

If a urine which reduces Fehling is not fermented by ordinary yeast we cannot, therefore, come to the conclusion that it is a case of lactosuria.

Detection and Determination of Lactose by our Mycological Method.

This method can be carried out in various ways. Herewith a few mycological formulae as an example:

- I. *B. neapolitanus* Emmerich + } =Lactose.
- B. pseudoasiaticus* Cast. 0 }

The explanation lies in the fact that *B. neapolitanus* and *B. pseudoasiaticus* differ only in lactose as regards sugars and other carbohydrates found in pathological urines.

II. In a Fehling-reducing urine, for practical purposes, the following formula is also correct:

- B. coli* Escherich + } =Lactose.
- B. paratyphosus* B, Schottmüller 0 }

B. coli and *B. paratyphosus* B, besides lactose, differ in their action on raffinose and salicin, but raffinose and salicin are not carbon compounds found in the urine, and at any rate they are not Fehling-reducing, and therefore this formula may be considered to be specific for practical purposes.

- III. *Monilia metalondinensis* Cast. 0 }
- B. coli* Escherich + } =Lactose.
- B. paratyphosus* B, Schottmüller 0 }

The technical details for carrying out the test are identical with those already mentioned in connexion with the search for saccharose, etc.

ADDENDUM.

For the reader's convenience we quote here some of the principal mycological formulae which we have devised and employed for the detection of certain sugars and other carbohydrates in pathological urines.

Urine Fehling-reducing.

- 1. *Monilia balcanica* Cast. + =Glucose.
- 2. *Monilia balcanica* Cast. 0 } =Levulose.
- Monilia krusei* Cast. + }
- 3. *Monilia krusei* Cast. 0 } =Maltose.
- Monilia pinoyi* Cast. + }
- 4. *Monilia pinoyi* Cast. + } =Maltose.
- Monilia parachalmeri* Cast. 0 }
- 5. *Monilia pinoyi* Cast. 0 } =Galactose.
- Monilia metalondinensis* Cast. + }
- 6. *Monilia pinoyi* Cast. 0 } =Galactose.
- Monilia parachalmeri* Cast. + }
- 7. *Monilia metalondinensis* Cast. 0 }
- Bacillus coli* Escherich + } =Pentoses.
- Bacillus paratyphosus* B, Schottmüller. + }
- 8. *Monilia pinoyi* Cast. 0 }
- Monilia parachalmeri* Cast. 0 } =Pentoses.
- Bacillus coli* Escherich + }
- Bacillus paratyphosus* B, Schottmüller. + }
- 9. *B. coli* Escherich + } =Lactose.
- B. paratyphosus* B, Schottmüller 0 }

Urine not Fehling-reducing.

- 1. *B. coli* Escherich 0 } =Saccharose.
- B. pseudocoli* Cast. + }
- 2. *Monilia pinoyi* Cast. 0 } =Saccharose.
- Monilia rhoi* Cast. + }
- 3. *B. paratyphosus* B, var. M, Schottmüller + } =Inosite.
- B. paratyphosus* A, Schottmüller 0 }

+ = Production of gas; simple acid fermentation is not taken into account. 0 = No gas.

All the above formulae are easily understood when the biochemical reactions of the various germs used are kept in mind. These reactions may be found in papers we have already quoted.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, December 29th, 1917.

In accordance with the Government's decision to establish a central authority for the disposal of all surplus Government property, the Minister of Munitions has set up an organization for this purpose, consisting of a board, to be called the Surplus Government Property Disposal Board, and an advisory council. No property surplus to the requirements of the various Government departments will in future be disposed of except through, or by arrangement with, the Disposal Board. The departmental organization consists of seventeen sections, each with a controller responsible to the board and assisted by an honorary advisory committee. The controller of the section of medical stores, equipment, and instruments is Mr. W. J. Woolcock, O.B.E., M.P. Communications should be addressed to the Secretary, Disposal Board, Armament Buildings, Whitehall Place, S.W.1.

Reports of Societies.

THE TEACHING OF OBSTETRICS AND GYNAECOLOGY.

A DISCUSSION on reconstruction in the teaching of obstetrics and gynaecology to medical students took place at the meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on February 6th, when the president, Mr. JOHN D. MALCOLM, was in the chair. Dr. W. S. A. GRIFFITH opened the discussion with the general survey of the subjects to be taught and of the methods of teaching, which was published in the JOURNAL last week (p. 148).

