Valedictory Address

ON

HOSPITAL TREATMENT OF MORBID PREGNANCIES.

DELIVERED TO THE EDINBURGH OBSTETRICAL SOCIETY.

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A few weeks ago I received a letter from an obstetrician in England in which he asked me what was the present state of my project for the establishment of pre-maternity hospitals; and some time before that I had a request from the editor of one of our medical journals that I should furnish him with some records of cases of diseases of pregnancy treated in the Royal Maternity Hospital here under my care. It seemed to me, therefore, that I might give the information required and comply with the editorial suggestion in this valedictory address; and I was the more anxious to do so as it happens that I have never up till now brought before this Society the subject of pre-maternity hospitals at all.

In November, 1900, I first touched upon the subject of the hospital accommodation of pregnant women suffering from one or other of the diseases incident to gestation, in a clinical lecture on abortions given in the Royal Maternity and Simpson Memorial Hospital here. This lecture was afterwards published in the *International Clinics* (Series XI, vol. ii, p. 231, 1901), and I quote the concluding paragraph. It ran thus:

Finally, I may perhaps be allowed to say that it has seemed to me that there is a want in our hospital system—the necessity for some special institution in which cases of recurring abortion, habitual premature labour, habitual fetal death, hydramnios, and pathological pregnancies in general might be both studied and treated. Such cases are not at present welcome in general hospitals, for there is an objection to turning the wards into maternities; neither are they acceptable to the maternity staff, for they are “not at the full term of pregnancy.” There ought, I think, to be some such hospital—it might be called a “pre-maternity”—in which the investigation of the morbid states of pregnancy might be carried on and their treatment elaborated and placed upon a sure basis founded upon experience.

Soon after this, on April 6th, 1901, the BRITISH MEDICAL JOURNAL published my Plea for a Pre-Maternity Hospital, in which I stated, at greater length and with all the persuasive force of which my pen was capable, the necessity I thought there was for such an institution, and the advantages, scientific as well as humanitarian, which I fancied would accrue from its establishment. I may quote a few sentences from this article, for it contained all the principles I had to enunciate, anything further that has appeared since having been elaboration of details:

The pre-maternity hospital need not be a separate establishment; it may quite well be an annexe of the maternity. In time it may come to be of equal size with the maternity, but it must be distinct from the maternity; it will be for the reception of women who are pregnant, but who are not yet in labour. In the first place, doubtless, it will be for the reception of patients who have in past pregnancies suffered from one or other of the many complications of gestation, or in whose present condition some anomaly of the pregnant state has been diagnosed; but in time it may be taken advantage of by more or less normal ambulant—working women, for example, who ought to rest during the last weeks of pregnancy. . . . When labour pains came on they would be transferred to the adjoining maternity, and it would therefore be advisable that the two buildings communicated by a covered way; for example, it might be a system of linked hospitals. . . . One of the principles of the pre-maternity would be the conservation of fetal life, although, of course, not at the expense of maternal safety; the result aimed at would be the continuance of the pregnancy with safety to the mother; that would be the ideal. . . . In a pre-maternity we might be able to study with scientific exactness, not only the pre-eclamptic, but also the pre-albuminuric modifications of the urine, and we might also discover the relationship which exists between the absence of normal thyroid hypertrophy and the presence of albumen in the urine.

In May, 1901, the editor of the *American Journal of Obstetrics* kindly published my vision of the twentieth

century, entitled, “A Visit to the Wards of the Pro-Maternity Hospital.” It was my dream of what such a hospital might be: an international institution, situated somewhere between France and Germany, manned by a staff of medical experts of various lands; and with, at the head of it, Dr. Anthony Nathan Patholog, while under him worked Dr. Geburtsmal and Dr. Mondkalb, Germans, Dr. Loefmalade, a Frenchman, Dr. Embryanowsky, a Russian, Dr. Feto of Florence, Dr. Teras Teratos, of Athens, and Dr. Ariston Hudor, the last named being in charge of the ward for habitual inebriates who were being kept from all alcoholic preparations during their pregnancies. There were to be wards also for the prevention of habitual abortions and fetal death, for the treatment of syphilitic pregnant women with the view to lessen the risk of infection of the fetus, and for the prophylaxis of such hereditary maladies as haemophilia. This article was of course nothing more than a *jeu d'esprit*; but it unexpectedly served a useful purpose, for it was translated in full into German by Professor Kleinwächter, and appeared under the title of “Ein Besuch in den Sälen des Pro-Maternité-Hospitals” in *Der Frauenarzt* for September 20th, 1901.

Meanwhile several criticisms of the suggested pre-maternity hospital had reached me. It was suggested, for instance, that the name was rather misleading; that the term was in point of fact a hybrid word. I intended it to be understood as meaning a hospital into which pregnant women, suffering from some of the maladies of gestation, or pregnant of infants who might be diagnosed as deformed or diseased, should be admitted prior to their delivery in a maternity hospital. I used the word “pro” in its Greek sense of “before” or “in front of,” not in its secondary Latin one of “in favour of.” I therefore changed the name to “pre-maternity,” which more clearly indicated my meaning, and I have since then continued to employ this word. Other criticisms which reached me were that I was not proposing anything new; that I was advocating a place for the reception of unmarried pregnant women, where they might get every attention, medical and hygienic; that I was thus making things easier for fallen women, and possibly even encouraging what every one wished to hinder. It was pointed out by Professor Kynoch in the BRITISH MEDICAL JOURNAL (April 13th, 1901) that pre-maternity hospitals had existed as far back as the seventeenth century, there having been wards for the *femmes enceintes* in the Hôtel-Dieu at that time. Professor Kynoch, however, admitted that patients entered the Hôtel-Dieu at an early date of their pregnancy to ensure secrecy as to their condition, and not to obtain pre-treatment. These criticisms led me to take up the subject of Hospital Accommodation for the Pregnant Woman in an introductory lecture to my class in October, 1901. In a summary of that lecture, published in the BRITISH MEDICAL JOURNAL for October 19th, 1901, it is stated:

That Dr. Ballantyne did not ask for an asylum, or reformatory, or secret maternity; such institutions already existed, and doubtless had their function. What was required was a medical institution or part of one, a hospital or part of a hospital, in which the medical wants of the pregnant patient and of her unborn child would be considered first.

Let me say again, now, that I fully appreciate the good work that is being done in such places as the Edinburgh Rescue Shelter at 18, Graham Street, and at the Lauriston Home for Maternity Rescue Work; indeed, through these institutions I have, on several occasions, received into the Maternity Hospital cases of morbid pregnancy which might otherwise have not been recognized as pathological until labour supervened, and which might therefore have had much less satisfactory terminations from the medical standpoint. But my intention was not to agitate for the establishment of another home of that kind. What I asked for was a hospital for the reception of women suffering from the diseases of pregnancy, a hospital the entrance into which was not given to a woman because she was married, nor yet because she was unmarried, but solely because she was ill and pregnant. It was my hope that, just as the Maternity Hospital contains married women as well as unmarried, so the pre-maternity hospital's beds would be open to all women suffering from the maladies incident to gestation, whether they were legitimately or illegitimately pregnant. The ideal would be a hospital in which all the beds were

occupied by married women, but no woman would be refused because she was unmarried. The permission to enter would be always *medical*; the patient would be admitted because she was ill and pregnant, or because she was pregnant, and had in previous pregnancies developed morbid states in herself or in her unborn infant which it was supposed might by prophylactic measures be prevented.

