moves them over the surface, & gradually lets ake to reach on the Uterus, which is recognized as a rounded, Elastic body, passing down into the Pelvis.

One must note carefully not to use the tips of the Fingers only, but the palmar surface of the Fingers, & the palms of the hands, also be careful not to use too much

pressure in palpating as this at once causes contractions of the Abdominal Muscles, & Uterus, & frustrates any attempt to distinguish the various parts of the Foetus. We must commence with a slow, pressing, pawing motion, rotating the Fingers over the various regions of the Abdomen, removing the hands as little as possible, that is to say by rotating the fingers you move from one part to another without really removing the hands & reapplying them. One essential point is that the woman must not be subjected to any pain or discomfort. Then using gradual & equal pressure the Physician applies his hands to the Fundus sinking the ulnar borders of the hands into the sides of the Abdomen. I may here state that I always made it a rule to commence by palpating the Fundus Uteri. Then gradually rotating the fingers (taking for example a 1st position of the Foetus) we make out the Breech, which is diagnosed as being larger, softer, & more irregular than the head, & when pressed away from the examining fingers returns slowly against

the fingers as compared with the head (ballotte-
-ment). Then following the Breech down one
can at once make out the back recognized
by the firmness & the amount of resistance
offered to the palpating fingers, in this
position I am describing, viz: the 1st of the
Vertex, the back is found down the left
side of the Uterus. The feet and legs are
next palpated & are found on the right
side near the Fundus, they are found to be
very movable as a rule, small & irregular to
touch. The feet are sometimes projected right
into the palpating hand. On several occasions
where the Abdominal Walls were thin & lax
I was able most distinctly to catch a foot
in my hand while palpating. A knee can
also sometimes be distinctly made out.
There are two methods of palpating the
head. The first method is by placing the palm of the
hand flat over the Fundus Uteri, with the
thumb towards one groin, & the four fingers
towards the other. Then using the thumb
on one side & the middle finger on the
other & pressing gradually inwards towards

the middle line, using the fingers like a pair of Calipers, we can grasp the head between them, & move it about freely, being felt as a hard, round, exceedingly movable body, giving a distinct sensation of ballotte-ment. This method is I think, chiefly of use before labour has commenced, or just at the commencement of labour.

The other method which can be used either before or after labour has commenced is performed in the following manner:- Place yourself on the right side of the woman with your back towards her head, then placing a hand on each Inguinal Region with the tips of the fingers directed downwards & inwards, then attempting to make the fingers meet in the median line the head can as a rule be firmly grasped between them, & distinctly made out by its characters mentioned above. The chin can very often be distinctly made out, & from the experience which I have had in using the above mentioned methods for palpating the head, I think the chin is made out, as

a rule, much more easily than the Occiput.
The Arms are said not to be palpable from their flexed position over the Thorax, & this I think to a certain extent is correct; but I have on more than one occasion been able to make out the arms, & very frequently the Elbow. Writers on this subject say little or nothing about the palpation of the Shoulder, but I think by careful palpation it can be made out in a large number of cases.
Sometimes the Round Ligament can be distinctly felt on palpation, & more particularly on the left side than on the right, but why this should be I cannot exactly explain, except that the 1st Vertex being the most frequent position, the back of the child distending the Uterus brings the Round Ligament of the left side nearer the surface than the right.
I think it is needless to enter into a description of the position of the various parts in each presentation felt on palpation, as when the principal points have been described one can only learn the rest from practical experience. Breech Presentations

are as a rule very easily made out by palpation, as are also Transverse Presentations.

In Breech cases you have the firm, hard, rounded head at the Fundus with distinct characteristic ballottement, & the soft, irregular mass of the Breech in the Pelvis.

In Transverse Presentation you have the upper segment of the Uterus simply as it were, with the head palpable at one side & the Breech at the other.

Footling cases are distinguished with great difficulty, if at all, from Breech cases by External Palpation. I am sorry to say I had not the opportunity of palpating a footling case, but must say that if at all possible the diagnosis must be a difficult & very uncertain one.

