tissue in the walls of the intestine suggest that thoughts may arise in a man's bowels as well as impulses suggesting ideas; indeed, Menenius Agrippa's famous fable of the Belly and the Members may have more foundation in fact than the retort of Balaam's ass.

THE TECHNIQUE OF PYLORECTOMY.

When the conditions are favourable, excision of the pylorus, to surgeons accustomed to intestinal operations, is a simple matter. Favourable conditions mean a narrow and elongated pyloric segment of the stomach and the absence of adhesions between the pylorus and the liver, or the pancreas, or the transverse colon. The disparity in thickness of the gastric and duodenal walls is embarrassing to the operator, but with practice the difficulty disappears. Extensive adhesions to the pancreas or to the liver are a bar to pylorotomy. The supra-ampullary segment of the duodenum is occasionally much shorter than usual and makes the suture of the cut end of the stomach to the duodenum a difficult proceeding. In the method I employ, the abdomen is opened by a median supra-umbilical incision. The parts in the neighbourhood of the pylorus are examined in order to verify the diagnosis. The condition of the stomach is investigated as well as that of the gall bladder. When the conditions are favourable for pylorotomy, the vessels are clamped and stripped from the pyloric region of the stomach, and the loose tissue between the supra-ampullary portion of the duodenum and the pancreas carefully detached, and all bleeding vessels secured with forceps. When the pylorus is sufficiently freed from its attachments a clamp is applied to the stomach, about 5 cm. from the pylorus; the duodenum is clamped beyond the situation of the ulcer, and the pylorus excised. This is the best stage of the operation in which to ligature the vessels as they are well exposed and easily accessible.

The cut edges of the duodenum and stomach are sutured in the manner of an end-to-end anastomosis. I always use thin sterilized silk for this purpose and for ligatures. It is tedious and unnecessary to describe in detail the methods available for sewing the cut end of the duodenum to the hole in the stomach. It is like stitching a sleeve in a shirt; the clever sempstress varies her methods according to the material and the size of the garment. So with the surgeon. In a case of extensive resection (Fig. 3) the line of suture in the stomach was 6 in. across. Not wishing to imperil the safety of such a long line of suturing by joining the duodenum to it, I implanted the cut margins of the duodenum into a fresh opening in the posterior wall of the stomach.

In spite of the careful ligature of vessels, there is usually some post-operative oozing from the tissues in the wound area, and it is wise to drain for forty-eight hours. The abdominal wound is closed with through-and-through sutures, the fascia being brought into apposition with intermediate sutures of thin silk.

The first patient I submitted to pylorotomy for duodenal ulcer was a woman, aged 35, at the Middlesex Hospital, in 1909. Gastro-jejunostomy had been performed three months previously, but the pain remained unrelieved. I excised the pylorus and the segment of the duodenum containing the ulcer. She made a quick and uneventful recovery. I have since lost sight of this patient. A few days later, when operating on a man for a duodenal ulcer, I found the conditions so favourable for pylorotomy that I excised the pylorus and the bulbous duodeni with the ulcer. Six years later I re-examined him with the help of *x* rays and an opaque meal and found the gastric efflux satisfactory.

I have excised the pylorus for chronic duodenal ulcer, according to the method just described, in twenty patients. In three of them I had previously performed gastro-jejunostomy. In one the symptoms returned three months after the gastro-jejunostomy, in another six years, and in a third two years. One patient, the sixteenth in the series, died. He was a man aged 38, transferred from Dr. Wynter's ward, with typical symptoms of chronic duodenal ulcer. At the operation an ulcer was found close to the pylorus on the anterior wall of a well-marked bulbous duodeni. I departed from my usual method and sewed the cut edges of the mucous membrane with catgut. The man made good progress until the fifth day, when his temperature rose to 103°. He died on the nineteenth day after the operation. The suture line had sloughed in

two spots. I attributed the unfavourable result to the use of catgut.

SUMMARY.

Since the treatment of duodenal ulceration passed into the province of surgery it has become the routine practice to perform gastro-jejunostomy for its relief, in the hope that, by diverting the chyme through the new stoma into the jejunum, the ulcer will heal. If the pylorus is obstructed by the ulcer the results are usually good, because the chyme must flow through the new stoma, but when the pylorus is patent the chyme flows through it, and in some instances ignores the new route. This is not imagination, for the efflux can be watched with the help of an opaque meal and *x* rays. I believe it is better, whenever practicable, to excise the pylorus with the ulcerated portion of the duodenum and rejoin the stomach and duodenum on the principle of an end-to-end anastomosis. If this method could be made safe, gastro-jejunostomy for the relief of chronic duodenal ulcer with an *unobstructed* pylorus would soon be abandoned.

