fact that not one Dublin practitioner holds a British or foreign honorary degree. Last year alone our licensing bodies conferred thirty-three upon strangers. Such distinctions here would tend towards checking party and personal favouritism, which is extinguishing the ambition of honest scientific workers. In England, and still more on the Continent, every year hospital and Governmental medical posts are becoming more assured as the rewards of special fitness.

A large hospital could afford a resident physician and a resident surgeon, either to be present at all hours to instantaneously meet emergencies.

If in an enlarged institution the class becomes unwieldy it could, and indeed in any case should, be divided amongst different teachers, according to the four years' curriculum now definitely settled.

Some patients are over-treated, or often treated, as they have so many hospitals or dispensaries close by and free, and are trained to become the veriest hypochondriacal bores.

Amalgamation will be justly brought about if the general hospitals must show, seven years hence, a minimum of 150 occupied beds. It is always well to quote points which may be cited against as well as for an argument. On November 4th, 1811, the College of Surgeons decided not to recognise any hospital which had less than twenty beds. How grateful should the poor patients and pupils of Dublin be that they do not live under the system of "the good old times." The application for recognition was from a building in Peter Street with twelve beds, the property of the surgeon.

It is clearly just that the Corporation grants, reaching £5,000 a year, should be in favour of citizens only, and that other authorities, townships, poor-law guardians, and the like, should contribute to the support of patients from a distance. This is already done with us in the ophthalmic hospitals, and in the case of a few fever patients, and is universal in Continental hospitals.

If the hospitals be governed by a board for the allotment of the public funds, the Continental system of a central bureau whence applicants would be drafted to the several institutions seems inadvisable, as the poor as well as the rich should have the power to seek advice from any physician or surgeon whose fame had attracted them. Our city is too small to need such a system.

That Dublin has a right to the grant every one of the State reports show, especially for the support of the education of public medical officers; that it has a need for it was most forcibly expressed by the House of Commons' Committee (numbering fifteen), in 1854. "It is a metropolis for the poor, but not for the rich. The value of its property has within the last fourteen years decreased, while local taxation, population, and pauperism have increased." How sadly intensified does the statement apply to-day, the only statistical fact changed—smaller population—telling for the argument; year by year our higher class go, the poorer crowd in.

All the suggestions in this brief address are made with due humility when so great a topic has to be faced, and if any one of them shall prove of value it will not have been written in vain. Incidentally, approval of the report of the Commissioners has been noted, but it is right to say that this Blue Book, unanimously signed, is, from that astounding circumstance and its own merits, a gem.

BEQUESTS AND DONATIONS.—Mrs. Hannah Sarah Chadwick, of Balham, bequeathed £1,000 each to the Earlswood Asylum for Idiots, the Royal Free Hospital, the Hospital for Consumption and Diseases of the Chest, the Charing Cross Hospital, the Middlesex Hospital, and the Western Dispensary, and £600 to the London Fever Hospital, all free of duty, and £26,666 13s. 4d. consols subject to the life interest of her sister, and to the payment of legacy duty, to the Westminster Hospital. The Bolton Infirmary has received £3,500 under the will of Miss Alice Lowe, of South Shore, Blackpool.—Mr. Francis Deakin, of Eastbury, Watford, Herts, bequeathed £100 each to the General Hospital, the Free Hospital for Sick Children, the Eye Hospital, and the Queen's Hospital, all at Birmingham.—Mr. Thomas Mack, of Seabank, bequeathed £200 to the Kilmarnock Infirmary.—The Sheffield General Infirmary has received £100 under the will of Mr. Edward Hudson, of East Cliffe.—The annual report of the Committee of the Northern Hospital, Liverpool, acknowledges the receipt of £1,000 under the will of Mr. G. H. Thompson, £900 under that of Mrs. A. M. Heywood, £500 under that of Mr. Roger Lyon Jones, and £200 under that of Mr. Robert Little.