Face Presentation can be made out by palpation, the firm smooth rounded brow being felt on one side, & the chin, neck, & thorax on the other, but this I will enter into more fully when speaking of the treatment of such cases by External Palpation.

The Foetus can seldom be diagnosed by Pal-

-pation before the end of the 5th month, but the time that Palpation becomes of most importance is about the Seventh month, because previous to this the disproportion between the foetus & the Ligur Amnii is so great that palpation is consequently of little use.

I may here mention that there are two distinct voluntary movements of the child which are noticed on palpation, viz: 1st the slow, sliding, rotatory movements of the whole child & this one can frequently notice with the naked eye, & 2nd the sharp, quick, jerking movements of the child's limbs.

Some have gone so far as to say that they can diagnose the weight & length of the child by a combination of External & Internal Examination, but this I think is going to too great an extreme. The weight of the child from its apparent size on palpation may be approximated, but that I think is as far as one can go.

As regards the diagnosis of Twins by Palpation, this is certainly a difficult point.

Some authorities say that you can only do so by a combination of External Palpation & Internal Examination; but I think in some cases they can be diagnosed by the External method alone. There are certainly many difficulties in the way, such as great distension of the Abdomen due to the presence of two foetuses, & sometimes a large amount of Liquor Amnii as well. The furrow that is spoken of between the two foetuses is I think to a great extent theoretical. Out of three cases of twins which I had the immediate charge of while in Dublin, in one only was I able with certainty to diagnose the presence of two foetuses from External Palpation. In this case the woman had very lax abdominal walls, the children were small, & a small amount of Liquor Amnii; the head, breech, & lower extremities, of each child could be distinctly made out as well as two distinct & separate foetal-Hearts; this case I may say I examined some hours before Labour commenced.

There is only one occasion on record I understand where Triplets were diagnosed by Palpation, & that was by Dr. Pinard, of Paris. This was however three months before they were delivered.

I will now mention shortly a few of the complications of pregnancy which may be discovered by Palpation. 1st. The presence of a dead Foetus. The palpation of a dead child is exceedingly characteristic. The Abdomen in these cases presents a flat broadened out appearance, the Uterus & Abdomen on palpation are soft & flabby, & you can only with great difficulty, if at all, palpate the Legs of the Foetus, & when moved to one particular part of the Uterus the Foetus remains there. These signs along with the absence of the Foetal Heart (after several careful examinations) make I think, the matter quite certain.

2nd. The size of the Foetal Head can be approximately determined, & this is very important as you can certainly in some cases diagnose whether Instrumental delivery will be necessary, or not.

Hydrocephalus can sometimes be diagnosed by the large size of the head, the yielding nature of the bones, & in some cases by distinct fluctuation.

Abdominal Tumours are frequently discovered by palpation either before or after delivery which were never before thought of.

In the diagnosis of Supra-Uterine Foetation I should think that External Palpation would be of great value, although I have never had the good fortune to see a case of this kind. In the same way in Rupture of the Uterus where a portion, or the whole of the Foetus has passed through the Rupture palpation must be a great aid, there being in both cases such a small portion of integument between the Foetus & the palpating hands.

I will now before finishing this subject mention a few of the Obstacles to Palpation. Tenderness of the Abdomen is one of them, & more particularly Tenderness of certain spots in the Abdomen, & this is due I think to persistent & continuous blows by the Foetus at one particular place. I have met with

these tender spots frequently in palpating, & sometimes they were so painful that the slightest touch made the woman cry out, so that in these cases one must palpate very gently.

Tension of the Abdominal Walls due to contractions of the Recti muscles is sometimes very troublesome, but this can usually be remedied by making the woman lie in the proper position (mentioned formerly), open her mouth & breathe freely.

Uterine contractions are sometimes very trouble-some, so one can only palpate between the pains. When the contractions become tonic palpation is useless.

Excess of Liquor Amnii, or Hydramnios, is also a great barrier to palpation. Twins are difficult of palpation as mentioned formerly & the presence of a large quantity of Adipose Tissue in, or Edema of the Abdominal Walls is also an obstacle.