It was in July, 1901, that my hopes regarding the establishment of a pre-maternity hospital, which had been drooping somewhat, were revived by the receipt of a letter from a friend who had all along thought well of the proposal. This letter contained the welcome intelligence that the writer had given a sum of money (£1,000) to the Edinburgh Royal Maternity and Simpson Memorial Hospital for the endowment of a bed to be used for the treatment of patients suffering from the diseases of pregnancy. The bed was named the Hamilton Bed, in memory of Professor Hamilton, who had so much to do, one hundred and ten years before, with the founding of the Edinburgh Maternity Hospital (1791). In November, when Sir Alexander Simpson took over the hospital, he was able to open the Hamilton Bed by putting into it a patient suffering from hydramnios; and, as I acted as assistant physician at this time, I had an opportunity of superintending the four or five cases treated in it during the next three months. The case of hydramnios, which was also one of vomiting, had a somewhat curious termination, to which I shall make reference when I come to record some of the results of treatment in the Hamilton Bed.

The establishment of this special bed in the hospital stimulated me to fresh efforts to bring the idea of a pre-maternity hospital before the profession, and on January 11th, 1902, I published in the *BRITISH MEDICAL JOURNAL* a lecture (given in the hospital on November 6th, 1901) on "Maternities and Pre-maternities." In this lecture I restated the case for the pre-maternity. I made known the fact that there was now in the Edinburgh Maternity Hospital a bed set apart for the study and treatment of the diseases of pregnant women; and medical men in Edinburgh and the neighbourhood were not long in sending in suitable cases. Indeed, in February, 1902, a short article on the Hamilton Bed and on the cases which had already been treated in it appeared in the *Scottish Medical and Surgical Journal*; it was from the pen of Dr. Oliphant Nicholson. There were also about this time several other encouraging occurrences. For instance, in the *Lancet* of November 2nd, 1901, there appeared a leading article entitled, *Puerperal Eclampsia*, from which I quote the following paragraph:

We are inclined to think that if a correct knowledge of the causation of eclampsia is ever to be arrived at, attention must be mainly directed to the pre-eclamptic stages of the disease. Further investigations must be devoted to careful observation of all departures from the normal in the health of the pregnant woman. Then, and then only, will it be possible to practise preventive medicine—the highest art of all—in the case of the pregnant woman and of the fetus *in utero*. The opportunities of a scientific study of the various problems connected with pregnancy are at the present day almost *nil*; the length of time such patients remain in lying-in hospitals before their confinement is too short for any prolonged observations to be made, and work of this nature is impossible in private practice. It is an encouraging sign to see that, mainly owing to the strenuous advocacy of Dr. J. W. Ballantyne, and the generosity of Dr. Freeland Barbour, a bed is to be endowed and set apart for the study of the diseases of pregnancy in the Royal Maternity Hospital of Edinburgh. We can imagine no more worthy object for philanthropy than the endowment of such beds in some of our large maternity hospitals where the diseases of pregnancy and of the unborn child could be investigated with all the advantages of modern science. It is by research in this direction that we are most likely to gain a true knowledge of the problems of eclampsia, and of the best means of preventing this dangerous complication of pregnancy.

It was about this time also that the *BRITISH MEDICAL JOURNAL*, in a leading article (October 19th, 1901) upon Diet in Pregnancy, more especially in connexion with Prochownik's method of influencing the size of the fetus and the character of the confinement by altering the diet of the mother, affirmed that

the truth of Prochownik's statements could only be adequately ascertained in such an institution as the pre-maternity (or, more correctly, pre-maternity) hospital may yet turn out to be.

Several American medical journals, in reviewing the

first volume of my work on *Antenatal Pathology*, took occasion to touch upon the advisability of establishing pre-maternity hospitals for the observation of pregnant women in whom gestation was not running a normal course; the *Medical Review*, for instance, "heartily supported the suggestion," while the *Boston Medical and Surgical Journal* (April, 1903) spoke of "the idea of a pre-maternity hospital which is fast coming into favour, and is undoubtedly bound to have a place in connexion with lying-in hospitals in the near future."

It was, therefore, with great interest that I heard in December, 1903, of the proposal that the new maternity in connexion with one of the London colleges should be provided with a ward for the diseases of pregnancy. The information came to me in a letter from the obstetric physician, and in reply I gave him all the information I possessed on the subject, including, of course, a reference to the kind of cases which were being dealt with in the Hamilton Bed. During the past three or four years I have written almost nothing on the subject of pre-maternities, for I felt—and, I think, rightly—that the profession had accepted the statement that such institutions were desirable and almost necessary for the further development of the practice of obstetrics and for the safeguarding of fetal life. I was convinced also that in time funds would be forthcoming for the building, furnishing, and staffing of pre-maternity wards, pavilions, or linked hospitals in connexion with existing maternities. I broke silence once more, however, at the National Conference on Infantile Mortality, held in London on June 13th and 14th of last year, and what I said then I may be permitted here to repeat.

When a pregnant woman is attacked by a disease, and more particularly by a disease which is due to her pregnancy, it is often extremely difficult to obtain hospital treatment for her; it is even difficult to get her into a hospital at all, for many maternity hospitals do not receive patients until they are in the first stage of labour, and most general hospitals are chary of admitting to their wards women who are near confinement. And yet, as is well known, the diseases of pregnancy are most deserving of treatment in many instances, while in some cases a mother's and a child's life may be saved thereby. It was with reasons such as these in my mind that I proposed the establishment of pre-maternity hospitals in close association with our maternities, but not, if possible, within the same four walls, and not under the same nursing and administration. To these buildings pregnant women would be admitted, not because they were married, not because they were unmarried, but simply because they were the subjects of pathological pregnancies. In such pre-maternity hospitals the diseases of pregnancy would be made the subject of special study, and the best treatment, keeping in mind both mother and unborn infant, would be carried out. Failing the immediate construction of such institutions, I recommended the setting apart of one or two wards, or one or two beds, in the maternity hospital for the reception and treatment of pregnant women suffering from the maladies of pregnancy. My reason for pushing the larger scheme is that there is evidence that the residence of pregnant women in a maternity hospital for weeks or months before confinement has been shown to be not entirely free from risk. Apparently the association of the two classes of case, the pregnant and the puerperal, is not for the best interests of the former; the want of exercise and interest is not good; and in a word there is a lack of the special conditions of environment and diet and treatment which a pregnant woman needs, and which are not the same as those required by a puerperal one. At the same time, even the single bed that we have in the Edinburgh Maternity Hospital has been a benefit. It has, for instance, been a comfort for medical practitioners in the neighbourhood to know that they could send suitable cases into the hospital with the assurance that they would be taken in, not out of courtesy as it were, but by right; and I know from experience that the treatment such patients have received has been of value in averting abortion and miscarriage and in producing a more nearly normal state of health before the supervision of labour with all its risks. But it is, I think, unnecessary to elaborate arguments in favour of pre-maternity hospitals; they are self-evident, and further, the principle of them has been admitted in America and in this country since I published my plea for them in the *BRITISH MEDICAL JOURNAL* in 1901, and in several other places and at several other times since then. It seems to me that without some such institutions the study of the causes and the recognition and treatment of the diseases of pregnancy must continue to be greatly hampered and hindered. To mention only one advantage before passing from this subject to another, I may name that of being able to check the diet and the drink in cases of albuminuria and the diseases due to alcoholism.¹