Experience proves that posterior gastro-jejunostomy with an *obstructed* pylorus is a beneficent operation, in spite of the risk the patient runs of getting a new ulcer for an old one. The new ulcer has been evolved during this generation by alterations in the environment of the jejunum brought about by surgery.

ANTENATAL CLINICS AND PREMATERNITY PRACTICE AT THE EDINBURGH ROYAL MATERNITY HOSPITAL IN THE YEARS 1909-1915.

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(Continued from p. 236.)

Autumn Quarter, 1914.

THE autumn quarter of 1914 saw 40 patients pass through the prematernity ward. Of these women, 7 were admitted for "convenience," and in this year "convenience" meant generally that these expectant mothers were the wives of Reservists and Territorials who had been summoned to the colours on the outbreak of the war. Even in these cases, however, it was a comfort to be able to make certain by actual pelvimetry that the pelvis was normal and the chief bodily systems healthy. Seven other women were kept in the ward on account of pelvic contraction; in 5 of them induction of premature labour was carried out, 1 was sent home as the date of induction was not due for some time, and in 1 (on whom it had been necessary to perform pubiotomy before) there appeared to be a permanent enlargement which permitted the natural delivery of a living child. In one of the induction cases living twins were brought into the world, but both died when two days old; in 2 the child lived, and in the other 2 it perished (in one instance antenatally and in the other after birth). In all these induction cases it was a great advantage to be able, daily if necessary, to test whether the head could engage in the pelvic brim by means of the Müller manoeuvre; thus the best time for induction could be chosen. There was one other woman upon whom induction was performed, but in her case the operation was carried out because of the large size of her previous babies, causing their intranatal death; a living child weighing 7 lb. was successfully delivered and survived.

An interesting case was that of a woman whose previous four children had all been dead-born. She was sent in because she was becoming melancholic. For four weeks she was kept in hospital and her various functions regulated. At the delivery the cord was round the neck and arms, but a living and surviving child was born and the melancholia rapidly disappeared. Two other women were admitted on account of melancholia. One of them had albuminuria and suffered from condylomata of the vulva, but her blood gave a negative Wassermann reaction; the albuminuria was treated and she was safely delivered of a healthy infant. The other patient had signs of pyelitis

but was delivered normally, and the only sign of mental trouble after labour was shown by the fact that she had got out of bed one night and burst the sutures which had been put in to close a small perineal tear. Two other cases of albuminuria received dietetic treatment, etc., in the ward, and both were successfully delivered and had living and surviving infants. Another patient, in addition to the one named above who suffered from melancholia, was believed to be the subject of pyelitis, and she certainly exhibited some of the signs and symptoms thereof; but she was very discontented in the ward, and went home at her own wish before her delivery.

Hyperemesis Gravidarum complicated by Pyelitis.

This was the only case which terminated fatally to the mother. The woman was a 2-para, 21 years of age; her previous pregnancy and labour had been normal. On admission, when in the seventh month of gestation, she was pale, had marked carotid pulsation in the neck and in the external jugular vein, a small and rapid pulse, but regular and with no diastolic murmurs, and systolic bruits could be heard in all the cardiac areas. The heart was enlarged, especially to the right side. The only heart symptoms were faintness and giddiness if she suddenly assumed the erect position. There was an irritable cough, troublesome at night, and to it was ascribed the vomiting; the examination of the lungs revealed harsh breath sounds but no other anomalies. Before admission she had been seized with numerous rigors, by pain over the right kidney, and by sickness and vomiting. She was treated for pyelitis by her own medical man, but the vomiting and pain over the kidney continuing, he sent her into hospital. There was a trace of albumin in the urine, and a culture of the *Bacillus coli* was obtained from it. She had a temperature of 102.4°, and a pulse-rate of 120. She was put to bed, and an enema was given; milk diet was ordered, and she was given cystopurin and potassium citrate for the renal condition and two kinds of sedative cough mixture, but the latter remedies had to be stopped because of increased sickness.