3. Percussion. Percussion is the next method taking them in their order, but I think little need be said of it as it is of very little use,

Except as some authorities say in percussing out the Uterus during the early months, when it is just rising above the Pubis. Even for this purpose I see little use of it, for if one performs a Bimanual during the early months of gestation much more can be made out by it, than by percussion, as by this method you can pass each part of the Uterus between your fingers. Some people think it is of use in percussing out the Bladder, but really the note over the Bladder & that over the Uterus is so much alike that I cannot see how it can be of much service, besides a full bladder may be so much more easily diagnosed by Inspection & Palpation.

4. Auscultation.

Next to Palpation Auscultation gives us the most reliable information concerning the existence of Pregnancy. We may divide it into three heads.

1st. Pulsations of the Foetal Heart.

2nd. The Murmur in the Umbilical Cord, a Umbilical Murmur.

3rd. The Uterine, or Placental Murmur.

The first & third of these auscultatory signs are

heard in almost every case of pregnancy. The Second rarely heard.

1st Pulsation of the Foetal Heart. When the Foetal Heart is clearly & distinctly heard it not only indicates the existence of pregnancy, but leaves no doubt on the mind of the physician of the presence of a living & healthy Foetus. With regard to the date at which it may first be heard various conflicting statements are made, but apparently the usual time is from the 18th to the 20th week. Some authorities have heard it as early as the 14th week, but this I think is very rare indeed.

In Auscultating the Foetal Heart two methods may be used, Either applying the Ear directly to the Abdomen, or by the Stethoscope. From the small experience which I have had I think Stethoscopal auscultation seems the most preferable, if it I may be allowed to suggest; one should I think always use the Bin-aural Stethoscope in Obstetrics for two reasons; 1st it prevents you straining & twisting yourself as you have to do with the ordinary Instrument & 2nd the Sounds are very much intensified by it. I always used the Binaural while in Dublin, & must speak

very highly in its praise. Some patients may prefer the direct aural method, as you can by it listen through a towel & thus prevent the exposure of the Abdomen, but this is a small point which I think would be easily got over. In another class of cases again one would think for the sake of cleanliness always use the Stethoscope.

The Foetal Cardiac Pulsations usually range from about 120 to 160 per minute.

A most remarkable theory with regard to the foetal pulsations was first advocated by Frankenhauser of Jena, in 1859, which is the following: "that the Sex of the Foetus in Utero can be determined as soon as the foetal heart is audible by the relative frequency of the pulsations, those of the male children being less rapid than those of the females".

The amount of literature that has been written on this subject is enormous, & the evidence from statistics so conflicting that I think it would be out of my province entirely to enter into a discussion of the point here, suffice it to say that in my opinion it is as much a matter of chance as if the practitioner happens to be right here is considered

to have made a guess. Again if one were to judge by the pulsation, still the patient that she would have a male child, & the reverse was the result it would place the physician especially in private practice in a very awkward position. While in Dublin I took statistics of nearly 100 cases, but the results were so disappointing that they entirely shook my belief in the theory. Take one case for example in which the Foetal Heart was 120 per minute, a male child was diagnosed, & at birth was found to be a large female child, &c, &c.

With regard to diagnosing the position of the child by the Foetal Heart alone, this is not at all certain, but along with palpation one can do so fairly well. You must first of all find the point of maximum intensity of the Foetal Heart, & this I think is pretty easily done with the Binaural Stethoscope. In the first position of the Vertex it is as a rule heard midway between the Umbilicus & the Pubis, & about an inch to the left of the middle line. In the second position just on the middle line, or a little to the right side. In the 3rd position well over on the right side close to the Anterior Superior Spine of the Ilium, & in the 4th position on the

left side side, well round on the loin near the back, but sometimes not audible at all. In Breech cases, the Thorax of the child being situated higher in the Uterus than when the head presents, the Foetal heart is heard ~~[illegible]~~ on either side of the median line, but usually on a level with or a little above the Umbilicus.