A LECTURE ON THE THIRD STAGE OF LABOUR.

Delivered at the Post-Graduate Course in Edinburgh.

By A. H. FREELAND BARBOUR, M.D., F.R.C.P.E.,

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THE third stage is undoubtedly that part of normal labour which is of the greatest interest and importance to those of us who are engaged in midwifery practice. While with regard to the management of the first and second stages there is not room for much difference of opinion, each of us has his own ideas with regard to the third and has formulated for himself rules for its management.

To turn this demonstration into a vigorous and interesting discussion, I should only need to propound the question, What would you recommend as the best mode of managing the third stage? But if we were asked on what basis our principles of management rest, we should have some difficulty in replying. Probably, we should not venture to say more than that our midwifery experience has taught us that it is best to do so-and-so; in other words, our management of the third stage is not yet scientific, for our knowledge (or science) of this stage is as yet in its infancy.

Let me suggest some very elementary points which we do not know. 1. When is the placenta separated? 2. By what means and in what way is it separated? 3. How are the membranes separated? 4. How are the placenta and membranes expelled? 5. What is the natural mode of stopping bleeding from the placental site?

And I need only mention, in passing, a number of more remote questions, questions bordering more on pathology, which start up at the same time. What is adherent placenta? Why are membranes most often adherent round the lower portion of the uterus? Why should a bit of retained placenta in one case endanger the patient's life, immediately from hemorrhage or after a day or two from septicæmia, and in another be apparently harmless? What is the relation of endometritis to retained fragments of membranes?

I should like this morning to say something with regard to a few of these questions; not so much, perhaps, in the way of answering them as of seeking to define the present state of our knowledge.

1. First with regard to the time at which the placenta is separated. And here we must frankly admit that we know at present nothing definitely as to when this occurs. It has been taken for granted by many that the placenta begins to be separated during the second stage; that is, when the child is being born. Of this no proof has been advanced. The only clinical fact apparently supporting it is the appearance of asphyxia in the child if it lies for a little with only the head born. But the interference with the placental circulation which this asphyxia implies, may be due to compression of the cord, or to disturbance in the circulation of the placental site from uterine contraction and retraction.

We shall see when we have discussed the mode of separation that there is reason to believe that the placenta is usually not separated until, at least, the commencement of the third stage.

2. By what force, and in what way is the placenta separated? Though I have thrown these two into one question, they are quite distinct; and the non-recognition of the difference has led to great confusion. When we are asked, "What is the cause of the separation of the placenta?" we have, like the proverbial Scotsman, to answer with a question, What do you mean by "cause?" Do you mean the forces which effect the separation or the mode in which they do so?

There can be no hesitation, I think, in answering the first of these queries: the force is labour pains or uterine contractions; not the pains of the second stage but those of the third, the evidence for which we shall refer to later on. Gravity, which is the only other efficient force in labour, scarcely deserves serious con-

sideration, from the small weight of the placenta relatively to its extent of attachment and from the patient's being recumbent.

As to the second part of this question, "In what way is it separated? How do the pains act?" The old view was that they operated by diminishing the area of the placental site. The placental site diminished in area; the placenta was unable to follow it, and hence it separated. In the German school of midwifery, effusion of blood between the placenta and its site has been held to play an important rôle. Baudelocque speaks of the occurrence of blood-effusion, but it was Schultze who formerly taught that it was an important factor in separation. Most of you will be familiar with his drawing, which has passed into many of our textbooks; in it the uterus is represented like a thick walled inverted bell-glass, and the placenta at its mouth like an inverted sucker with a large blood-clot behind it.

