open to the risk of added virulent infection and acute symptoms supervening on the chronic. The professional or expert swimmer may possibly be excepted if the ear has been dry for two years or more, although the perforation has not healed, but every precaution must be taken as regards breathing and against the entry of water into the meatus. No form of precaution is "foolproof," though a small piece of wool impregnated with vaseline and laid in the meatus may serve a useful purpose. Better still, a thin piece of wool may be laid over this and kept in place with collodion. A successful radical operation, one year after complete healing, places the patient in Class 1 (healthy persons) as regards bathing. Patients with acute or chronic meatal eczema or recurrent attacks of meatal furunculosis are best advised not to bathe, for exacerbations are only too common.

Many swimmers who make a practice of diving into deep water complain that when they go beyond a certain depth they get a violent singing in the ears. This is as a rule temporary; it is partially due to prolonged holding of the breath and partially to increased pressure on the tympanic membrane and stapes. Should it persist it will probably be found that there is some degree of Eustachian obstruction and retraction of the tympanic membrane and that politzerization will relieve the noises.

Conclusions.

1. There should be regular and frequent inspections of all public baths, and the water should be maintained as pure as possible.
2. All swimmers should be compelled to wash with soap under a shower before entering a public bath.
3. The public should be educated as regards correct breathing in the water.
4. "Ducking" and pushing people in should be discouraged.
5. Those persons with colds, septic nasal conditions, perforated ear drums, or recurrent inflammatory conditions of the external auditory meatus should not be allowed in public baths without leave from an aural surgeon.

ARSENICAL POISONING:

WITH SPECIAL REFERENCE TO TREATMENT WITH THE GALVANIC CURRENT.

BY

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THE following case is of exceptional interest both scientifically and also from the practical aspect. It suggests strongly that the continuous galvanic current should be used in cases of arsenical poisoning, and also in other cases in which it is found that the toxic factor carries a positive or negative charge.

Mr. X, aged 40, had been an arsenical worker from 1919 until September, 1928; during this period he had a number of attacks of "indigestion" and colic following exposures to arsenic, and also various sensory changes from time to time. On April 6th, 1929, a sudden "foot-drop" occurred, and he attended for treatment on April 10th.

On physical examination, voluntary movement involving the anterior tibial and peroneal groups of muscles was absent; the skin over the middle third of the right leg in front showed diminished sensation. The muscles were tested, and the electrical reactions showed a normal response to the faradic current with the exception of the extensor longus digitorum, which, however, reacted briskly to the galvanic current.

Treatment was carried out three times a week, the affected muscles being stimulated by interrupted galvanism. In addition, the continuous galvanic current was applied by means of foot-baths, and a pad was placed reaching up the shin of the right leg; the negative pole was attached to the bath, which contained the right foot. The idea of this was that arsenic would be likely to be present in the form of the hydrochloride, and that the alkaloid would be extracted by this means.

After about a fortnight it was noticed that the skin on the right leg was becoming markedly scaly, and as this was most unusual I suggested that arsenic was being extracted. In consequence of this I collected some of the fluid from the pad at the end of one treatment, and also a sample of scales which were brushed off the skin of the leg. Both these samples were tested by an expert analytical chemist, and arsenic was reported to be definitely present by Marsh's reaction.

After three weeks' treatment, voluntary movement of the peronei began to return, and was followed a fortnight later by the tibialis anticus. Treatment was terminated on May 30th, when the condition had almost approached the normal; the extensor longus digitorum would contract to galvanic stimuli, but not to the faradic current. A further test, on June 6th, revealed that all the muscles would contract to the faradic current. On June 20th the affected muscles had completely recovered, and normal sensation of the skin on the front of the right leg was found to be present.

The continuous galvanic current is known to have an attractive or repulsive action to all substances which carry a negative or positive charge. Medical electro-therapeutists are frequently criticized because they are unable to give proof of how their methods act, and it is always satisfactory when it is possible to do so without question or doubt.