The Standpoint of Preventive Medicine.

Dr. JOHN S. FAIRBAIRN, Obstetric Physician to St. Thomas's Hospital, said that midwifery and the diseases of women must be considered as two branches of one subject and studied clinically at the same time and under the same teachers. The student must not be allowed to put in his maternity courses at a time dictated solely by his own inclinations, and often independently of his gynaecological clerkship. For the training of students a medical school must provide (1) a complete maternity centre, with in-patient and out-patient accommodation for the pregnant woman, the woman in labour, and the mother and nursing; (2) a department for diseases of women; (3) a full staff of workers consisting of (a) medical—the visiting and resident medical officers, with their under-studies, the students; (b) nurses and midwives for indoor and outdoor patients; (c) almoners and health visitors for visiting the patients in their homes, for staffing the social and educative organizations for the mothers, and for forming the connecting link with outside agencies for the assistance of patients. During his time in the department, which at present is three months, the student should be taught not merely to look for the beginnings of disease and for warnings that might spell danger later, but to consider the individual character, mode of life, and home conditions of each patient as factors in her case. In the maternity ward the student, having already learnt the routine of surgical cleanliness in the operating theatre, would find no difficulty in applying it to the woman in labour. During the month spent in this ward all preventable conditions should be discussed—as to why they were not foreseen and what could have been done. It was useful to have a few pupil midwives attending the clinical instruction in the lying-in wards with the students; this afforded occasions for discussing the duties of the midwife and her relation to the medical practitioner, so that both the pupil, midwife, and the medical student learnt their respective spheres in the health service of the community. After this period the student should attend the rest of his cases in the district, where he would learn to adapt methods learnt under ideal conditions to circumstances which might be the reverse. Greater effort should be made to stimulate the interest of the student in the study of the baby; the question where the dividing line between obstetrics and pediatrics should be drawn was thus raised. There was something to be said for mother and nursing remaining under the obstetric department, and the weaning and older children under the children's department. At St. Thomas's Hospital it was proposed to appoint a special officer for the child welfare clinics; such an officer would begin by taking part in the teaching on the infant in the maternity ward, where he would become known to the mothers, and learn to know them, thus preserving continuity from the maternity clinic to the baby clinic. Only three or four beds for mothers and nurslings would be required, unless the department was very large. To these beds would be admitted cases of difficult breast feeding, and the like. Dr. Fairbairn urged that every student should have six months' training in obstetrics, gynaecology and pediatrics, the last three months being spent in the various children's clinics. Teachers had been so absorbed in operative work, and hospital accommodation so monopolized by operation cases, that the teaching material was in no way representative of the future practice of students. The mental attitude of teachers towards patients and their symptoms had lost balance and swung too far towards mechanical explanations—

displacements and kinks and hypothetical local affections—and mechanical cures by operations of the “pexy” and “ostomy” type in the devising and carrying out of which much ingenuity and manipulative skill had been expended. The resulting tendency had been to overlook the most common of all factors in the production of disability—overstrain and mental stress; the balance must be redressed. Gynaecological beds should be occupied by cases closely representative of general practice; the necessity of considering the psychological factor should be impressed upon the student, who should be taught to study and treat not merely the disease, but the individual patient and the special problem she presented.

The Standpoint of the General Practitioner.

Dr. LOVELL DRAGE said that the matter was only a part of the whole subject of the education of the medical man. There was an increasing demand upon the time of the student by the teachers of special departments, and where work was very specialized examiners were usually hard taskmasters. Time could be saved by the exclusion of the preliminary subjects, which should be undertaken before registration as a student. The student began the study of obstetrics and gynaecology with a course of lectures and instruction in the wards, after similar lectures and instruction in medicine and surgery. A very large part of gynaecology should be treated as part of the course in surgery. The teachers of midwifery and diseases of women should give special attention to the various infective agents. Judgement made all the difference in results, but it was difficult to know what course of training would produce this desirable quality. If students were not only trained but educated, a very short time would enable them to grasp all the details of obstetrics and gynaecology, and three months would be sufficient for them to give to preparation for the examination. It had been said that under the Ministry of Health many appointments connected with maternity and childhood would be created, and that it was the duty of medical schools to train people to undertake them; but it appeared to him that the work would be such that any sufficiently trained midwife would be able to undertake it. The practitioner who undertook it would find himself at a dead end; it would be ordinary hack-work conducted under rules and regulations, involving an immense amount of clerical work and a life of destructive stagnation. The one course, in which real education was attempted, would be attended by students who intended to practise in obstetrics; a second course, in which no more than training was given, would be attended by those who undertook to take up hack-work at maternity centres; students who did not intend to practise obstetrics would attend neither. The proportion of the fit to the unfit born into the world was probably about the same as it had always been, but the medical profession was preventing to a considerable extent the loss amongst the unfit, and it did not appear that the supervision of pregnant mothers would produce any other result than that of raising up to maturity more unfit persons. The production of a healthy stock depended upon the healthy conditions of the parents; the resistance to diseases depended upon factors at present little understood. The practical question was whether a large expenditure of public money was justified in the absence of any reason for supposing that a larger stock of healthy children, with a strong resistance to disease, would result.