While still asserting the importance of this retro-uterine hæmatoma, German writers are changing their standpoint as to its mode of production. From Ahlfeld's account of it, we should gather that the uterine contraction made the placenta spring up and aspirate blood between it and the uterine wall. But this implies that there is bleeding during a contraction. Cohn, a more recent writer on this subject, makes the placenta sink down by its weight in the interval between the pains, and thus draw blood in. Further, a fall in the intra-uterine pressure, consequent upon the emptying of the uterine contents, has been brought forward by another recent German authority (Stratz), as explaining why the placenta, which should (if the German view be correct) separate during the second stage, does not as a matter of fact do so till the third.

And here let me warn you against the fallacious view of regarding the placenta in the uterus as a piston in a pump—the placental site of course being the marshy ground, in which the sinuses are like springs. It is a fascinating theory, and I could construct a beautiful picture from the similitude; but the analogy breaks down at every point. For the placenta has not the consistence of a piston; the genital tract is not like an iron cylinder. The pump theory will not work. In fact, the physics of the third stage offer so many pitfalls to the unwary, that a man would need to know his ground well before we could accept as a guide either him or his new hypothesis.

With regard to this question of how the pains act, let me give you two facts:—

(a) That the placental site can diminish to an area of $4\frac{1}{2}$ in. by 4 in., or until the uterus has nothing in it but placenta, without the placenta being separated; (b) that there is no cavity in the post-partum uterus.

These are facts the demonstration of which you will find in the first pamphlet¹ put into your hands this morning. These are facts. Now let me give you my view of the production of separation. You will find it stated in detail in the concluding paragraphs of the third pamphlet.² "Diminution in area beyond that (4 in. by $4\frac{1}{2}$ in.)+the action of the uterus as a whole on the placental mass, I regard as the formal cause; the pains of the third stage as the efficient³ cause of separation." "The third stage I regard as a second labour in miniature. After the pain that expels the child comes a pause, during which the placenta is still as a whole or in great part attached; then labour comes on again, and the placenta is first detached and then expelled. This second labour is not always marked off by a distinct interval from the first; sometimes one long pain expels the child, and then detaches and expels the placenta." Note that it is the "action of the uterus as a whole," not merely "contraction."

3. How are the membranes separated? In one word, by crumpling up and stripping off. What I am about to describe is what happens in the Porro uterus, as we have not yet seen the process in the normal uterus. When the uterus is emptied of its contents in Porro's operation the different layers of its walls behave differently. You will find the detailed account of how they behave in the second pamphlet (page 4).⁴ Here we have only time to mention that the chorion with decidua is thrown into folds, and

the decidua tears through, so that a portion of it is left on the muscular wall. In what plane exactly it tears through is of histological interest; the practical point for the obstetrician is to examine the membranes as well as the placenta after delivery, to see that the decidua has come. Not that, supposing we find a portion of it absent, we should think of passing our hand into the uterus to remove it; lest in steering clear of the Charybdis of endometritis we might be dashed on the Scylla of septicæmia.

4. How are the placenta and membranes expelled? Here, again, gentlemen, is a double question: By what power, and in what manner, are the placenta and membranes born?

A. By what power? And here we must keep before us the differentiation of the uterus into two parts which occurs in labour. It would take us too much aside to bring forward the anatomical and physiological proof of this. We must content ourselves with stating the proposition, that the uterus in labour becomes differentiated into two parts: an upper, which is active and shortens and thickens; and a lower, which is passive, elongates, and thins. A glance at these frozen sections (See Figs. 1 and 2) of the uterus

Fig. 1.

The section shows the pelvis and lower part of the abdomen. The body is in the dorsal posture, with the promontory of the sacrum to the right and below, and the symphysis pubis to the left and above. The genital canal falls into two portions at the line *a* (see text). *u* is on the firm, thick, contracted portion; *c* on a fold of canal below; *v* on vagina. Note the folding and doubling up of the canal at and below *a*, showing its limpness. The small diagram to the left, representing the genital tract alone, is intended to make clear the special point.

Fig. 2.