Similar work to the above has been carried out, I believe, in cases of lead poisoning, and also in the treatment of gout, but I can find no case on record in which arsenic has definitely been proved to be present chemically following treatment by the galvanic current. There can be no doubt that a considerable quantity of arsenic was extracted in the course of treatment, and the rapid recovery of the patient suggests, further, that this is the correct procedure in these cases.

The Sections.

SUMMARY OF PROCEEDINGS.

(*Concluded from page 263.*)

SECTION OF MEDICINE.

Friday, July 26th.

ASTHMA.

DR. F. PARKES WEBER occupied the chair on the third morning of this Section, and called upon Dr. ARTHUR F. HURST to open a discussion on asthma. Dr. Hurst began by remarking that the oft-repeated hopes of a panacea were still far from realization. He drew attention to the importance of studying the constitution or diatheses of sufferers from asthma. There must be a lack of balance, due to some chemical cause, between the vagus and the sympathetic system, in asthmatic persons, resulting in a preponderant activity of that part of the vagal nuclei that regulated the contraction of the bronchial unstriped muscle. He further discussed the subject of abnormal sensitiveness to proteins and other chemical substances; the nasal and other conditions that might give rise to reflex asthma; and the psychological factors that might bring on asthma in any asthmatic subject. As for treatment, the only cure should be a change in the constitution or in the chemistry of the blood of the asthmatic person; the diet must always be a matter of great importance, and so must altitude. The skin tests he described as valueless in asthma, though in hay fever they were often valuable. Nasal treatment he thought was often most useful in selected cases. Asthma powders he condemned, but the use of adrenaline was commended on physiological grounds. In status asthmaticus the continuous injection of adrenaline in small quantities (up to even a drachm in half an hour) was the only cure. Dr. JAMES ADAM (Glasgow) said that for thirty years he had held that there was a toxic basis in asthma and that in most cases the nasal condition was a most important factor. This toxaemia, which originated in the intestine and the tissues, was partly due to the absorption of nitrogenous poisons and partly to an error in nitrogenous metabolism, the result of imperfect oxidation or enzyme action. The toxaemia tended to show itself first as a catarrh and