Discussion.

Dr. AMAND ROUTH said that in a lying-in hospital the ante-natal clinic should obviously be an important part of the training of students and midwives, and should be attended by those actually engaged in their practical midwifery. Amongst the subjects to be taught were: the recognition of venereal disease and the recently proved safety of dealing with syphilis by salvarsan during pregnancy and after birth; the recognition of tests for early toxæmia, especially now that accidental hæmorrhage, with its 75 per cent. of fetal mortality, was believed to be often toxæmic in origin and might be preventable; pelvic contractions, both major and minor varieties; the significance of the previous maternity history of the mother and her children; such complications as heart and bronchial disorders, old kidney disease, diabetes,

Graves's disease, and pregnancy pyelitis. Labour, whether natural, prematurely induced, manipulative or operative, should be taught in the maternity wards, and knowledge should be imparted regarding lactation, and hand feeding where lactation failed. Students should be taught to assist in laboratory research of all kinds, such as special urinary tests for toxæmia, examination of all expelled products of conception for detection of spirochaetes and other causes of death, attempts to unravel the mysteries of toxæmia, and of the functions of the syncytial ferments, examination of milk, etc. Opportunities should be found for giving students information on the causes of sterility by malformations, gonorrhoea, or as the result of operations, plumbism, x rays, etc.; on the causation of the low birth-rate, such as sterility, criminal abortion, and methodical, chemical, or mechanical restrictions to child-bearing. The responsibility of doctors in cases of criminal abortion was a useful subject to learn before private practice began. In urging the necessity for better obstetrical teaching it was important to contemplate the fact that out of 1,000 conceptions probably 250 infants died during gestation and before their first birthday, and that this proportion of deaths was doubled in illegitimate cases. Dr. Drage's statement that “medical supervision would do no more than raise up to maturity more unfit adults” was extraordinary. There seemed every reason to believe that if the methods advised in the two addresses were carried out at least half the ante natal and early post-natal infantile deaths would be avoided, for doctors would be thoroughly equipped in the knowledge of the preventive hygiene of pregnancy, parturition, and the puerperium.

Dr. G. F. BLACKER held that the standard of teaching in obstetrics and gynaecology was on a lower level than that of other subjects because the teaching was largely done by junior officers, and the students seldom saw the obstetric physician perform an operation or deliver a case, or heard him teach in the ward. Five or six large special hospitals should be provided in or about London, equipped with pathological laboratories and staffed by senior whole-time paid teachers and assistants. There should be a four months' course, two of which should be devoted to gynaecology and two to obstetrics, and of these one should be for intern and one for extern work. The teachers must be engaged in original research, facilities for which should be supplied.

Dr. T. W. EDEN placed the responsibility for the poor-ness of teaching at the present time on the system of multiple hospitals. This arose from the over-staffing of the hospitals so that each member of the staff of one hospital found it necessary to seek additional clinical material in another. Moreover the clinical material in the hospitals was not representative of the future work of the students.

Dr. W. EARDLEY HOLLAND attributed the neglect of the student to (1) the claims of the midwife, who had absorbed most of the lying-in beds; (2) the apathy of modern gynaecologists towards ordinary work; (3) the idea that it was unnecessary to train the student to a high standard if this could not be maintained in after-life. That obstetrics and gynaecology should be treated as separate subjects was the opinion of a few who thought that by this means the obstetrician could devote more time to the baby; but he would like to see the infant taken over entirely from its birth by the pediatrician, who should also be responsible for the corresponding teaching and research. He disagreed with Dr. Drage with regard to ante-natal supervision. It permitted a diagnosis of the presentation, of the presence of syphilis, albuminuria, tumours, etc. Moreover, the mothers suffered from neglect of supervision as well as the babies.