Stratz's Frozen Section made immediately after Delivery. Position of pelvis and letters as in Fig. 1. Note the thinness of the walls⁵ of the canal below *a*. The horizontal direction of the vagina (vertical, of course, were the body erect) is abnormal, being due to the fact that the projection of the rickety promontory has kept the uterus high in the abdomen and the walls of the canal below taut.

¹ The Anatomy and Relations of the Uterus during the Third Stage of Labour and the First Days of the Puerperium. Reprint from *Edinburgh Medical Journal*, September and October, 1884.

² The Sectional Anatomy of the Third Stage. Reprint from *Edinburgh Medical Journal*, October and November, 1887.

³ It may not be pedantic to recall the Aristotelian distinction between the efficient and the formal cause. The former is the force or agency by which a result or effect is produced; the latter the manner in which or the instrument with which it is produced.

⁴ Some Practical Points with regard to the Membranes in the Third Stage of Labour. Reprint from the *Edinburgh Medical Journal*, June, 1885.

immediately after delivery shows the difference between the firm, contracted, upper portion of the body, and the thinner, flabby, lower segment and cervix folded below it. This proposition is not only of scientific, but of practical importance; it has a wide bearing in pathology, for example, on rupture of the uterus and on placenta previa.

Look now at the third stage of labour in the light of this proposition. The lower segment, in its passiveness, is more allied to the cervix and vagina than to the active part of the uterus above it. The genital tract falls into two parts through a line corresponding to the upper end of the lower uterine segment (α in the woodcut). Above that line the muscular wall of the genital tract is able to force on a body lying in it, while, below, it is unable to do so.

Now for the practical bearing of this. The placenta can be driven out of the upper portion of the uterus by the action of the walls alone, that is, by the pains of the third stage. But once it has passed that line, some other force must operate—either increase of intra-abdominal pressure, gravity, or artificial interference.

(a) Increase of intra-abdominal pressure is the first force we think of. The pinch of snuff which the old wives gave to bring away the after-birth is quite sound treatment. It rests on this scientific basis: the placenta will be born (expelled from the lower segment, cervix, or vagina) by any action of the abdominal muscles which suddenly increases the intra-abdominal pressure, for example, the forced expiration of sneezing; and there is no more effective stimulant of the centre for sneezing than snuff. In fact, whatever makes the patient bear down favours the birth of the placenta. In this respect, the lower segment, cervix and vagina resemble the bladder after delivery, and an interesting parallel might be drawn between them. May not the difficulty of emptying the bladder *post-partum* be due, not, as is often said, to the removal of the weight of the pregnant uterus, which allows the bladder to expand, but to the removal of the volume of the pregnant uterus, which makes it more difficult for the elongated abdominal muscles to increase the intra-abdominal pressure sufficiently to force the urine out of the bladder? The change in intra-abdominal pressure by the substitution of a volume of ten cubic inches for one of eighty-three (I estimate the bulk roughly from two frozen sections I have made of the uterus at the commencement and at the completion of labour) is considerable, and its effect on the abdominal circulation and the action of the viscera is well worthy of study.

(b) Gravity will be brought into play by the patient's being made to sit up.

(c) Artificial interference belongs to the management of the third stage, which lies beyond our present paper. Will you just note in passing that the Dublin method assists the natural mode of expulsion; and the Credé one, also, in its two parts (first grasping the uterus antero-posteriorly, then pushing downwards in the axis of the pelvis) adapts itself to the two stages of expulsion, corresponding to the placenta being in the active or passive portions of the canal.

B. In what manner are the placenta and membranes expelled? Two views have been brought forward: one by Schultze, that it comes foetal surface first; the other by Matthews Duncan, that it comes edge first. There is no doubt that it comes out in both these ways. My own observations, recorded in the third pamphlet, make me believe that Duncan's way is the more frequent; but we must remember that the presence of the hand in the uterus will favour that mode. Champneys has recently made a much more extensive series of observations on this point; and his tables show that in 85 per cent. (59 out of 69) the presenting part was either the edge or within two inches of it.