If further proof were needed that the question of the desirability of pre-maternity hospitals had passed out of

the personal into the general phase it is to be found in two circumstances which have recently come under my notice. One is the fact that Dr. T. Arthur Helme, in his address on The Unborn Child, delivered in Manchester on June 20th, 1907,² thought it sufficient to affirm that one of the duties now resting upon the medical profession and the State was the provision of hospitals for the reception of women during pregnancy. Dr. Helme used no arguments; gave no details, and evidently anticipated no objections. Another incident whose significance cannot, I think, be missed is recorded in the following paragraph, which appeared in the *BRITISH MEDICAL JOURNAL* for January 20th, 1906.

In honour of the German Emperor and Empress's approaching silver wedding, and to carry out one of the favourite ideas of the Empress, Charlottenburg has decided to erect a small model lying-in and infants' institute. There are to be 30 beds for women expecting confinement, who are to be allowed to stay on until their child is 3 months old, and 30 beds for infants to be fed artificially.

I presume that some of the beds, at any rate, will be set aside for pregnant women who are ill. When Germany has got its pre-maternities there will doubtless be hope of their early institution in this country.

CASES TREATED IN THE HAMILTON BED.

It generally happens that theories, when tested by experience, work out somewhat differently from what was expected, and it was so in the case of the Hamilton Bed. I anticipated that as soon as the bed became available for the treatment of cases of morbid pregnancy we should have a patient under our care in it for a period of, say, a fortnight or a month; that during this period we should have time for exact researches on the functions of the body, including analyses of the urine, examinations of the blood, and investigations of faeces, etc.; that then there would be time to institute some rational method of treatment and judge at one's leisure the results. But I was calculating without taking into account the proverbial uncertainty of the superintention of labour. This was borne out in the case of the very first patient, who occupied the Hamilton Bed.

Hydramnios with Vomiting.

The patient, a multipara, 37 years of age, believed herself to be in the seventh month of her eleventh pregnancy. She had had a somewhat disastrous reproductive history. Her first pregnancy ended in the birth of twin girls, both of whom died about a fortnight after birth; her second pregnancy terminated prematurely at the eighth month, the child being dead-born; the next four labours seem to have been normal, but all the infants, males, died shortly after birth; and the next four gestations resulted in the birth of boys, all alive still. She had suffered from vomiting, more especially during the past three months, and was emaciated. Her pulse on admission was 109, and her temperature was 99°, rising to 101° the next day. After she had got a good action of the bowels her temperature fell below normal, but her pulse remained rapid and was seldom below 100. The circumference of the abdomen at the level of the umbilicus was 34½ in.; the fundus uteri was felt about 2 in. below the ensiform cartilage; the uterus was greatly distended with fluid; ballottement was easily got, the fetal head was felt at the fundus, and the fetal small parts could be palpated and seemed to be numerous. No fetal heart sounds could be heard, but the uterine bruit was audible. Keeping in mind the frequent association of hydramnios and fetal deformities, I expressed the opinion that the infant in this case might be found to be monstrous.

The first matter, however, which engaged my attention was the relief of the sickness; and for this purpose the patient was put on a diet of milk, was kept resting in bed, and had the bowels regulated. In a day or two she was able to take and to retain some porridge. Then I made up my mind to try whether I could not reduce the amount of liquor amnii by the administration to the mother of frequent small doses of magnesium sulphate; I thought I might in this way get a hint as to whether there was free circulation of the liquor amnii from the mother's circulation into the amniotic cavity and back again. This treatment was commenced on November 11th; but on the same night labour pains came on, and when I arrived at the hospital the next morning the resident physician introduced me to twin girls who had been born at an early hour. The labour had been rather slow, and it had been found necessary to rupture the membranes, when a quantity of liquor amnii, estimated at about two pints, had escaped. Soon afterwards the first child was born, the head presenting; a minute later the second child was born by the breech; and the single placenta was expelled two minutes and a half later. The twins had a close resemblance to each other, the first weighing 3 lb. 15 oz., and the second 3 lb. 11 oz. After labour, the pulse and temperature became normal, and the puerperium was uninterrupted. Such was the almost

ludicrous termination of our first attempt to forecast the future of antenatal affairs.

This case was the first that was treated in the Hamilton Bed; but I find in the official record of the hospital that another and an earlier case of vomiting in pregnancy was credited to it. When Professor Simpson and I took over the hospital on November 1st, 1901, there was then in the wards a patient believed to be suffering from

Hyperemesis Gravidarum.

It was calculated that she was two and a half months pregnant, and it was said that she had been rejecting her food for five weeks. She had been treated medically outside the hospital, and had during the last week of October been sent in for further treatment—viz., the induction of abortion. Her temperature was subnormal; her pulse was 88, small, thready, but of high tension; and there was a trace of blood in the urine. She was a nullipara, 30 years of age. She was put upon rectal feeding; no food at all was given by the mouth. The nutrient enemata consisted of milk, brandy, and meat juice, with 15 grains of bromide of potassium in every second enema. Under this treatment her condition had improved somewhat; but soon after November 1st she became worse, her temperature remaining subnormal, while her pulse rose to 100. I found her seriously ill; she was much emaciated; the abdomen was flat, almost scaphoid; the mammary changes were not characteristic of pregnancy, and the uterus was found lying retroflexed and enlarged. Under an anaesthetic I tried first to replace the uterus, and I partially succeeded, but a part of it seemed to be fixed in the pelvis by adhesions; then I attempted to dilate the cervix digitally, in the hope that the stretching might reflexly influence the vomiting. The firmness and resistance of the cervical tissues were well marked, and it was at this stage of the proceedings that I began to doubt the existence of pregnancy. Having once got this idea into my mind, I made another abdominal examination, and thought that I detected something like a tumour in the epigastric region, and that the cause of the vomiting was gastric.

The patient was sent into the Royal Infirmary, whence in a day or two came the news that a small fetus and decidua membranes had been expelled from her uterus. The patient recovered; but it was long before my confidence in my powers of antenatal diagnosis was restored.

Epilepsy (?) in Pregnancy.