Sir WALTER FLETCHER accentuated the importance of the teaching of the normal physiology of reproduction, including lactation, subjects at present imperfectly understood by the student, even at the time of his qualification.

Dr. F. J. McCANN advocated state subsidized maternity hospitals in London and throughout the country, and the adoption of the Continental system of whole-time resident assistants, paid a salary of, say, £500 a year. The appointment should be for five years, and the holders should travel for at least one month annually in order to bring back reports of the work in other schools. Means must be found to retain the poor man who had ability. The need had been accentuated now that the training of midwives and nurses had to be undertaken. Till such

hospitals were established London would not take its place as a leading teaching centre.

Dr. E. L. COLLIS, Director of Welfare, Ministry of Munitions, pointed out that now women were being employed industrially to such a great extent, students should be given definite instruction as to the amount and kind of work which a pregnant woman should be allowed to do, and should be put into a position to answer questions which might arise in the course of his work as medical officer to a factory.

Mr. VICTOR BONNEY said that teaching must be judged by its results. The maternal death-rate due to pregnancy and labour had remained constant for the past seventy years in spite of great progress in knowledge. Deaths still occurred from toxæmia and sepsis. Pregnancy was the growth of a neoplasm; labour was the occurrence of self-inflicted wounds; the puerperium was the healing of those wounds. A great proportion of deaths could be prevented by the application of surgical principles. He hoped to see the day when midwifery would be regarded as a subsection of surgery and taught as such.

Dr. H. WILLIAMSON preferred the clinical system to that in vogue on the Continent. Obstetrics and gynaecology should be studied simultaneously. Each student should be compelled to train for one month in a lying-in hospital before doing extern work, and should personally deliver four or five women under competent supervision. This instruction was now largely left to midwives. Every general hospital should have a lying-in ward, officered by a good teacher who knew his work. He did not agree that a large institution was necessary, for it would introduce the German system of lectures and demonstrations. Students should be examined by their own teachers, in the presence of an assessor if thought desirable. The three causes of failure were haphazard training, fallacious examination, and the absence of an atmosphere of research.

Dr. LAPHORN SMITH emphasized the necessity of impressing upon the student the importance of examining the urine to forestall eclampsia, and of wearing rubber gloves in order to prevent sepsis.

Lady BARRETT thought that at least six months should be devoted by the student to the study of the two subjects, of which at least one month should be spent at a lying-in hospital before doing outside maternity work. A month should also be spent in the combined study of the pathology and physiology of obstetrics and gynaecology, the student at the same time keeping in touch with the clinical aspect of the work by attending the physician in the wards and exhibiting the specimens from the cases.

Dr. R. W. JOHNSTONE described the methods of teaching in vogue in Scotland. Teaching, including that of minor cases, should be done by the senior staff. He did not agree with the appointment of a whole-time teacher; the emoluments would not be such as would attract the best type, and the teacher, being out of touch with the conditions of general practice, would become unable to impart to the students what they would be likely to require.

Dr. T. G. WILSON compared the teaching of this subject in London with that of other large centres. With its valuable clinical material he attributed the failure to attract overseas students to a faulty system of teaching. In such hospitals as the Johns Hopkins there were working under the head of the department as many as five or six assistants, who were only permitted to teach the students after having acted as assistant for three or four years, and having done at least one year's pathological work in the department. The subject could be taught as well in a small as in a large institution.

Dr. H. RUSSELL ANDREWS agreed with the general propositions that obstetrics and gynaecology must be taught together, that old-fashioned formal lectures were not of great value, and that students should not be sent out to attend patients in the district until they had had a thorough midwifery training in the wards. He agreed with Dr. Lovell Drage that the "medical profession prevents to a considerable extent the loss among the unfit," but felt much more deeply that the medical profession did not prevent a large unnecessary loss among the fit. The only way to achieve this was by improving the teaching of midwifery. He disagreed emphatically with Dr. Lovell Drage's opinion that supervision of pregnant women would produce no other result than that of raising up to maturity more unfit adults. He pointed

out that in cases of syphilis and in minor degrees of contraction of pelvis, to take only two examples, supervision of pregnant women resulted in the production of A1 citizens. He considered that a department for medical supervision of pregnant women formed an integral part of a modern teaching hospital.