later as a spasm in the respiratory tract. This conclusion was based on eight observations: (1) the frequent recurrence of asthma in working folk at week-ends, when overfeeding and under-exercise predominated; (2) evidence was usually obtainable in asthmatics of neglect of the alimentary and skin functions; (3) asthma patients lost their complaint temporarily during the activities of the war years; (4) periodicity was a common feature of the case records; (5) the common complications of eczema and urticaria responded promptly to dietetic treatment; (6) the start of asthma was before the 15th year in 50 per cent. of all cases; (7) in this time of life infections were common; and (8) detoxication was a potent remedy. Moreover, the urea content in the blood and urine of asthmatics was reduced, and ammonia was increased in the urine. Dr. Adam then submitted further biochemical and clinical evidence in support of asthma being a toxicosis. He believed that its incidence was increasing owing to the greater complexity of modern civilization, more marked tendency to indoor life, perverse use of body organs, and defective foods. Allergy, though an interesting feature in about 50 per cent. of asthmatics, was not the most important factor; a so-called history of heredity was no bar to cure. Special treatment of the nose was necessary and mouth breathing must be stopped. Professor R. J. S. McDOWALL, from the physiological standpoint, enumerated the various ways in which different stimuli, such as local irritants, injections of peptone and histamine, nervous excitation, and psychic factors, might bring about an asthmatic attack. He then discussed in detail the part which might be played by the vagus, and mentioned that he had recently shown that peptone injections greatly increased the sensitivity of this nerve. This appeared to be a key of some importance in the asthma problem, but the abnormal proteins probably caused also a temporary bronchial constriction which was seen in an enhanced form in typical anaphylaxis. This increased sensitivity was not limited to the bronchi and heart, but extended to the autonomic nervous system, including the visceral vessels. The speaker then passed to consider how such abnormal proteins might enter the body, and the part played by the amino-acids, certain of which in the protein molecule might have a special significance. Thus, he remarked, the many divergent views about asthma might be fitted into a simple picture; it would be possible also to harmonize the different kinds of treatment for which success had been claimed. Each case had to be dealt with according to its nature, but a combination of treatments was sometimes desirable. When the nature of sensitization was discovered the cause of asthma would be revealed and also the etiology of a large number of allied diseases. Dr. G. H. ORIEL gave an account of the physiological chemistry of asthma, and of the deductions as to its causation that might be made from the various examinations of the tissues and secretions. He outlined the possibility of a urinary test for asthma which was now under investigation; a specific substance was apparently present in the urine of asthmatics. He spoke of the use of glucose in the treatment of asthma in children. He defined asthma as a symptom rather than a disease. Dr. E. WATSON-WILLIAMS (Clifton) emphasized the importance of toxaemia, and stated that in his opinion the cases of asthma due to a nasal reflex were not many. He discussed the effects of bronchial contraction and expansion in the asthmatic attack, comparing them with the process whereby the newborn infant first aerated his solid lungs. Dr. HARRINGTON agreed that asthma was toxaemic in the great majority of cases, if not in all. Treatment should be on the lines indicated by this supposition—detoxication. Stress was laid on the importance of correct diaphragmatic breathing. A number of illustrative cases were quoted, and the overfeeding of young children with milk was deprecated. The resumption of bad or unhealthy conditions of life would cause relapse in any cured asthmatic; cure was a relative term, and its maintenance depended on the good will of the patient. Dr. WHARRY alluded to the nasal factor in asthma, pointing out the abnormal excitability of the nasal mucosa in all asthmatic patients. He believed this to be the main element in the etiology of these cases. The treatment of asthma should therefore have the nose and its adjoining structures as its chief theatre. Other contributory factors such as overwork and unsuitable diet were mentioned; loss of sleep was described as one of the worst results of the attacks; it should be treated by medinal rather than by adrenaline. Dr. CAMPS (Teddington) discussed treatment by inhalations of oxygen and adrenaline, which he had employed in cases of every type. This treatment saved much trouble, and its nightly use might break the asthma habit; it would also stop an attack of asthma. Dr. J. SPEARES (Dublin) dwelt on the difficulties induced by ignorance of the causation of asthma, an incurable constitutional disorder. In certain cases vaccine treatment had given him good results.

Dr. HUDSON'S contribution to the discussion took the form of a lantern demonstration of experimental bronchial muscular movements. During inspiration the tubes widened and lipiodol injected into them was seen to outline a tube wider than it was in expiration. Evidence of the existence of an atrial sphincter was obtained. In bronchiectasis the lipiodol did not change its position in respiration. Films taken in cases of asthma showed the tubes to be small and their permeability to lipiodol much reduced; the oil failed to reach the bronchioles. The bronchi narrowed with expiration and widened in inspiration of their own motion and without the interference of any external musculature. Dr. HURST briefly replied to a number of the points raised in the course of the discussion, demonstrating his view that in asthma the bronchial spasm was expiratory and was aggravated by the fact that the expiration was forced. He added that in pure asthma true emphysema did not occur. The breathing exercises for an asthmatic child or adult should be expiratory and not inspiratory, and should include nose breathing also if necessary. The treatment of constipation he believed to be harmful in most cases, and he objected similarly to the Plombières douche treatment. Ephedrine he thought less useful than adrenaline, unless perhaps in the milder cases of asthma; in actual attacks it was of little service. Caffeine was a more useful drug in doses of 6 or 8 grains of the citrate, taken early in the day and not at night. The meeting of this Section was attended by over 180 members.

THE HALOMETER.