All the symptoms, save the vomiting, disappeared, and even the sickness was improved. Three weeks after admission she passed into labour, and was delivered of a macerated fetus weighing 4 lb. 6 oz. The placenta was very friable and had numerous infarcts in it. Her recovery proceeded rapidly; she was able to eat and enjoy ordinary food, but on the fourth day of the puerperium she suddenly became blue in the face, sat up in bed for a few seconds, and fell back dead.

The post-mortem examination by Dr. Drennan revealed a dilated heart with a thin-walled right ventricle, emphysema of the upper lobes of the lungs but no embolism, healing septic nephritis of the right kidney, septic endometritis, and toxæmic changes in the other organs.

There were two other cases of vomiting. In one of these the woman gave birth to a macerated fetus and recovered; in the other the hyperemesis (at the third month) was controlled by treatment, and after a fortnight's stay in hospital the woman returned home well and with her pregnancy continuing. There were two instances of diarrhoea, in both of which a few days' treatment in the hospital sufficed for cure, and the women went out, their pregnancies uninterrupted. There was also a severe case of

Gastric Ulcer.

The patient, a 1-para of 24 years, was in hospital for eleven weeks in all; at the end of the eighth week she gave birth to a living male child, weighing 8 lb. 2 oz., and notwithstanding many dangerous times (on one of which she had a temperature of 106° and a pulse-rate of 136), she recovered and was able to leave the hospital. Her child also thrived well. Her case will probably be published separately, as it was one of much interest. It was the most anxious one during the quarter.

The remaining cases may be summarized as follows: Two heart cases, one of which resulted well for both mother and child, whilst in the other abortion had to be induced with the loss of the fetal life; a case of epilepsy, in which, after a week's stay in the ward, the mother returned home to await her confinement; a marked case of chorea gravidarum in which treatment with large doses of calcium chloride for a fortnight was sufficient to enable the woman to return to her home (the pregnancy continuing); a case of phlebitis affecting both legs, in which after six weeks' stay in hospital labour came on with the birth of a living child weighing 9 lb. 10 oz., and in which there was a threatening of a return of the phlebitis in the puerperium; 2 cases of cystitis—one accompanied by a threatened abortion—in both of which the patient was able to leave the hospital relieved (pregnancy continuing); a case of post-partum hæmorrhage in a previous labour, in which there was again hæmorrhage, kept in check by an intrauterine hot douche and pituitrin and ergotin; a case of vulvo-vaginitis and urethritis, under treatment

for a month, in which the child was born prematurely and succumbed a few days later; a case of spurious pains, in which twins of the same weight, which survived, were born four days after admission; a case of injury to the abdomen in which the fetal heart for a time was 180 per minute and the movements very active; and a case of miscalculation of the date of delivery or possibly of post-mature labour. There was, finally, a very interesting case of a woman who possessed only one kidney, and upon whom the phenolsulphone-phthalein test was carried out and gave so satisfactory a result that it was decided to allow the pregnancy to proceed. This case also will probably be published separately.

As a result of prematernity work in the autumn of 1914, 40 mothers passed through the ward, of whom 39 recovered or left relieved, their pregnancies continuing, whilst one—the case of hyperemesis, dilated heart, and pyelitis—died from heart failure in the puerperium. Of the 29 mothers who remained in hospital for delivery there were 31 infants born (twins twice); 23 of these were living at birth and survived, whilst 4 were born dead and 4 more died a few days after birth. Eleven mothers left to be confined in their own homes.

Autumn Quarter, 1915.

The patients who received prematernity treatment in the autumn quarter of 1915 were more numerous but perhaps less interesting than in any previous year. In all they numbered 44; but one who was sent in as a pregnancy was found to be really a case of pseudocyesis, and thus the pregnant patients were reduced to 43. No less than 9 of them were admitted for causes which are difficult of definition, but which may best be denominated "convenience," including under that word poverty, homelessness, desertion by husband, and minor troubles. One of them, a girl of 16 years, was kept in the ward, as it was possible that medico-legal proceedings might be instituted after her delivery.