Dr. GRIFFITH replied.

DIFFUSE EMPHYSEMA OF THE WALL OF THE SMALL INTESTINE.

A MEETING of the Pathological Section of the Royal Society of Medicine was held on February 4th, with Professor WILLIAM BULLOCH, F.R.S., President, in the chair.

Mr. C. A. R. NITCH and Professor S. G. SHATTOCK, F.R.S., described a remarkable example of this rare condition, which was unexpectedly found during an operation carried out for a simple stricture of the duodenum immediately beyond the pylorus, associated presumably with the presence of an ulcer.

The patient had suffered for many years from pyloric obstruction, the stomach being so dilated as to reach the crest of the ilium; he had been in the habit of washing out the organ with a soft rubber tube. Gastro-enterostomy was successfully performed, after which the symptoms completely disappeared. A small V-shaped piece of the affected intestine was removed for the purpose of investigation, the parts being immediately sutured, without untoward result. In this the gas cysts were found to lie beneath the mucosa, the other tissues being here uninvolved. When exposed, the whole of the small intestine with the exception of the duodenum and the first part of the jejunum was covered with blebs of gas. The condition itself fell into a group to which the name "pneumatoses" had been applied¹—a group which included the various lesions due to the presence of air or of gas in the different structures or cavities of the body. Into it fell, besides bacterial and mechanical emphysemas, the aspiration of air into the vagina, or rectum, oesophagus, and stomach; into the peritoneum during laparotomy; the passage of gas from the intestine into the peritoneal cavity apart from discovered perforation in cases of chronic obstruction, etc. The entry of air during operations carried out in the Trendelenburg position, upon the bladder or vagina, was due, of course, to the negative pressure caused by the gravitation of the abdominal viscera; in oesophagoscopy the inflation of the canal arose from the negative pressure within the thorax. After punctured valvular injuries of the abdominal parietes, a local emphysema was at times observed (W. H. C. Romanis), due to the inspiratory movements, which was liable to be misdiagnosed as indicative of perforation of the intestine.

In birds, Hunter had pointed out that fracture of the bones containing air might be followed by a local emphysema. The only homologue of such a result in the human subject was furnished by the escape of air that sometimes took place from the frontal sinus after fracture.

In discussing the etiology of the condition recorded, a bacterial factor was excluded by the study of sections made from the piece excised; nor during life did the tissues exhibit any traces of inflammation. The cysts or spaces were lined with a single layer of endothelium, a multinucleated cell being here and there intercalated. After excluding a secretion or liberation of gas from the tissue plasma as an explanation, the etiology became reduced to a mechanical one. The condition could not be ascribed to distension of the gut itself, since there was no obstruction on the distal side; but air or gas must have been driven from the distended stomach through the base of an ulcer immediately beyond the pylorus into the intestinal walls, the peristalsis of the gut facilitating the onward movement of the gas.

Brouardel (*Death and Sudden Death*) had described a case of submucous emphysema of the stomach about a recently perforated ulcer, but proof was wanting that the condition had occurred during life. And the same doubt existed in regard to the case recorded by Haller, in which a tympanitic distension of the intestine was accompanied with the formation of gas blebs beneath the peritoneum.

At the same meeting Dr. J. A. MURRAY communicated a

¹ J. P. Frank: *De Morbis Hominum Curandis*, 1821.

note on bacterial staining methods, and gave a demonstration on specimens and microscopic sections of acariasis in the lung of monkeys, the parasites being found in small foci scattered through the organ.

INTRINSIC CANCER OF THE LARYNX.