Dr. FRANK C. EVE (Hull) described an instrument he had devised for facilitating the diagnosis of certain blood diseases. (See *British Medical Journal*, July 13th, 1929, p. 48.) He said that this instrument, the name of which should be pronounced halo-meter, indicated the average size of red cells in a blood smear by measuring the diffraction halo they produced. Dr. Eve said that as enlargement of the red cells was the earliest sign of pernicious anaemia, this difficult diagnosis was rendered rapid and easy. In fact, the syndrome of the early stage revealed by the instrument was often so dissimilar to the syndrome usually described that a separate name, such as pre-pernicious anaemia, seemed necessary. The two syndromes could be combined into a single definable disease (megalocytic anaemia) if a ready means such as the halometer was found of measuring red cells. In cases where the enlargement of the red cells was too slight to warrant a definite diagnosis of pernicious anaemia, liver might be given for two months. If the red cells were thereby restored to normal size the diagnosis was confirmed. The halometer was the readiest means of checking (weekly) the efficacy of treatment by liver or its extracts. In "cured" cases it should be used every quarter to detect incipient relapse. Dr. Eve found it necessary to measure the red cells in all cases of glossitis, tingling of the extremities, achlorhydria, obscure anaemia or loss of energy and weight, bleeding from the bowel, and even cholecystitis. A thin blood smear was essential—produced by pushing (like a plane) a small drop of blood along a grease-free slide. Dr. Eve said he had found the halometer reliable in that he had yet to meet the case where its diagnostic verdict had been proved erroneous by time or by other clinical evidence. Similarly with subacute spinal degeneration, but less absolutely because occasionally the neurotoxic poison was at first unaccompanied by the haemolytic,

SECTION OF SURGERY.

Friday, July 26th.

PAPILLOMA OF THE BLADDER.

MR. C. ROBERTS (Manchester), a Vice-President of the Section, occupied the chair on the third morning, when Mr. J. B. MACALPINE (Manchester) opened a discussion on papilloma of the bladder. Mr. Macalpine said that two problems presented themselves for preliminary discussion. The first, did all papillomata of the bladder become malignant? Recent literature supported the views of earlier writers that papillomata of the bladder were malignant, but this could not be entirely true, since records existed of many patients living for twenty years, and finally dying of malignant disease. The long history, however, showed that even very benign growths would eventually become malignant. The second problem was, how could the nature of the growth be decided? Pathological evidence up to the present had been misleading, and opinions still differed as to the best portion of the tumour for examination. Added to the difficulties of microscopic diagnosis were the practical difficulties of obtaining the specimen. A portion of the surface could be obtained by cystoscopy with a rongeur, but there was a very real risk of producing dissemination. The base of the tumour could be examined after open excision, but the uncertainty of the diagnosis might prevent a necessarily bold excision. For these reasons, the speaker relied solely on cystoscopic diagnosis when deciding treatment. Mr. Macalpine gave a detailed account of the cystoscopic diagnosis of the nature of papillomata. The longer and more delicate the villi the more benign was the growth; surface necrosis, uneven arrangement, coalescence of villi, and thickening of the epithelial layer giving rise to a coarser and paler appearance were indicative of malignancy. Examination of the pedicle was very important; a short, stout, stiffened pedicle was suspicious. A large villous growth completely sessile was malignant. Bullous oedema at the base should be noted, but the oedema from a previous diathermy burn should be remembered. It was only possible to distinguish these two types of oedema by repeated cystoscopy examinations. The significance of multiplicity of papillomata was debatable, but undoubtedly multiple growths recurred more readily and successive recurrences were more malignant. When in doubt concerning the nature of a growth the reaction to perurethral diathermy was of diagnostic importance. If diathermy was not definitely succeeding, partial cystectomy should be performed without any delay, since malignant tumours did not react favourably to diathermy and might possibly be stimulated by it. Cystography was of use when cystoscopy was impossible owing to bleeding, a small or intolerant bladder, or a very large growth filling the bladder. The speaker reported six cases of papilloma occurring in aniline dye workers. Before the formation of a neoplasm, there was a stage of cystitis with haematuria; cystoscopy during this prodromal stage showed a bright red mucous membrane with some mottling. The absence of exudate (as compared with the condition in septic cystitis) was characteristic. Prolonged contact with the dye was necessary before development of cystitis. Primary and secondary growths not uncommonly developed around the vesical orifice; these could be treated by means of a retrograde cystoscope, but the posterior urethroscope was sometimes necessary. Implantation papillomata from kidney and ureter occasionally occurred. The speaker gave a detailed account of the technique of bipolar diathermy. Concentration of the current on the pedicle was of great use, and the method of securing this was described. Mr. Macalpine said that growths situated high in the bladder were usually benign, but if malignancy occurred, though the growth was easily accessible by operation, late operative results were worse than in the case of growths occurring at the site of election. Excellent lantern slides were shown illustrating the various facts discussed. Mr. HENRY WADE (Edinburgh) emphasized the importance of early cystoscopy in all cases of symptomless haematuria. Fulguration was certainly indicated for the majority of growths. Situated on the bladder wall around the stalk was a roughened area, usually hidden by the growth; it was most important to treat this area also by diathermy. The speaker said that because diathermy obscured further treatment by producing a zone of reaction around the tumour, he recommended that the growth should be destroyed at one sitting under a general anaesthetic. The patient should be warned of the possibility of a secondary haemorrhage when the large slough separated. It was advisable to remove the slough to prevent formation of a concretion around it. There were four indications for open operation for an early benign growth: (1) The size; if the size of a walnut or larger he recommended open operation and diathermy. (2) The situation; collar growths around the internal meatus. (3) The clinical history. It should be remembered that vesical spasm meant infiltration. (4) Local complications, such as enlarged prostate. Endovesical diathermy in these cases had no advantages, and there was an increased risk of infection. When malignant the growth was sessile and the villi were fused and irregular. Mr. Wade said he had no knowledge of radium, therefore in these cases he practised excision. When the growth could be pulled up with a tube of mucous membrane at base, he performed a mucous resection. If there was adherence he employed a partial cystectomy. When the intravesical part of the ureter had to be sacrificed, he said that, having reconstructed the bladder, Nature produced a ureteric opening into the bladder, and the ureter could be seen later, on cystoscopy, opening into a diverticulum. The bladder should be opened first if total cystectomy had to be performed. He had found that transplantation of the ureters into the bowel was the best procedure. Early diagnosis and the education of the public was of paramount importance in the treatment of growths of the bladder.