Another case of morbid pregnancy was treated in the Hamilton Bed during the winter quarter of 1901-2. The patient was 26 years of age. She was a dwarf, her height being only 4 ft. 4½ in. Her first pregnancy had terminated three years previously in an embryulcia, and it was calculated that the child had been dead for a week before birth. Her second gestation ended spontaneously at the sixth month; she had no medical attendance in this confinement. During both the first and second pregnancy she had suffered from fits. She had not had any previous to her first pregnancy, and they did not happen during the labours. They were less severe in the second gestation. She was now (November, 1901) pregnant for the third time, and it was calculated that she had arrived at five and a half months. The fits had been troubling her during the whole course of this gestation; she described them as fainting fits; and she stated that she could generally tell when they were coming on. She had been surrounded by people suffering from epilepsy; her husband took bad epileptic seizures, and so did her stepfather and a stepbrother. There was not, however, any history of epilepsy in any of her blood relations. About the third month of the present pregnancy the patient began to experience difficulty in locomotion, and lately this difficulty had become so aggravated that she was only able to stand for a few minutes and walk for a few yards. Of course the urine was at once examined; it contained no albumen or sugar; urea was present in sufficient amount (7 gr. to 1 oz.), considering the patient's size and the diet she was put on. Daily estimations were made of the urine during the whole time the patient was in the Hamilton Bed, a period of eight weeks. Physical examination revealed the existence of a pregnancy of about the age indicated by the menstrual history; the fetal heart was heard in the upper part of the uterus, where also the head of the fetus was felt. The pelvis was found to be small and irregular; the external conjugate was estimated at 6½ in., and the diagonal conjugate at nearly 4 in., but this was afterwards found to be an over-estimate.

For a few days the patient was put upon a milk diet, but this was discontinued when it was discovered that the kidneys were acting normally. It was then decided to try the effect of the Prochownick proteid diet in this case in order to keep the size of the child small and so facilitate labour, which it was thought might be induced about the seventh month and a half. Neither the milk diet nor the Prochownick produced any effect upon the fits; bromides were administered for a time, and they were followed by valerianates, but neither of these drugs had any appreciable influence. Dr. Edwin Bramwell saw the patient on several occasions—once while she was in a convulsion. He inclined to the belief that the case was one of a group recently (1901) described by Sir Wm. Gowers, in which the symptoms were those of a functional or so-called hysteroid attack, dependent, however, upon a

transient and almost unnoticed attack of *petit mal*, or true epilepsy, which was, therefore, the underlying and fundamental condition. Sphygmographic tracings were taken on several occasions by Dr. Oliphant Nicholson, and were found to show no increased arterial tension. There was no sign of heart disease; the heart was not hypertrophied. The fits were very erratic in their incidence and irregular in their duration; the longest one observed lasted for half an hour. After complaining of dizziness the patient shut her eyes and became unconscious; the fists were clenched, and the lower limbs became slightly rigid, sometimes only on one side; the tendon reflexes were very active during the fits; slight squinting was observed. The tongue was never bitten, there was no foaming at the mouth, and there was no cry. Some twitching was now and again noticed. A profuse quantity of pale urine was never passed after any fit, neither was there any globus hystericus, or blepharospasm, or contraction of the field of vision. The incidence of the fits was not affected by the presence or absence of other persons in the ward, nor by the making of vaginal examinations; there was no diurnal nor nocturnal prevalence of the seizures. Babinski's sign was never detected, and the pupils reacted, but somewhat sluggishly, to light and accommodation. The mental state was quite satisfactory. Although the patient's pulse-rate remained normal and the temperature was not raised, the general state was not good, for there was great weakness and almost complete inability to stand or walk. No doubt the unsatisfactory general condition of the patient had much to do with the unfortunate termination of the case. It was decided to induce labour about the middle of January—namely, at the close of the seventh month; but when the time came the child proved to be larger than had been expected and the conjugata vera smaller, and, as the patient and her husband were anxious for a living child, Caesarean section was performed by Professor Simpson with myself as assistant. The child lived two days; the mother died on the fourth day, for, although there had been no rise of temperature, the pulse had remained fast and weak, and signs of septic infection of the abdominal incision had appeared.

This was a sad ending to a case which had been so long in the Hamilton Bed; and, although the patient did not succumb during her pregnancy but after delivery by Caesarean section, yet I cannot help thinking that her prolonged stay in bed in hospital in a ward in which puerperal cases were being nursed was in some measure prejudicial. Further, the carrying out of special methods of regimen and diet, such as were adopted in this case, is a matter of some difficulty in a maternity hospital, and I doubt whether it was perfectly performed here. I was led by this experience to hope for a separate building for the management of pregnancy cases, or at least for a separate ward, and I have since been able to keep these pre-maternity patients more strictly to themselves. I have also aimed at benefiting them in the hospital and sending them out again to be for some time at home before the supervention of labour. I think that it is in this way that a bed or some beds in a maternity hospital will prove of most service for the treatment of the diseases of pregnancy. Another case of epilepsy in pregnancy has been recently treated in the Hamilton Bed during my quarter, and I pursued the above-named plan with it. The patient came in with a history of frequently recurring fits, and it was thought at first that they had been eclamptic in their nature. There was, however, no albumen in the urine, nor were there any other signs of renal disease. It was discovered that ever since her first pregnancy, ten years previously, this woman had suffered from convulsive seizures, almost certainly of an epileptic nature. It could not, however, be traced that they were consistently worse during the gestations. She was kept under observation and treatment in the hospital for three weeks, and then sent home as she was not yet at term.

It is with a feeling of relief that I now pass from these early and disappointing cases to some more recent and more encouraging experiences. I shall here refer to three cases of eclampsia which all occurred during my quarter in 1905, for, after all, if the usefulness of treatment during pregnancy is to be tested and established, it must be in connexion with the most serious complications of gestation.

CASES OF ECLAMPSIA.

Case 1.

Mrs. R., aged 33, was sent into the Royal Maternity Hospital by Dr. George Dickson on August 24th, 1905. She was pregnant for the fifth time. Her first three pregnancies terminated in normal full-time labours in 1897, 1899, and 1901 respectively; the first child was a boy, and the second and third were girls. The fourth confinement took place in September, 1903; the child was a girl; the labour was easy, but there was some inflammatory trouble in the puerperium. All the infants survived. She nursed her last child till she was fourteen months

old. She did not menstruate whilst nursing, and she has not menstruated since, so that the date of commencement of the present pregnancy cannot be estimated. She felt stirrage, however, in the beginning of April, 1905, and expected to be confined about the end of August. During the whole course of the present pregnancy the patient has been in very poor health. She has had headache, constipation, faintness, giddiness, great frequency of micturition, dyspnoea, and cough with frothy expectoration. All these symptoms became worse as pregnancy proceeded. During the early months she noticed some oedema of the face in the morning and of the legs at night; and lately the oedema became more marked and generalized over the body.