5. What is the natural mode of stopping bleeding from the placental site? Though this is a question of the most immediate practical importance, involving often directly the life of the mother, it has not been specially investigated. We know that strong contractions stop bleeding—a cricket-ball uterus and *post-partum* hæmorrhage are incompatible—but how they operate we do not know. The question is a more complicated one than appears at the first glance. We know of at least three factors which operate: the change in the muscular wall of the uterus in uterine contraction and retraction; thrombosis within the vessels, which occurs "spontaneously" even before separation of the placenta begins, and is a very important factor during and after the third stage; the condition of the blood itself. All of these must be taken into account, and their action is different; the

first compresses the vessels, the second chokes the channel, the third is subordinate to the second. Free bleeding from a firmly contracted uterus, noted in a case of phosphorus poisoning, shows, I think, that this last has an important, though as yet unrecognised, action.

THE MANAGEMENT OF ANTERIOR AND POSTERIOR DISPLACEMENTS OF THE UTERUS.¹

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I AM fully alive to the responsibility which anyone incurs in venturing to lay down definite lines of treatment concerning anterior and posterior displacements of the uterus, for I believe I am safe in saying that upon no subject in gynecology has greater diversity of opinion existed, and upon none have more opinions been expressed with equal confidence. This subject has been the bone of contention between different schools of gynecology for many years. That this should be the case is easy of explanation, and that for various reasons: 1. Because many teachers and practitioners have regarded the conditions as merely mechanical, and directed their treatment accordingly; 2. Others have considered the conditions as the result of inflammatory action, and their treatment has been in strict accordance with their views; 3. Others, perhaps the largest class of all, have regarded symptoms alone, and treated the conditions empirically; 4. It must be further kept in view how frequent are deviations in the position of the uterus, and how prone we are to seize any seemingly pathological condition as an explanation of symptoms and to treat it vigorously when the condition is all the time only a coincidence, not a cause.

Now, in venturing to offer to you a sketch of the treatment of the displacements under consideration, I would have it clearly understood that anterior and posterior displacements occur in two great groups:

1. Displacements in virgins or nulliparæ.
2. Displacements in parous women.

In regard to the first class I am inclined to look upon them, speaking generally, as being congenital conditions; the ante-flexion being in the direction of non-development, and the retro-flexion in the direction of deformity. These conditions in virgins are not infrequently associated with diseased conditions of the annexa, and when they are it is the inflammatory condition of the annexa which requires treatment, and not the congenital deformity or non-development. A well-marked illustration of this came under my observation lately when a patient had for eight years been under treatment with pessaries for an ante-flexed undeveloped uterus. Her distress was so great and persistent that I removed the ovaries, which were extensively diseased, and the woman has had comfort ever since, the uterus still remaining ante-flexed. The progress which gynecology has made in recent years in advancing our knowledge of the uterine annexa has shown conclusively that many cases of pain and, dysmenorrhœa which were formerly attributed to uterine displacements are due entirely to conditions of the ovaries and tubes independently of a concurrent displacement which may mean nothing. Deviations in the position of the uterus of minor degree give rise in the single woman to no symptoms, and require, therefore, no treatment. Marked versions uncomplicated with some pathological condition, such as a fibroid, are rare in single women, and when uncomplicated give rise to very slight symptoms, and need no mechanical interference. When the flexion backward or forward is very acute, I do not deny that it may be associated with severe dysmenorrhœa. Even admitting that these displacements in virgins give rise to some discomfort, what treatment is at our disposal? Vaginal pessaries are seldom if ever curative, and intra-uterine pessaries are surrounded with such risk in the direction of inflammation, hæmatocœle, and ovaritis, that so far as I am concerned I have discarded their use altogether. Let it be distinctly understood that I by no means wish to say that, in the hands of an

¹ Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association held in Dublin, August, 1887.