No case of eclampsia was dealt with in the prematernity ward (there were 8 cases of eclampsia during the quarter, but none of them entered the hospital until labour was in progress), but there were 9 women who were treated on account of marked albuminuria with pre-eclamptic symptoms. They were not the only albuminuric patients who received treatment, but they were the only ones who got it before delivery. Of the 9, 5 were confined in the hospital during the quarter, 3 of them having living and surviving babies (one with a harelip and cleft palate), and two expelling dead fetuses. Three went out of hospital with their condition much improved, and with pregnancy continuing. The other albuminuric was still in hospital at the close of the autumn quarter; she was confined prematurely about a month later, and died immediately after the third stage; there was no post-partum hæmorrhage, but her symptoms resembled those of "shock." She had exhibited marked signs of hypothyroidism during her pregnancy. She and two others of the albuminuric patients had had eclampsia in a previous confinement. Her baby (premature) died soon after birth.

The patients admitted for "convenience" and for albuminuria constituted 18 out of the total of 43. The causes for which the remaining 25 were admitted differed very widely. There were 3 cases of hyperemesis; in all of them treatment was so satisfactory that the mothers were able to return to their homes, their pregnancies proceeding normally. There was also a case of vomiting late in pregnancy in a very anaemic woman; but under treatment (iron, etc.) she was safely delivered of a living and healthy child, which weighed 6 lb. 9 oz. There were 3 cases of threatened abortion in which the miscarriage was staved off, and one in which, although the abortion was prevented at the time, it occurred a month later. There were two instances of hydramnios, in one of which the membranes were artificially ruptured and a macerated fetus was expelled; whilst in the other the same treatment resulted in the premature birth of twins, who did not long survive birth. The two mothers did well. Three women were in the ward on account of pelvic contraction; in one of them pregnancy was allowed to go to the full term, and I performed Caesarean section with a happy result for both mother and child; in the other two premature labour was induced, and whilst one of the infants survived, the other died in a few days. One pregnant

woman was admitted because in previous gestations she had given way to drink in the last month; she was kept out of temptation's way in the hospital, and both she and her infant did well.¹ Another woman was admitted on account of a sharp attack of *Bacillus coli* infection of the urinary tract; she had had a retroversion of the gravid uterus which had been replaced accidentally before admission; both she and her child did well. In 2 cases the cause of admission was *ante-partum* haemorrhage; in the one ("accidental haemorrhage") a month's residence in the hospital was followed by the birth of a healthy child, which survived its birth, and in the other, after ten days' rest in the ward, the mother was able to go home, her pregnancy continuing normally. In 6 other cases the cause of admission to the prematernity ward was severe constipation (1), oedema of the labia (1), cystocele and prolapse (2), and vaginitis (2); in all a good result was obtained—4 of the women were delivered of living children and the other 2 were able to return home with their pregnancies continuing.

Two other cases remain to be referred to:

Heart Disease.

One was that of a delicate primipara, who spent several longer and shorter periods in the ward; she suffered from recurring attacks of faintness and of actual syncope, and auscultation revealed a systolic aortic murmur. She was more or less under treatment for the whole quarter, and she continued to attend the hospital until November 23rd, when she was safely delivered of a healthy child (6lb. 12 oz.), and both mother and child did well.

Cerebellar Tumour.

The other case was that of a primipara, a married woman, who was suffering from the effects of a cerebellar tumour. She was in the ward when I came on duty on July 1st and her condition was deteriorating fast; indeed, before her delivery occurred she became quite blind and deaf; she gave birth to a living healthy child on July 5th, but died on the eighth day of the puerperium. Although so helpless when her infant was born, she was evidently able (by the look upon her face) to tell what had happened, and it was a touching sight to see her holding the baby in her arms.

The results of the prematernity work in the autumn of 1915 may be summarized as follows: Of the 43 pregnant women 12 left the hospital cured of the trouble for which they had been admitted and continuing their gestations, and 31 were delivered in the hospital, of whom 29 made good recoveries and 2 died, one being the patient with the cerebellar tumour and the other being the albuminuric patient who had in a previous labour suffered from eclampsia. The 31 mothers who were confined in the hospital gave birth to 32 children (twins once), of whom 24 left the hospital alive, 4 were macerated at birth, and 4 (all premature) died a few days after birth.

Table showing the Main Results of the Prematernity Work during the Autumn Quarter for the past Seven Years in the Edinburgh Royal Maternity Hospital.