During the week before her admission to the hospital the patient did not get a single motion of the bowels. She took a pill on the evening of August 23rd, and a selditz powder the next morning, but with no result. She felt very tired on the 23rd, had severe frontal headache, took no food, vomited several times, was dizzy, and could not see well. She spent the night walking about restlessly. On the morning of the 24th the same symptoms continued, and at 12 noon she threw herself on the bed thoroughly tired out. At 1.15 she took a fit, described as "like epilepsy." Her tongue was badly bitten. The fit lasted ten minutes, and before she regained consciousness she was attacked by a second fit of the same nature, but of greater severity. Drowsiness continued for an hour or two, and thereafter she became conscious of her surroundings. It may be added that her previous health had been good; she had had no fits, no dropsy, and had never suspected that she might have kidney disease.

At 5 p.m. she was admitted to the hospital. There had been no further fits since the second one, and no more vomiting. She was a big strong woman, and somewhat plethoric. Her lips were cyanosed, and her breathing was heavy. The pulse was 120, regular, full, and of moderately high tension. The temperature was 99.6°, and the respiration-rate 25. Her face was of a dusky colour, and was swollen; her pupils were contracted and equal, and there was slight oedema of the legs. There were the usual signs of a full-time pregnancy. It was now that I first saw the patient. She was dull or semicomatose, muttering when spoken to, but not apparently realizing her surroundings. At 5.30 p.m. (half an hour after admission) she had an eclamptic seizure. Chloroform was given, and a half-grain of morphine hypodermically. A large water enema was also given, but with no results. Three pints of saline were run in under the breasts, and hot bottles were placed round her. At 7.30 she was very restless, shouting, and almost maniacal. A third of a grain of morphine was given hypodermically. Another fit occurred at 9.30, during which chloroform was administered. Two minims of croton oil were given by the mouth. At 11 p.m. she was excessively violent and could not be held in bed; 6 grains of chloral hydrate in water were given hypodermically. At 1 a.m. (August 25th) she was quieter; 5 grains of chloral were given. At 3 a.m. she had another fit, and she got 5 grains of chloral hypodermically. An hour later (4 a.m.) an enema consisting of 2 oz. of castor oil, 2 oz. of Henry's solution, and 2 oz. of water was given with a small result. When I saw her at the morning visit she was much better; the bowels had moved well; there had been no more fits since 3 o'clock, and she was more rational. The urine became solid on boiling. Chloral and bromide of potassium were now given by the mouth. Steady improvement commenced under a strictly milk diet and jalap for the regulation of the bowels. Two days later (August 27th) the urine had a specific gravity of 1014, and was acid in reaction; it contained granular casts but no blood; the urea was 7 grains and the albumen 0.86 grain per ounce. There was marked optic neuritis and some small haemorrhages were seen in the left retina. On August 29th the pulse was soft and the oedema had gone. The patient was on strictly milk diet. The albumen was now 0.65 grain per ounce.

On September 1st labour pains came on at 3 p.m. The position was L.O.A., and the fetal heart was clearly heard. At 10 p.m. the os was as large as a five-shilling piece, and the membranes were protruding. At 11 p.m. the membranes ruptured and five minutes later the child was born. The afterbirth was delivered without difficulty and there was no haemorrhage. The infant, a female, was poorly nourished, and weighed only 3 lb. 11 oz.; she was put in the incubator. Milk diet for the mother was continued. On September 7th there was marked improvement in both mother and infant, but there was still a good deal of albumen in the urine, and on September 19th, when the patient left the hospital, there was still a trace. The child was thriving. In January, 1906, Dr. Dickson was able to report that the patient had made an uninterrupted recovery, that she was then quite well, and was doing her work as usual. The infant also had done well and was strong and healthy.

Case 2.

Mrs. S., aged 22, was admitted to the Royal Maternity Hospital on September 2nd, 1905. She was sent in by Dr. Sullivan, and it was stated that she had had two eclamptic seizures the preceding evening. She was a primipara. She last menstruated on Christmas Day, 1904. She was living then in Hong Kong. Her health then became poor; she suffered from headaches; her face was puffy in the mornings. Her urine was scanty, dark brown in colour, and was passed with so much pain that she dreaded the act of micturition. These symptoms have persisted till the present time. She

left Hong Kong in April, 1905, and reached London in June, after a very rough passage, during which she suffered from both morning sickness and sea-sickness. She made no attempt to diet herself either in Hong Kong or on the voyage. She had lately come to Edinburgh. Quickening had occurred at the sixth month. The headaches, always occipital in position, had been very troublesome, and the swelling of the face had become more marked.

A week before admission all her symptoms became more severe; the headaches were so bad that the patient could not sit down; the oedema spread to the whole body, and she was passing very little urine, not more than a breakfastcupful in the twenty-four hours. She was seen by Dr. Sullivan on September 1st. He put her on milk diet. The same evening, when she was talking to her mother, she suddenly began to twitch all over; the movements lasted for a few minutes, and were followed by unconsciousness. Her tongue was bitten. A few minutes later she had another fit. Dr. Sullivan gave her half a grain of morphine hypodermically.

She was admitted to the hospital the following morning, having had no further fits during the night. There was oedema of the face, with slight exophthalmos. There was also a considerable amount of hard oedema of the skin of the limbs. The pulse was small, hard, and beating at the rate of 80 per minute. The urine became quite solid on boiling; there were 7 grains of urea to the ounce. The patient was conscious, and complained much of occipital headache. Her abdomen showed signs indicating pregnancy at the seventh or eighth month. No fetal heart could be heard, but the patient thought that she could detect fetal movements. The fetal head was felt lying at the brim, and the back was to the front and left.

I took occasion to examine the patient soon after her admission, and I called the resident's attention to the fact that the part regarded as the fetal head was too soft for the head and too large for the breech. This observation is of special interest in view of the condition of the infant's head discovered at birth twelve days later.

The patient was put to bed between blankets, and was surrounded with hot bottles. She was given nothing but milk. The bowels were opened freely with compound jalap powder. Improvement began and continued for a week, the quantity of urine steadily increasing, and the headaches becoming less severe; then, however, the headache again got worse and was practically constant, and the eyesight became dim—at first a white cloud came over everything, and later everything seemed black. The ophthalmoscopic examination showed no distinct optic neuritis, but there was slight swelling of the right disc at the apparent lower and nasal quadrant, and the vessels were somewhat dilated; the pulse tension was high; there were slight labour pains; the amount of albumen in the urine increased to 1 grain per ounce, and the urea was estimated at 7 grains per ounce. The skin and bowels were kept acting freely, and the grave symptoms passed off. From the 9th to September 13th the patient remained in a fairly satisfactory state. Then labour pains came on, and at 4 a.m. on September 14th the os was found to be about three-quarters dilated, and through it a large soft presenting part could be felt; further examination disclosed bones with large membranous intervals in the part palpated at the os; the diagnosis of hydrocephalus was thus made, and the obscurity of the previous examination of the fetal presentation was cleared up. Labour went on satisfactorily, and the vault of the hydrocephalic head was born as a long sausage-shaped mass. The skin of the scalp was seen to be peeling off in various places, for the infant was dead. As there threatened to be some delay in the birth of the base of the cranium, Dr. H. J. Dunbar (one of the residents) applied the forceps, and with no great difficulty brought the head down. The infant, a female, weighed only 4 lb. 1 oz. From the degree of maceration it exhibited it may be concluded that it died either at the time when the eclampsia occurred (September 1st), or when the aggravation of symptoms took place (September 9th). The head was typically hydrocephalic, but there was no spina bifida or other malformation. The placenta showed one extensive hæmorrhage, situated centrally.