In Face Presentations (mento-anterior) the Thorax of the child being brought close up against the Abdominal walls of the Mother, the Foetal heart is usually heard with great distinctness, is on the same side as the feet.

In Transverse Presentations the Foetal heart is heard below the level of the Umbilicus, but usually a little towards the side where the head is situated.

The Foetal Heart I think ought to be carefully examined at repeated intervals during every labour, as it affords one a valuable indication as to whether interference is necessary, or not. For example in Tonic contraction of the Uterus, in Prolapse of the Funis, in long tedious labours, the foetal heart is a very valuable guide either as to the time when operative interference is necessary.

2dly The Umbilical, or Funic Murmur is a single

blowing, systolic murmur synchronous with the Foetal Heart, & when audible usually heard at, or near the same point as the foetal heart. It is easily distinguished from the Uterine murmur which is a soft blowing murmur synchronous with the Maternal pulse, & of much greater intensity. Although most authorities are agreed that it occurs at or near the Umbilicus by some portion of the cord there. Some say that it is produced by disease of the valves of the Foetal Heart.

It was first pointed out & understood by Dr. Kennedy in 1833, & thought by him to be caused by compression of the cord. Other authorities say that it is produced by well developed semilunar, or diaphragmatic valves either in the veins or arteries, or both together. I have heard it in several cases, but not always in close proximity to the Foetal Heart. I remember one case in particular in which I heard the Foetal heart in the middle line, the Femic murmur well over on the left side, & the Uterine murmur on the Right side. I was so much struck with the clearness with which each sound was heard, that I asked The Master of the Rotunda Hospital to check my

Examination, which he kindly did & found it correct. As far as I can see the scope for Operative interference in case of Fœtal Murmur during Labour must be very limited.

3rd The Uterine Murmur. This murmur is usually heard as early as the 4th Month of pregnancy. It is a simple, blowing, or wheezing sound synchronous with the Maternal pulse, & in the early months heard all over the Uterus. It increases in intensity as pregnancy advances, & sometimes entirely drowns the Fœtal Heart. In many cases where the Uterine Souffle was very loud, the fœtal heart could not be heard at first, I found on listening carefully over the site of the Uterine Souffle the fœtal heart could be heard distinctly through it, as it were.

One must be careful to note that a sound just like the Uterine Souffle is frequently heard in large Fibroid, or Ovarian Tumours. As a sign of the life of the Fœtus therefore the Uterine Murmur is of no value as it is heard after the death of the Fœtus.

The causation of the Uterine Souffle is a much discussed point & I think it will be unnecessary

to enter into it here.

A physician named Potter of Erlangen discovered accidentally that the Uterine Souffle could be palpated; that is to say while palpating he felt a distinct thrill at one part of the Uterus, on examining this with the Stethoscope heard a loud Uterine Murmur. This Observation he verified in 11 cases out of 20 near the full time. This must certainly be a difficult point & I do not see of what great value it can be after all.

II. Treatment.

The point which I intend to enter into most fully under this head is External Version, which is for various reasons so much more to be desired than the introduction of the hand into the Uterus.

The purposes for which External Manipulations are used in Obstetrics are three in number: viz:
1st. Manipulations for the purpose of correcting malpositions, converting them into more desirable presentations, such as Transverse into Head, or Breech; Breech into Head, or Face into Vertex.
2nd. The Suppression of the Foetus.
3rd. The Expression of the Placenta.

Under the first heading I shall take up External
Version. Before attempting External Version the
Physician must be well up in the various
methods of palpation, & be able to distinguish
the various parts of the Foetus with great accuracy,
as this is the key to the whole matter. Another
point which I spoke of before, is the necessity of
the Physician being called in early enough; &
I think if one could assure their patients of the
necessity of an early examination, & occasion
them to send for their medical attendant one
week before the supposed confinement it would
be a great boon to both patient & Physician.
For example if one arrives at a case of Transverse
Presentation, finds the membranes ruptured &
the child grasped firmly by the Uterus, all efforts
at External Version are necessarily useless.
I may note here however that cases have been turned
Externally after the waters have come away, but
only in cases where the Abdominal walls were
especially lax, & the Uterine Contractions not Con-
-tinuous in character; one should always always
rule by the External method before resorting to
Internal or Podalic Version. Until patient has

-ever get into the habit of sending early in every case, the advantage of this method will be very much lost.