Mr. SWIFT JOLY limited his remarks to the treatment and results of treatment of benign growths of the bladder, including growths with thick pale mucous membrane, but having no infiltration. If the growth remained superficial perurethral diathermy should be used, but the slightest indication of infiltration called for open operation and destruction of the growth by excision or deep diathermy and radium. He gave the record of 39 cases before the introduction of diathermy: there were 4 recurrences (2 early and 2 late) in 30 cases of single growths, while there was recurrence in all the 9 cases with multiple growths. From the literature he had found that 98 per cent. of sessile or multiple growths recurred. This extremely high recurrence in cases of multiple growths was a very important fact. In 25 cases with single growths treated with diathermy more than five years ago there were 6 recurrences, some being very late—14 years. All these recurrences had been destroyed and the patients remained well. Multiple growths treated by diathermy recurred, but with care and trouble an ultimate good result could be obtained by diathermy and not by open operation. Recurrences after open operation on single growths were often sessile and multiple, and he had found it impossible to get these cases clear by diathermy. From his experience he said that all cases of growths of the bladder should be kept under observation for an indefinite period, even for the rest of the patients' lives, since recurrences might become manifest at any time. The use of the various patterns of cystoscopes made growths accessible by perurethral diathermy. When the growth almost filled the bladder he used a posterior urethroscope with a continuous irrigation. Growths in the internal meatus could be treated through a posterior urethroscope, and those situated around the meatus and especially in front and at the apex of the bladder could be treated by means of a retrograde cystoscope. The use of his modification of the cystoscope enabled the treatment of growths lying behind an enlarged prostate to be carried out. The results of open diathermy were better than resection. Excellent lantern slides were shown. Mr. R. J. WILLAN (Newcastle-on-Tyne) reported an analysis of 68 cases of papillomata of the bladder. The disease was very much more common in the male—53 males, 15 females. He agreed that the pathological diagnosis of malignancy was unsatisfactory even when a portion of the pedicle was examined. The cystoscopist was sometimes misled and a benign growth

occasionally concealed a malignant ulcer. Referring to the results of treatment he said that he had not a single case alive treated more than nine years ago. An excellent analytical table was shown. The cause of death in 19 cases was given. Dissemination caused the fatal result in 6; malignant cachexia in 6; local extension to the vagina or rectum in 2; haemorrhage in 2; surgical kidney in 1; heart disease in 1; and one patient died from post-operative shock.