The patient recovered well from the delivery. No fits occurred at labour or in the puerperium, and the symptoms which had been so troublesome before delivery disappeared. Immediately before labour the albumen in the urine had been 1 grain per ounce and the urea 7 grains per ounce, and hyaline casts had been present. On September 15th (the day after delivery) the urine had a specific gravity of 1030, the urea was the same (7 grains per ounce), and the albumen was 0.86 grain per ounce. On September 20th the albumen had fallen to 0.12 grain per ounce, and the urea had risen to 8 grains per ounce. On September 25th the analysis was practically the same, and the specific gravity was 1015. On the 28th there was no longer any albumen, the urine was clear and without deposit, and the specific gravity was 1015. The patient left the hospital two days later, stating that she felt perfectly well. There was no oedema.

Case 3.

Mrs. Y., aged 35, was sent into the Royal Maternity Hospital on September 24th, 1905. She was pregnant for the third time. The history of her previous pregnancies was as follows: She gave birth to an eighth month child in December, 1903; it was dead-born. For three weeks before the confinement the patient

was troubled with swelling of the face and feet, so that she was unable to go about. She took her ordinary diet; her urine was not examined. Her second confinement occurred in October, 1904; it was at the sixth month, and the fetus was not viable. She never felt quickening in this pregnancy, and there was no swelling of any part of her body. She was now living in Portobello, and Dr. Titterton was called to attend her at the time of the immature labour; he examined the urine after the expulsion of the fetus.

The present pregnancy (the third) has the following history: The last menstruation was on April 7th, 1905. In June the patient began to suffer from severe headaches; her sight was dim at times, and she had some giddiness. She consulted Dr. Titterton, who examined her urine, and told her that her kidneys were affected. She was put on a diet consisting almost entirely of milk. About six weeks later Dr. Titterton told her that her water was all right again, and she began to take ordinary food, and continued to do so till September 18th, the day of the Royal Volunteer Review in Edinburgh. On that day she noticed that her legs and face were swollen, that her sight was dim at times, that the urine was very thick, and that she felt "as if she could not be bothered to do anything." The headaches had come back again. The doctor saw her. She was put to bed, and kept again on a restricted diet. During the following week the same symptoms continued, and the patient remained in bed. She noted the fetal movements which had occurred first at mid-term (she was now six and a half months).

She awoke on the morning of Sunday, September 24th, having slept soundly all night, and remembers seeing her husband making ready the breakfast. After that all was a blank to her till she regained consciousness in the hospital. Her husband said that without warning his wife took a fit; she did not cry out, but her face and limbs twitched violently. This occurred at 10 a.m.; a second fit followed at 11.30; a third took place at 4 p.m. when the patient was coming up in the ambulance to the Maternity Hospital; and a fourth supervened immediately after her arrival at 4.30. During the fit which occurred in the hospital chloroform was administered. The convulsions were of the usual eclamptic character, and were very violent. The tongue had been bitten in the preceding fit; and the patient's clothes were soaked in urine. Five grains of chloral hydrate were injected into the gluteus maximus muscle, and the patient was put to bed between blankets, with hot bottles around her, and near a large fire. She was quite unconscious, and was very restless, muttering constantly and incoherently. She was a strong, muscular woman, and she tossed about so violently that it was necessary to tie her down in bed, else she would have fallen over the edge.

There was slight oedema of the legs and face. The rings of the trachea were easily felt, showing that the normal hypertrophy of the thyroid gland was not well marked. She had an appearance slightly suggestive of myxoedema. The pupils were somewhat contracted and equal, and the lips were slightly cyanosed. The pulse was 100, and the artery was markedly contracted; the temperature was 98.2° F. An enema was administered, and a scanty, constipated motion resulted; she was then given 2 minims of croton oil in butter. The skin was quite dry, so after she had been an hour or two in the hospital she was put in a hot pack, but even this did not cause the slightest perspiration. About four hours after admission she became more restless and was given 10 grains of chloral hydrate by the mouth; this she swallowed fairly well, but as it seemed to have very little effect the dose was repeated in two hours. She then became quieter and had a fairly good night. It should be added that a pint of saline was infused subcutaneously during the evening.

On September 25th she was still semi-conscious. She could not be made to speak at all; she was restless, and kept tossing about and muttering occasionally. The skin was dry and the temperature 99°; the pulse was 100 and of high tension. Two small watery motions were the result of the croton oil. As it seemed to me that the case was one of the thyroid type, I ordered the administration of thyroid extract (10 grains) at 2.30 p.m. Two hours later the patient was fully conscious; she was perspiring freely; she could answer questions rationally, and realized where she was; and her pulse was distinctly softer in character. Five-grain thyroid tablets were now ordered to be given every four hours. The urine had a specific gravity of 1036; it showed a copious deposit of urates, and it went quite solid on boiling.

She was much better on the following day (September 26th). She had had two loose motions in the twenty-four hours, and had passed about 30 oz. of urine. She talked quite sensibly, and seemed happy. She was kept on a strict milk diet. She was still improving on September 27th. The tension of the pulse was not so high. Fifty oz. of urine were passed in the twenty-four hours; it still went nearly solid on boiling, and showed a copious deposit of urates. On September 28th, 70 oz. of urine were passed. On September 29th the improvement was maintained; the bowels were kept open with medicine. The urine had a specific gravity of 1030, and the albumen amounted to 1.2 grains per oz. She was feeling the movements of the fetus quite distinctly; and the fundus uteri was about the level of the umbilicus, for the pregnancy was nearing the end of the sixth month.

During the following fortnight (October 1st to 14th) the

patient continued to improve in every way. The specific gravity of the urine fell to 1020, and then to 1015, and the albumen diminished to 0.77 grain per oz., and then to a trace. She felt very well, and rebelled greatly against the strict milk diet. On October 10th it was thought to be safe to allow her a little porridge, toast, and milk pudding. She was passing 50 oz. of urine in twenty-four hours, and the bowels were being moved with the help of sulphate of magnesia. The thyroid tablets were still being taken. On October 17th the patient went home to be under the care of her own doctor. Her condition was satisfactory, although there was a slight trace of albumen. The oedema had entirely disappeared from her face, causing a somewhat striking change in her appearance.