I believe a large number of the practitioners of the present day consider External version merely a theoretical operation, would much rather wait until the Os was sufficiently dilated to perform Podalic version.

Its well known that the Foetus in Utero is very movable up till the commencement of labour, & especially so in Multiparae; & the latter are just the cases in which we, as a rule, have abnormal presentations.

External version is an operation which should be performed only during labour, naturally during the first stage, before the membranes have ruptured. When performed some time before the end of pregnancy it is of little use, as the Foetus almost invariably resumes its abnormal position.

Some advocate its employment early, & then fix the presenting part by means of bandages & pads, but as a rule these mechanical means are of little, or no avail, the Foetus returning to its abnormal position.

External Version is indicated in cases of Transverse presentation the Os just commencing to dilate, & the membranes unruptured, turning it into a Head, or Breech, preferably the former.

Even although the membranes are ruptured, & the child only slightly grasped by the Uterus it should be tried, because done in a skilful manner it can do harm, & may thus succeed some time after the "waters" have been evacuated.

The majority of authorities will agree I think that it is best if possible to convert Breech cases into Head presentations, thus avoiding the danger to the child one always has in these cases.

In cases of Contracted Pelvis it is as well to convert abnormal Presentations into Breech presentations, as we know that the after coming head shaped like a wedge will usually pass more easily through a contracted brim than when the Vertex presents.

The chief obstacle to External Version are: Discharge of the Liquor Amnii, fixation of the presenting part, & tenderness or tension of the Abdominal Walls.

Of course when it is found necessary to deliver rapidly we must have recourse to Podalic Version. I will now shortly describe the Operation. First of all an accurate knowledge of the position of the child must be obtained by Palpation & Auscultation. Let us take a case of Transverse Presentation, & at the correct time for performing External Version we may be unable to find a presenting part per vaginam. Say from Palpation we find the head in the Left Iliac Fossa & the Breech on the Right side, the case being One of the Dorso-Anterior variety: the woman being placed in the same position as that used for palpation, the Physician stands on the Right side of the patient & applies the Left hand to the Breech, & the right hand to the Head & thus grasps firmly the two foetal extremities; sinking the hands well down into the Abdomino-Uterine cavity he then endeavours by a sliding, pushing motion to direct the parts to their proper position pushing up the Breech with the Left hand, & pushing down the Head with the right until the Head reaches the Pelvic brim & the Breech the Fundus Uteri. Shortly pains come on after the

rectification has commenced they sometimes assist materially in completing it, but during a pain we should desist from our operation, except that one should still keep the hands applied to the two extremities until the pain ceases & then proceed again. We should continue our manipulations until we have effected our purpose, or until we have demonstrated satisfactorily its impracticability. When the position has been rectified we should at once instruct an assistant to firmly hold the head in position, & then confirm it by a vaginal Examination. If the Os is dilated sufficiently to rupture the membranes do so, & with slight friction over the Fundus the head will soon become fixed in the Brim. If it is too soon to rupture the membranes we must make the patient lie on the side where the head originally was situated (she ought to lie thus until the head is fixed in the Brim) with a pillow placed over the Iliac Fossa to prevent it slipping back again, at the same time directing the nurse, or some intelligent person to hold the head in position until we can Rupture the membranes & fix the head in the Brim. Some authorities have recommended bandages of various kinds to hold

the Forceps in position after rectification, but their Efficiency I think is questionable.

In converting Breech cases into Head cases it is usually necessary to lift the Breech out of the Pelvic brim before one can proceed with the manipulations necessary to turn.