Years.	No. of Cases.	MOTHERS.			INFANTS AND FETUSES.		
		Lived.		Died.	Alive.	Dead.	
		Undelivered.	Delivered.			Antenatal.	Postnatal.
Autumn of—							
1.09	32	7	24	1	16	8	2
1910	29	12	17	0	14	2	1
1911	26	5	20	1	16	7	0
1912	36	2	33	1	17	17	3
1913	32	4	26	2	21	5	4
1914	40	11	28	1	23	4	4
1915	43	12	29	2	24	4	4
Totals	238	53	177	8	131	47	18

With regard to the 8 maternal deaths, 2 only (those due to croupous pneumonia and acidosis) really occurred while the patient was in the prematernity ward; the remaining 6 all took place after delivery, and 2 of them after my quarter on duty in the hospital was over; at the same time they were all, save the cases of croupous pneumonia and cerebellar tumour, due directly or indirectly to the state of pregnancy (hyperemesis, acidosis, albuminuria with hypothyroidism, phlebitis, and gastric ulcer).

The number of fetal deaths is high—47 out of 196—but it must be remembered that I have included all the abortions (and one was a triplet miscarriage), for every abortion is really a fetal death; and I would also emphasize the serious nature of so many of the maternal states. The number of infants who perished after birth (including premature births) is not, I think, large when all the circumstances are taken into consideration; it was 18 out of 149 who came into the world alive. Fifty-three pregnant patients (out of 238) left the hospital with their pregnancies continuing, and there is reason to believe that most of them ended happily, although details were not always available; the conditions for which they had been admitted and treated were generally of the nature of threatened abortion, excessive vomiting, accidents (falls, etc.), varicose veins, diarrhoea, retroversion of the uterus, cystitis, and spurious pains. One of the most striking results of the prematernity work was the treatment which it was possible to give to 31 mothers suffering from well-marked albuminuria. In only one of these cases did eclampsia develop, and that was in one of the 1909 patients before I had learnt that more than dietetic management was necessary. None of these patients died whilst under my care; but one in which there was a strong element of hypothyroidism ended fatally in the third stage of labour in the succeeding quarter.

CONCLUSIONS.

The following conclusions may, I think, safely be drawn regarding prematernity work in a maternity hospital:

1. A prematernity department is an essential part of a properly-equipped maternity hospital, and it ought to consist of a pregnancy ward, antenatal clinics, and of prenatal nurses (in the extern work).

2. Among the good results coming from it may be reckoned the saving of lives (maternal and infantile), the relief of maternal suffering, the possibility of supervising antenatal hygiene, and the teaching of the normal and abnormal conditions of pregnancy both to students and to post-graduates.

3. The maternity hospital which has such a department will probably have a higher death-rate, for it will inevitably attract to itself cases of a very grave type; but these patients must be treated somewhere, and they will have a far better chance of recovery in the prematernity ward with adequate nursing and skilled medical treatment than in their own homes.

4. The diseases which will be specially benefited by prematernity treatment will probably be albuminuria, eclampsia before the supervention of labour, hyperemesis, chorea, acidosis, threatened abortion cardiac complications, anaemia, chlorosis, hydramnios, phlebitis, pyelitis, and the *ante-partum* haemorrhages before the onset of labour; but the ward will also offer advantages to patients waiting for the induction of premature labour on account of pelvic contraction or previous dead-births from any cause. Less common indications for admission will be found in melancholia, alcoholism, jaundice, gastric ulcer, myxoedema, mucous colitis, phthisis, recurrent abortion or fetal death, haematuria, injuries, etc.; and, indeed, many other uses for the ward will be found after its opening.

5. Further benefit will accrue from the establishment of a well-equipped laboratory, in which the finer methods of clinical investigation can be carried out, as well as by the securing of the services of a pathologist skilled in the special morbid anatomy of the fetus, embryo, placenta, membranes, and liquor amnii.

REFERENCE.

¹ Alcoholism and Antenatal Hygiene, *British Journal of Inebriety*, 1915, xiii, p. 87.

ACCORDING to the *Riforma Medica* the total number of legally qualified doctors in Italy is 22,705, a proportion of 6.3 to 10,000 of the population of the country. The number of foreign practitioners is about 130. Of these some 85 hold an Italian degree which gives them a general right to practise; 25 who have no Italian licence can practise only among patients of their own nationality, and 20 who hold diplomas from British licensing bodies are entitled to practise under the reciprocity agreement between the two countries.