In January, 1906, I obtained from Dr. Titterton the following further notes of the case. The thyroid treatment was continued, and the patient did well until October 24th, when Dr. Titterton was sent for, and found the os uteri dilating, the fetal head presenting, and labour going on. The fetus, placenta, and membranes all came away easily, and the patient recovered well. The fetus had evidently been dead for a few days. A trace of albumen continued in the urine for a week after the lochial discharge had stopped; but it then disappeared, and the patient was quite well.

These three cases illustrate the kind of treatment it is possible to give to pregnant patients attacked by eclampsia. In each instance we were able to save the life of the mother and to allow the pregnancy to go on—surely the ideal treatment of gestational eclampsia. In two out of the three cases the patient was kept in the hospital until the labour came on, and in the third she was allowed to go home to be under the care of her own medical attendant. In the last-named instance I was influenced, no doubt, by the dislike I have to keeping pregnant women for a long period of weeks in ordinary maternity wards filled with puerperal patients. On the other hand, if she had stayed in, it would have been possible to have kept a more strict supervision of her diet, of the state of the urine, etc., than could be done in private practice. The death of the infant in the third case was disappointing, but, on the other hand, its survival in the first case was most satisfactory, almost surprising if its size and condition be taken into account. The infant in the second case was, as has been stated, hydrocephalic. In all the three patients recovery was complete, as is proved by reports received some months later. It is also to be remembered that these were cases of eclampsia in pregnancy, not simply of albuminuria the precursor of eclampsia.

ALBUMINURIA IN PREGNANCY.

Cases of albuminuria in pregnancy ought to be most successfully dealt with in a pre-maternity hospital, and no doubt in the future they will constitute the majority of the patients treated therein. As a matter of fact, there have not been many cases of this morbid form of gestation occupying the Hamilton Bed. The reason is not far to seek; it is difficult to persuade patients suffering from albuminuria to submit themselves to hospital treatment; they do not feel sufficiently ill, and their friends and relatives see no cause for their removal from home. As soon, however, as eclampsia declares itself, the friends are ready enough, nay urgent, to have the patient transported to the hospital. This is to be regretted, for there can be no doubt that it is much easier to prevent albuminuria leading on to convulsions by proper and simple treatment than to save the mother and the infant in a pregnancy complicated with eclampsia by any means of treatment. I may here refer briefly to a case of albuminuria which was treated in the Hamilton Bed while I was acting as assistant physician in Professor Simpson's quarter in 1902.

The patient, a dairymaid, 20 years of age, was admitted to the hospital on November 9th, 1902. She had arrived at five and a half months in her first pregnancy. For three weeks she had noticed swelling of her hands, and about five days before admission her friends had observed that her face was swollen. There had been no headache, no sensory phenomena, and no noticeable diminution in the amount of urine passed. She had been in the habit of drinking much milk. On examination there was found to be marked oedema of the lower limbs and a swollen distended and tender state of the labia, especially the right labium majus. The back also was dropsical, and so was the right hand. The face was puffy and pale. There were the usual signs of pregnancy, and the fundus uteri was felt lying two fingerbreadths above the umbilicus. There was marked oedema of the abdominal walls, and the exact life of the fetus could not be made out, but the fetal heart was heard (rate, 160) on the right side, below the level of the umbilicus. The examination of the urine showed the presence of albumen, 14 grams per litre; the urea measured 2 grains per ounce.

On admission, the patient was put on a rigid milk diet; the bowels were moved by means of castor oil, and a Southey's tube was put in the right labium. On November 10th the urea had increased to 3 grains per ounce, the albumen measured 1½ grains per litre. Five grains of thyroid extract were given night and morning; this was continued for a fortnight. The bowels were kept acting freely by means of Henry's solution. On November 18th the albumen had fallen to ½ gram per litre, and ten days later there was only a trace. The oedema rapidly diminished. The temperature was normal, and the pulse-rate slow (60 to 70). On December 1st the red blood corpuscles numbered 4,512,000, and the white 9,266; there was 30 per cent. of haemoglobin. She left the hospital on December 5th; the oedema had almost disappeared. She was now more than six months pregnant. She felt quite well. The fetus was alive.

OTHER MALADIES OF PREGNANCY.

About 40 cases, in addition to these I have reported, have been treated in the Hamilton Bed since its establishment. I may refer to some of those dealt with under my own care. There was, for instance, a case of pseudo-angina with extremely curious and enigmatical symptoms and signs; the nervous symptoms improved markedly after labour. This patient was in the hospital for nearly a month during October, 1905. Her child was born with a supernumerary auricle on the left side of the neck just above the clavicle. Another interesting case was one of old-standing hemiplegia with contractures; she was under observation for some time. Her infant also had a malformation—two congenital teeth in the lower jaw. This association of malformations in the infant and maternal nervous maladies has been noticed by me before. Then, again, there was a case of prolapse of the pregnant uterus at the sixth month. The displaced organ was replaced with some difficulty and a pessary inserted. The support, however, was insufficient, and so the patient had to be kept in bed and the vagina had to be packed daily; at a later date the pessary sufficed; and at a still later the patient was allowed to go home, the displacement not having recurred. Yet again there have been several anxious cases of heart disease complicating pregnancy, and calling in one instance for the induction of premature labour; the infant in this last-named case only lived for one month.

Other maladies have been treated, such as myxoma of the chorion, threatened abortion, accidental haemorrhage, grave anaemia, hyperemesis, and hydramnios; but, as these were dealt with during the terms of office of my colleagues, I shall not refer to them. I regret that some degree of confusion seems to have been present in the minds of some of our resident physicians as to the nature of the cases that might find admittance to the Hamilton Bed. The very fact that a patient was in labour at the time of admission to the hospital ought, of course, to have debarred her from treatment in a bed set apart for the diseases of pregnancy; and yet in the official case-book I find details of several cases of eclampsia which seem to have been in labour either at the time they were received into the hospital or within a few hours afterwards, and I notice one case of ruptured uterus which came in after labour had been going on for hours. Obviously it is impossible to form correct notions regarding the effect of preventive treatment in pregnancy in such cases. Again, I hardly think that it is wise to include cases which have been waiting in hospital for a few days before the induction of premature labour by such methods as the bougie or the hydrostatic bag. These considerations and others which have forced themselves upon me during the past few years have led me to make the following suggestions: First, in respect to pre-maternity beds in maternity hospitals, and, secondly, in regard to pre-maternity wards or pavilions or hospitals. I may add that apparently no patient has died in the Hamilton Bed during the progress of her pregnancy; but there have been a number of deaths within longer or shorter times of delivery. There was, for instance, the case of Caesarean section, to which I have already referred; there were two of death after delivery in advanced cases of heart and kidney disease; there was one death after the performance of craniotomy in a patient with kidney disease; and there were several deaths from eclampsia, some of which should in no way be associated with the Hamilton Bed, for they were in labour when they were brought into the hospital, or they were in convulsions, which in a few hours induced labour pains. On the other hand, some of the most suc-

cessful cases of preventive treatment, such as the three patients suffering from eclampsia whose histories I have recorded above, were not entered in the case-book at all. The only reason which I have been able to discover for these irregularities was a notion in my resident physicians' minds that all Hamilton Bed patients required to be seriously ill, and that the Hamilton Bed case-book was mostly for the recording of disastrous eclampsias.