At a meeting of the Medical Society of London, held on February 10th, Major A. F. VOELCKER, R.A.M.C.(T.), President, being in the chair, Sir STCLAIR THOMSON read a paper on this condition. It furnished a sequel to that read before the same society on February 12th, 1912. Laryngeal cancer, he said, was not a common disease, but, fortunately, the intrinsic form was more common than the extrinsic. Of 212 cases Semon found the disease intrinsic in 136. Chevalier Jackson's figures showed that the intrinsic form was more frequent in the proportion of 98 to 43, and Schmiegelow in 66 cases of intralaryngeal cancer found the disease limited to a vocal cord in 36. Only a restricted proportion of cases came to operation, because of delay in diagnosis, and sometimes because the patient did not present himself sufficiently soon. Hence the amount of clinical material was always small. In eighteen years the speaker had only encountered four hospital cases which justified a laryngo-fissure, while he had performed it thirty-four times in the smaller field of private practice. Of these 38 cases of intrinsic laryngeal cancer which had been operated upon, 22 were alive and well, without recurrence, at periods varying from six months to ten years since the operation. Seven cases survived the operation but died from other causes at periods varying from ten months to ten years later. Local recurrence took place in only five. Two cases died from recurrence in the glands, but without recurrence in the larynx. In one this occurred seven and a half years after laryngo-fissure, in the other within seven months. Two cases were alive, but recurred. In one the disease recurred in the glands of the neck one and a half years after laryngo-fissure; the glands were operated upon, and he was now well. In the other recurrence was suspected in the subglottic area and on the opposite side three and a half years after operation.

In these cases, comprising four females and thirty-four males, and varying in age from 40 to 75 years, no patient had died from a cause attributable directly to the operation.

These figures, taken in conjunction with those of Semon, Chiari, and Schmiegelow, confirmed the views that the results were exceedingly good, and compared favourably with those obtained by surgical treatment of cancer in other internal organs, and that the advance was striking. The figures also showed that the first year after operation was the anxious one as regards recurrence. He felt considerably diminished anxiety if the third month passed without a suspicion of re-growth. When an epithelioma was limited to a vocal cord and recurred within twelve months, he would regard it as an incomplete removal. Recurrence was more apt to take place, and after a longer interval, when the anterior commissure or subglottic area was involved. In none of the thirty-eight cases had a laryngo-fissure been performed for cancer and the disease found to be of another character, but in several cases the diagnosis had to be deferred for a time, varying from a few months to a year.

The Operation.

In addition to the usual preparations, the mouth and teeth are rendered as clean as possible and tobacco and alcohol are reduced to a minimum or cut off for three days before. A dose of bromide (15 to 20 grains) is given on the previous evening, but neither morphine nor atropine. Half an hour before the operation the line of the incision is infiltrated with eudrenine (a solution of eucaine and adrenalin). The skin of the neck is purified with soap and water and a carbolic dressing, and not damaged by painting with iodine. A general anaesthetic, preferably chloroform, is given in the usual method. One long incision is made from the thyroid notch to the sternum; 10 to 15 drops of a 2½ per cent. solution of cocaine, to which a few drops of adrenalin are added, is injected intratracheally, and a similar injection made through the crico-thyroid membrane. Median tracheotomy after dividing the thyroid isthmus, if it cannot be hooked upwards and downwards, can then be carried

out without spasm or cough. A large-sized Durham tracheotomy tube is then introduced, and the thyroid cartilage divided exactly in the middle line with saw, knife, scissors, or shears. A Killian's median rhinoscopy speculum is then used to dilate and inspect the endo-larynx. After application of 5 per cent. cocaine and the insertion of a gauze plug through the thyroid opening over the top of the tracheotomy cannula, the larynx is semi-dislocated sideways to bring the affected cord more *en face*. This is then raised with all the soft tissues by a subperichondrial dissection. The outer perichondrium of the thyroid cartilage is peeled off and the greater portion of the ala clipped away, and the growth subsequently removed, with a good margin around it, with curved scissors. Bleeding is arrested by pressure, the tracheal plug removed, and the thyroid opening closed by drawing the soft tissues together over it. Deep (catgut) and superficial (silkworm and horsehair) sutures close the whole external wound except opposite the tracheal opening. The tracheotomy tube having been removed and a dry gauze dressing applied, the patient is returned to bed in a sitting posture.