Professor ANDREW FULLERTON (Belfast) showed some excellent coloured drawings illustrating the technique of cystectomy. He did not like tying the ureter, and did not agree that the proximal end of the ureter should not be passed through the bladder wall and sutured as already stated. A large resection was necessary to prevent recurrence; the reconstructed bladder readily readapted itself. The troublesome bleeding from the venous plexuses at the base and posterior wall of the bladder could be much lessened by ligature of some of the larger feeding veins behind and in front. The reconstructed bladder was certainly not water-tight, and adequate drainage was important. Suprapubic drainage was not satisfactory, and his method of dependent drainage of the perivesical space by the use of a rigid tube passing downwards through the levator ani into the ischio-rectal fossa was described. He had had no trouble from this method of drainage. The best results were certainly obtained by large operations, as the glands were more easily accessible. Cystograms showing the result of large resections of the bladder were shown. This method of drainage could be used after prostatectomy. Professor Fullerton pointed out that when a growth had infiltrated the ureteric orifice, the opaque medium introduced into the bladder for cystography travelled up the ureter. A pyelogram procured by this method was shown. The disease was much more common in men, and was most frequently malignant in patients more than 60 years old. These growths recurred, whatever means of treatment was employed, and he agreed that recurrences after open operation were difficult to extirpate. Mr. H. H. RAYNER (Manchester) reported two cases of malignant diseases of the bladder treated by radium; one by the suprapubic route, and the other by a blind perurethral method.

"PARAFFINOMA" OF THE RECTUM.

Dr. A. T. BAZIN (Montreal) described a case of "paraffinoma" of the rectum resulting from the injection of melted hard paraffin for the treatment of prolapsing internal haemorrhoids. The patient was referred to him with the diagnosis of carcinoma of the rectum. At the distance of 1½ inches from the anus was a nodular mass completely encircling the bowel and producing marked stenosis; the vertical extent of the infiltration was 2¼ inches. The mucosa was smooth, mobile, and non-ulcerated. Extending distally from the constricting ring were tongue-like processes under the mucous membrane. The tumour was resected, preserving the lower end of the canal and sphincters and restoring continuity by rectorrhaphy. Another case—of paraffinoma of the thigh—was reported in a woman who had received three injections of camphor in oil as a cardiac stimulant eight years previously. Lantern slides were shown illustrating the histology of the tumour in these two cases. Dr. Bazin said that clinical observation and experimental work with monkeys had demonstrated that mineral oils, when injected, might cause foreign body reaction and tumour formation. In some cases the injected paraffin oil had spread along the lymph channels and lymph nodes, producing a condition simulating tuberculous adenitis or malignant lymphatic metastases. Vegetable oils injected experimentally had not produced these tissue masses. Mr. J. P. KILNER condemned the use of injection of paraffin into the human tissues. He had seen a large number of pathetic cases where paraffin had been injected to restore the contour of the face and neck. The histological appearances of the paraffinomata removed were similar to those demonstrated. One case of a large epithelioma which extended from the clavicles to the nipples was described; it had developed after the injection of paraffin.

CONGENITAL ARTERIO-VENOUS FISTULA.

Professor DEAN LEWIS (Baltimore) read a most learned and instructive paper on congenital arterio-venous fistula. He demonstrated his remarks with very excellent lantern slides. In this type of arterio-venous fistula, in contradistinction to the acquired type, it was of the utmost importance to ligature all the channels of communication between the artery and the vein.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

Friday, July 26th.

SURGICAL TENDENCIES IN MODERN MIDWIFERY.