From the experience I have had of the treatment of patients in the Hamilton Bed I would make the following suggestions:

SUGGESTIONS FOR PRE-MATERNITY BEDS IN MATERNITY HOSPITALS.

1. The pre-maternity bed or beds should be strictly reserved for the reception of cases of morbid pregnancy.

2. If a patient suffering from one of the maladies of pregnancy pass into labour within forty-eight hours of her reception into the pre-maternity bed she shall not be regarded as a pre-maternity case, for, obviously, such a brief stay does not permit of any satisfactory attempt towards the effective treatment of her malady.

3. The pre-maternity beds should be placed in a ward by themselves, and should not be located in the ordinary ward used for the puerperal patients.

4. A sister should be in charge of these beds who has had a surgical and medical as well as an obstetric experience, for the nursing required will in most instances be more strictly medical or surgical than obstetrical.

5. No attempt should be made to adapt the diet of puerperal patients for the use of the pre-maternity patients, for, as a general rule, the latter require quite different food.

6. Special case-taking forms should be used for the pre-maternity cases; it is unsatisfactory to attempt to utilize the back leaf or the margins of the ordinary forms or charts for the noting of the many clinical details which are of value and which ought to be recorded in such cases.

7. A special case-book should be kept in which every patient who has been in the pre-maternity bed for a period of more than forty-eight hours should be entered. If this is not done patients may enter and pass through the hospital and leave no record behind them at all. If, for instance, a patient suffering from hyperemesis gravidarum or from retroversion of the pregnant uterus be treated successfully in the pre-maternity bed, she will probably not remain in the hospital for her delivery, but will leave at once for her home. This has happened on several occasions in my quarter in the hospital, and some interesting material has thus been lost.

8. In pre-maternity cases special attention should be paid to urine analysis, to examination of the blood and nervous system, to ophthalmoscopic investigations, and to a detailed and thorough examination of the signs and symptoms of pregnancy, including estimations and descriptions of the fetal heart and of the fetal movements. (During the past three years one of my resident physicians has made a special study of the blood in pregnancy and labour, while another has investigated the tendon reflexes, and yet another has made a series of urinalyses.)

9. Suitable cases for treatment in pre-maternity beds are pregnant patients suffering from albuminuria, heart disease, intractable vomiting, pulmonary disease, hepatic disease, anaemia and other blood disorders, and various nervous maladies, especially epilepsy, hystero-epilepsy, hysteria, chorea gravidarum, and paralysis. Diseases of the reproductive organs themselves, such as retroversion of the gravid uterus, threatened abortion, pruritus and oedema vulvae, uterine prolapse, cystocele, vulvar inflammation and abscess, uterine myomata as complications of pregnancy, and suspected ectopic gestation might all very properly be treated in pre-maternity beds. Hydramnios and other conditions (such as twins) leading to over-distension of the uterus might likewise derive benefit; and cases of suspected hydatid mole, of placental haemorrhage, missed abortion, or antenatal death or deformity might with advantage be kept under observation. Further, patients who have suffered in past pregnancies from "habitual" abortion, "habitual" fetal death or disease, "habitual" prematurity or postmaturity, or from eclampsia, might be dieted, kept at rest, or treated with medicinal means, etc., in future pregnancies, in order, if possible, to prevent the

recurrence of these reproductive disasters. Patients who are pregnant and have already suffered from eclamptic seizures are not so suitable for pre-maternity treatment unless it is clear that labour pains have not begun and show no tendency to begin; but even in these cases good results may sometimes be obtained, although conservative treatment after the occurrence of eclampsia is much less hopeful than it is during the pre-eclamptic stage when albuminuria alone is present.

10. Cases which are unsuitable for treatment in a pre-maternity bed would seem to be infectious fevers (scarlet fever, measles, typhoid, erysipelas, etc.) occurring as complications of pregnancy (these should go to the fever hospital), and cases of insanity (mania or melancholia) in pregnancy (these should receive asylum treatment).

11. It is doubtful whether cases of syphilis should be dealt with, but I think that patients suffering from gonorrhoeal vaginitis and vulvitis might be taken in and treated during their pregnancies. Alcoholism and dipsomania in pregnant women might perhaps be regarded as suitable for treatment, but actual delirium tremens should find a home elsewhere until the acute symptoms have passed.

SUGGESTIONS FOR PRE-MATERNITY WARDS OR HOSPITALS.

1. The pre-maternity hospital or ward should be connected with the maternity hospital, but should not be included in it; there should, where practicable, be two buildings connected by a covered passage or gallery.

2. The pre-maternity portion should resemble closely an ordinary general hospital in its construction and arrangement rather than a maternity hospital.

3. The management of the pre-maternity should be kept as far as possible distinct from that of the maternity. The nursing, the diet, the regimen, and to some extent the medical treatment required all differ from those in use in a maternity hospital.

4. The special details of diagnosis and treatment which have been referred to under the pre-maternity bed could all be carried out, and ought to be carried out, in the pre-maternity hospital or ward.

5. The same cases which were enumerated as suitable for treatment in a pre-maternity bed will, of course, be fit and proper cases for a pre-maternity hospital; but, in addition, pregnant patients suffering from syphilis might be received in a special ward, and more attention might, perhaps, be paid to the alcoholic cases.

6. There should be a resident physician whose business it would be to take charge of the pre-maternity hospital. The physician of the maternity hospital would make a visit each day, and there might profitably be a consulting physician and surgeon for the pre-maternity. It would be of immense advantage if young graduates, such as Carnegie Fellows or Scholars, would take up the investigation of problems of metabolism, of excretion, of circulation, etc., in pregnancy; the work could be done in connexion with pre-maternity hospitals, but actual residence of the workers would not be necessary.

7. The supervision of labour would always be the signal for the transference of a patient from the pre-maternity to the maternity hospital; the patient's record would go with her, and would serve as a guide for treatment and diagnosis in the other part of the building. It may be found to be an advantage to give beds to patients awaiting the induction of premature labour for contracted pelvis; during their stay in the pre-maternity hospital they could be under close medical observation, and unsuspected morbid states of kidneys or of lungs, etc., might be detected; the exact age of the pregnancy might also be calculated, and possibly the early stages of the induction might even be carried out in the pre-maternity. At the same time, the pre-maternity hospital is essentially for the reception of morbid pregnancies.

REFERENCES.

- ¹ Rep. Proc. Nat. Conf. Infantile Mortality, London, 1906, p. 155.
- ² BRITISH MEDICAL JOURNAL, vol. II, 1907, p. 421.

CIGARETTE LEGISLATION.—According to the New York *Medical Record* the Supreme Court has declared the anti-cigarette law passed by the last Illinois Legislature unconstitutional on technical grounds. The law as passed contained provisions not enumerated in its title and did not prohibit the sale of cigarettes containing "pure tobacco."