Sir StClair Thomson spoke emphatically of the value of open chloroform in these cases, at first through the mouth and later through the tracheotomy cannula. Most of the patients were able to swallow within a few hours, and many of them sat out of bed and read their newspaper the same evening. It was the exception for a patient not to be sitting up in a chair next day and eating semi-solid food. The preliminary infiltration of the skin incision with eudrenine and the intratracheal injection of a 2½ per cent. solution of cocaine greatly contributed to this satisfactory result. He preferred one long incision to the two which had been proposed—that is, one over the larynx and one for the tracheotomy—considering the slight cosmetic gain in the latter procedure more than counterbalanced by the greater facility and safety of one long incision. He could see no gain in abandoning the safeguard of tracheotomy. There was no need to plug off the pharynx through the split larynx. In 25 cases the tracheotomy tube had been withdrawn as soon as the operation was completed, but in 2 it had to be replaced for sharp haemorrhage. He was glad that in both there had been a preventive tracheotomy, and that the skin in the neck had not been stitched up over it. He saw no great objection to retaining the tube for the first day, particularly when there was a tendency to bleeding at the time of the operation, or the patient was congested, or with a history of alcohol and tobacco, or when the growth was very extensive or largely subglottic, or should no experienced surgeon be at hand. Excision of the thyroid ala left no drawbacks and facilitated removal of the growth and control of bleeding.

After-Treatment.

The patients were placed in bed, with a bed-rest, almost sitting upright. The same evening many could sit out of bed, and were able to drink sterilized water. The appearance of a large granulation in the wound during healing sometimes caused much anxiety. In 11 cases it was detected, at times varying from fifteen days to two months after laryngo-fissure. It appeared on the cicatrizing cord or in the anterior commissure. In 4 cases it was left alone, and took from three to twelve months to disappear. Of the other 7 cases he removed it through the mouth and under cocaine by McKenzie's duck-bill forceps in 5. In one of the remainder it was subglottic in position, and so large that stenosis was threatened, and tracheotomy had to be done. The tube was worn for six weeks, after which time the granuloma had disappeared. In the other a large granulation, the size of a cranberry, appeared in the anterior commissure two months after operation, and proved to be an exostosis. It caused little trouble, and was still present two years after the operation. The patient was 72 years old. Most patients were sitting out of bed and eating solid food on the day following the operation. They suffered no shock and recovered rapidly. The windows were left freely open day and night. The old paraphernalia of screens round the bed, closed windows, and even temperature, steam kettles, and such like, had long been abolished. It had been his custom to keep the patients silent for the first three weeks. They then started whispering, and as soon as a good cicatricial cord had replaced the one removed they were not only

encouraged to speak, but in cases of bad speakers further improvement was secured by sending them to a voice trainer. The voice was always sufficient for the ordinary purposes of life: schoolmasters had been able to continue their profession, and others could make public speeches. But all the patients had not been kept silent for these first three weeks, and he thought that by earlier resumption of vocal use there had been better compensatory results, and not that tendency to contraction which had been observed in two of the most silent cases. He now thought a week's silence was sufficient. If patients applied early with epithelioma limited to a vocal cord the death-rate should be nil, the restoration of voice satisfactory, and the cure lasting.

Surgeon-General BIRKETT, C.A.M.C., agreed that fixation of the cord was no invariable sign. All must have seen cases when it was absent.

Mr. WILFRED TROTTER said that his practical experience was confined to conditions extra-laryngeal. He had been removing the ala of the thyroid cartilage for ten years for another reason—namely, to obtain access to the upper part of the larynx, and consequently had removed the ala more completely, including both cornua. He had probably removed the whole ala fifty times, and there was no evidence that it interfered with the recovery of the patient's voice. It was a harmless and very useful procedure. He had never ligatured or clamped the thyroid isthmus, and no evil results had followed. An important reason for dividing the isthmus was that if the tracheotomy tube had to be removed the isthmus could not descend over the opening and hinder its replacement. He had known lives sacrificed in this way by leaving the isthmus intact.

Dr. W. HILL mentioned a case in which fatal hæmorrhage had occurred, as evidence of the value of retention of the tracheotomy tube and plugging temporarily, for by this means death might have been avoided.

Mr. HERBERT TILLEY had operated upon twenty-two such cases. He thought that this kind of cancer might form a basis from which some clear ideas might be evolved on the infectivity of the disease. In this respect cases in which growth recurred ten, twelve, or more years after operation were interesting. He doubted whether "recurrence" was the proper term, and queried whether an immunization took place, and that the so-called "recurrence" followed when that immunization wore off.

Mr. IRWIN MOORE advised that the tracheotomy tube should be left *in situ* for a few hours if neither the surgeon nor a dependable substitute were within immediate call. There was particular risk in leaving a patient with no tube after low tracheotomy. The results of operation were so good chiefly because the operation was done early and the diagnosis was established. He hoped for more co-operation with the general physician in cases of persistent hoarseness.