While in Dublin I saw several cases of External Turning by the Master of the Rotunda Hospital, & I myself was fortunate enough to get a Breech case in the stage when turning was possible, & successfully turned it into a Head.

Conversion of Face into Vertex Presentation. Most authorities speak of rectifying these cases by Internal manoeuvres, but according to Schatz the only sure way of rectifying them is by External manipulation, & I cannot do better here than repeat what he says:- "Above all the Operator must be proficient in External Obstetric Examination, be able to diagnose easily & positively every projecting portion of the child, & recognize the Face Presentation by its protruding hard forehead on one side, & the broad resistance of breast & soft projection of shoulder on the other. In the interval between the pains the Operator seizes the shoulder & breast of the child with one hand & pushes both upwards, & to

the side where the back lies: (the same side towards which the brow points) as soon as the Breast & Shoulder have been brought into the long axis of the Foetus the pressure is directed no longer upwards, but towards the back of the child; at the same time the other hand gently grasps the Fundus Uteri with the Breech & pushes it towards the side towhich the Thorax points. Then the pressure of the second hand should be directed laterally & downwards, or directly downwards in order to remove the Thorax & Shoulder as far as possible from the long axis to the side where the back lies".
The advantage of this method is that it can be undertaken when the Face is still at the Brim, & before the membranes are ruptured. Schatz gives one case which succeeded perfectly by this plan, Fritsch reports another, & Pellsner assistant to Prof: Carl Braun another. These are understand the only three on record.

2. Expression of the Foetus. This method of Expression was known to the Ancient-Romans & Arabians & understand that even at the present day it constitutes the chief active interference employed among the Siamese, Japanese, & American Indians, & some tribes Hebrew, even to the exclusion of sitting

on the Abdomen, or treading on it with the naked feet. Some authorities argue, & argue rightly to I think, that we ought to push out the Foetus rather than drag it out. Expression is supplying the vis a tergo which is the natural means of delivery, while the forceps is a vis a fronte contrary to Nature. A great deal may be said in favour of this operation as it in many cases does away with the necessity of using the Forceps, & thus reduces the risk of Septic Infection. Statistics show that its results are much better than in simple uncomplicated Forceps cases.

This method of Expression acts in two ways:- (a) By compressing the Uterine Cavity, & (b) By exciting Uterine contractions. It is most useful of all I think in those cases where the pains are very slight & feeble. It can only be used in cases in which the Head or Breech are in the Pelvic cavity. The cases in which Expression is most useful are the following:- 1. Weak or Deficient Labour pains. 2. As an aid to Extraction of the Head in Head-last cases. (Breech, or after podalic version) 3. As an aid to Delivery of the Head in Forceps cases.

In weak & deficient Labour pains steady pressure

on the Fundus, when the Os is fully dilated & the head engaged in the Brim, advances the head towards the floor of the Pelvis, & I have seen many cases of this kind in which the Forceps was dispensed saving the necessity of applying the Forceps; & this I think is a great advantage ~~of great importance~~, especially in Hospital practice. In several cases I tried this method in Dublin & was much pleased with the results.

In head-last cases it is very useful, & saves as a rule any necessity to apply Forceps to the after coming head, which in my Opinion is by no means an easy matter.

In Forceps cases we also find great benefit from Expression. In almost all books on Obstetrics we are told to make traction with the Forceps only during a pain, but when the Uterus is firmly grasped, & we follow it down with the hands as extraction advances I can see no reason why this rule should be adhered to. I remember asking the Master of the Rotunda his Opinion about only making traction during a pain, his answer to me was:- "There is no reason why one should not make traction at any time (during a pain or

between the pains) as long as the Uterus is properly compressed & followed down during traction".

Expression of the Foetus requires strength on the part of the Physician, & a good deal of endurance on the patients part. It is described by Kristeller as follows:- "The patient being in the Dorsal position the operator maps out the Uterus & moves it into the axis of the Pelvic brim if it should have deviated to one or other side. He then grasps the Uterus with both hands on the same plane, with their ulnar borders directed towards the Pelvis, the pelvis pressing on the Fundus, or the sides near by, the thumbs pointed towards the medain line, & the fingers striving to encompass the Uterus as much as possible. First the Abdominal walls are gently rubbed against the Uterus, & then the hands retaining their position, slight gradually increasing downward pressure is made, which is kept up for a time at its acme, & then gradually diminished. The pressure should last from five to eight seconds, & be repeated at intervals of one-half, one, or three minutes according to the stage of labour, & the sensitiveness of the patient. The point of pressure should be changed alternating

between the Fundus & one of the horns of the Uterus."

In head-last cases the hands may be easily applied to the head above the Pubis & pressure made backwards & downwards in the axis of the Brim.

3. Expression of the Placenta. I don't intend here to discuss the various methods described for expression of the Placenta, but merely to give a short account of the method I myself have had experience in, & practised in the Dublin Rotunda, known as the Dublin Method.

The method known as Crédé's method was not originated by him, but merely an old practice revived by that physician.

In Dublin, immediately the head is born, the hand is placed over the Fundus & the Uterus followed down, slight pressure downwards being made until the Uterus is emptied; the hand then immediately (without removing it) grasps the Uterus, the ulnar border pressing in deeply behind it, the Fundus in the palm, & the thumb on the anterior portion; constant steady, but gentle friction is kept up & this is invariably continued without intermission until 15 or 20 minutes

have elapsed from the birth of the child, (Immediately after the birth of the child the woman is placed somewhat on her back to prevent air entering the vagina & the consequent risk of Septic infection) The uniform contractions of the Uterus thus kept up produce detachment of the Placenta, & after 20 minutes, or so, it can be easily pressed out of the Uterus, if it has not already passed into the vagina. It is then not so much its expression, but its detachment, which is the main point about the Dublin method of managing the Placenta.

As a rule in Dublin not a finger is put near the woman's genitals after the child is born, & no such thing as pulling on the cord practised, except in cases in which the Placenta is known by Palpation to be in the vagina; slight traction along with pressure from above usually having the desired effect.

Palpation here again is very useful in telling us whether the Placenta has left the Uterine cavity, or not. In Dublin students are frequently sent for assistance to remove retained Placentæ, as they thought, which were in the vagina, whereas by careful palpation this might have been

Defective. In being pressed out, the Placenta should not be suddenly shot out from the Vulva, as this may cause a piece of the membranes to be torn off & remain behind, but should be gradually & steadily pressed out & the membranes carefully twisted into a rope. By this means they usually come away entire without any traction, merely by the twisting action. Occasionally the membranes are caught by the Internal Os, but as a rule if one waits for a relaxation, they can be removed without the introduction of the fingers. So far as I have seen this method of Expression avoids to a great extent the dangers of the third stage; its great advantage being that one does not require to introduce the fingers, or hand into the Vagina, & thus it does away with the risk of direct Septic Infection. No bad results have ever followed its proper Employment.

Inflammatory affections, or great obesity in the Abdominal Walls sometimes interfere with the Expression of the Placenta; but the greatest obstacle to its Expression is its pathological adherence. When Expression by the above described method has failed after several attempts, &

the Uterus becomes no smaller we may fairly assume that the Placenta is more, or less adherent. Strange to say however since the introduction of this method there have been ~~much~~ fewer cases of adherent Placenta than formerly.

After the Placenta is expelled the Uterus should be felt as a firm, hard ball a few inches above the Pubis, & after keeping up gentle friction for about 10, or 15 minutes, the binder should be firmly applied.

. . . .

I must apologize for the brevity of this paper, & as the literature of this subject is not very extended, it has been my principal object to advocate the method of Examination by External Palpation, & to point out the advantages that are to be gained by its more general introduction into practice, in order that perchance it may be the means of inducing others, who have not as yet employed it to turn their attention in that direction.

The little experience I have had leads me to think that it is a subject upon which

a good deal more light might be thrown, and to that end I would advise all practitioners to make themselves conversant with this procedure.