Mr. C. McMAHON offered the following suggestions for re-education of the voice in these cases:

1. Develop the sterno-thyroid and sterno-hyoid muscles, and keep the larynx low. Use a tongue depressor to help to accomplish the descent of the larynx.
2. Make the patient speak as little as possible until a deep pitch of voice is established.
3. Let the breathing movement be inferior lateral costal, with a small but definite expansion, and let the motive power of the voice be the powerful contraction of the abdominal muscles.
4. When the larynx is established in its low position instruct the patient that voice gets its chief resonance in the head and chest, and that the throat is a conduit pipe between them, and must be entirely uncontracted; and also that free lip movement increases oral resonance. If further vocal treatment is necessary, the resonator positions of vowel sounds and clearness of articulation generally should be taught.

A really useful voice can be anticipated in practically all cases.

MR. RIGBY SWIFT, K.C., at the request of the Minister of Pensions, has become president of the Officers' Appeal Board; the other members of the Board are Dr. Norman Moore, president of the Royal College of Physicians of London; Sir Alfred Pearce Gould, K.C.V.O.; and Captain Albert Smith, M.P. An officer whose claim for retired pay from the Ministry of Pensions has been refused on the ground that his disability is not attributable to, or aggravated by, military service, may ask the Ministry to refer his claim to the Appeal Board, which meets at intervals as the cases to be dealt with require.

THE BRIDGE-HEAD.

BY
SIR ANDREW MACPHAIL.

THE end has come. This Ambulance, which was in Rest at Boolezele,¹ which spent a Wet Night in the forest of Eperlecques,² and did a Day's Work on Vimy Ridge,³ is now in the Cologne Bridge-head at Siegburg, *trans flumen Rhenum*.

This most mobile of all military units has reached the limit of its forward wanderings, and is now at ease in a noble house in a pretty town in a peaceful and pleasant country. With work it has nothing to do. There are a few cases of influenza to be cared for, but the great days are gone for ever. In these two divisions of the Canadian corps, numbering sixty thousand men, there were only eleven deaths during the five weeks of occupation. The medical officers have ample leisure to brood over the past, and compare their present magnificence with the sordid surroundings, the squalid discomfort, and the poignant tragedy of the four preceding years and winters.

This Ambulance mobilized in Montreal, November 14th, 1914. It came overseas in April, 1915, and went to France in the following September. The normal establishment of officers is ten, and of the original personnel only two remain. It has had its losses. The colonel was killed at Courcellette; a captain was killed at Amiens; the quartermaster at Arras. Also, it has had due share of honours. To these officers were awarded four D.S.O.'s, one additional bar, four military crosses, and one knighthood. Of the other ranks one half remains, and one third of the horses are yet in service.

The Rhine was crossed on December 13th. The crossing was a ceremonial, and one who rides in ceremony sees nothing but his horse's ears, save for the moment when he turns "eyes right," and then he sees only the saluting officer. But it must have been to the observers a great show of power. From eight in the morning until four in the afternoon the troops were crossing in columns of route, ten yards between battalions, fifty between brigades. The troops marched without open enthusiasm, without emotion, void of passion, with no sign of imagination, without any apparent pride, but with the slow relentlessness of a glacier, with the inevitable power of a geological movement, file after file of fours with bayonets fixed, wagon after wagon, gun after gun, lorry after lorry—no haste, no confusion, no halts. Each column passed the saluting point to the minute, every horse and every man in his appointed place; and this after a march of nine days at twenty miles a day with rations none too abundant, for the rail-head was left perilously far behind.

A bridge-head has little to do with a bridge. It is an area as large as an English county. If one point of a compass be placed upon Cologne and the other upon Bonn, which is twenty miles to the south, and the compass be turned eastward in a great half-circle and back to the river again at the north, the line will fall far within the broken hills which border the Rhine valley. The line itself follows a good contour, and a commanding position is not sacrificed to topographical exactness. The army believes in a margin of safety.

The bridge-head is a country of wood, copse, orchard, farm, heath, dry and wet meadows, fern, moor, moss, and water flowing in rivers, rushing in streams, still in pools or stagnant in the ditches. The main roads are paved with stone or cement blocks.

¹ BRITISH MEDICAL JOURNAL, September 1st, 1917.
² BRITISH MEDICAL JOURNAL, December 7th, 1918.
³ *Lancet*, June 30th, 1917.