THE President of the Section, Professor FLETCHER SHAW, was in the chair at the final meeting of the Section, when a series of papers was read and discussed. The first communication was that of Professor ESSEN-MÖLLER (Lund, Sweden), whose subject was surgical tendencies in modern midwifery. Professor Essen-Möller asserted that surgical methods were being introduced into obstetrical practice with increasing frequency in the interests of mother and child. In cases of disproportion and of placenta praevia the old rule used to be to wait until a favourable opportunity occurred and then to assist the natural forces. The most important advance on this came about at the end of the last century with the revival of Caesarean section. The speaker had been brought up in the environment of the old ways of thinking, but his experiences had made him a convinced partisan of the newer methods. He was now afraid, however, that the pendulum had swung rather too far in the direction of operative intervention. No surgical procedure could be described as entirely harmless, but technique had now become so perfect that the risk of infection was practically non-existent. Two important considerations were: the risk of rupture of the scar in subsequent pregnancy, and the fear instilled into a mother who had undergone delivery by Caesarean section. It was not practicable to remove all cases to hospital. The speaker did not approve of Thiersch's new orientation of midwifery, which sought to substitute surgical intervention for natural labour in practically all cases. Such tendencies indicated an insufficient understanding of the normal processes of labour. Nothing great or valuable in life could be obtained except by struggle. Surgical methods were not designed to substitute and anticipate the natural forces. The PRESIDENT thought that in many ways Caesarean section had proved very disappointing. They were using it to rescue cases which they might have delivered in the old days by other methods, but they were not saving the very bad type of case. As many craniotomies were being performed now as in the past, since patients were sent into hospital too late. Dr. A. DONALD (Manchester) said that he represented the old school in some respects. In the days when he was a resident it was considered too dangerous to have cases of ordinary confinement in a hospital. Progress in obstetrics had not advanced with anything like the speed that had been experienced in gynaecology. Dr. Donald remembered the introduction of pituitrin. He imagined that this must have caused many cases of rupture of the uterus and bad tearing of the cervix and of the pelvic floor. The one line of advance had been the careful antenatal examination of cases. There had been no progress in avoiding sepsis; there was as much septicaemia as there used to be. The introduction of mercury perchloride had certainly constituted a great advance. Many students had no conception of treatment between absolute carelessness and the most up-to-date hospital methods. They ought to be instructed in the use of antiseptic procedures. Professor R. J. JOHNSTONE (Belfast) said he had been trained in the old methods, when the first maxim taught was the avoidance of "meddlesome midwifery." There was no such thing as a perfectly safe operation, and it was a serious matter to recommend surgical intervention instead of some simpler method. His experience had been that when once a patient had had Caesarean section she refused afterwards to undergo natural labour. Aseptic midwifery in the home was an impossibility; students must, therefore, learn antiseptic methods. Professor R. W. JOHNSTONE (Edinburgh)

entirely agreed with emphasizing the importance of antiseptic technique in view of the difficulties attending asepsis in the poorer homes. In domestic midwifery the use of mercurial preparations had led to a very great improvement. Weak lysol solutions were most dangerous and their employment had done much harm. In Edinburgh they were not very fond of vaginal hysterectomy; they saw a considerable number of cases of pernicious vomiting, and vaginal hysterectomy had been disastrous. Latterly they had been performing abdominal hysterectomy with very good results. Dr. BETHEL SOLOMONS (Dublin) thought there were two classes of specialists: the obstetrician, and the gynaecologist who also practised obstetrics. Obstetrics was both a science and an art, not a slap-dash surgical procedure. He thought the problem started with teaching students how to wash their hands and to put on gloves. He did not teach people to wear masks, but he taught the application of forceps without wearing a sterilized coat. Professor MILES PHILLIPS (Sheffield) said the great difficulty in midwifery was accurate prognosis. Too many Caesarean sections were being performed owing to errors of judgement. The multipara in her twelfth or thirteenth pregnancy was not infrequently a suitable case for Caesarean section and sterilization. Professor ESSEN-MÖLLER, replying, said he agreed fully with Professor Phillips that Caesarean section was applicable in many instances which could not be set out in the form of a hard-and-fast classification. He thought that the domestic circumstances in Sweden differed from those in England. Although no operation was ever performed in a patient's home in Sweden, version was employed, and forceps were applied.

TRAINING OF THE GYNAECOLOGIST.

Professor T. S. CULLEN (Baltimore) read a paper in which he expressed the conviction that each gynaecologist should be a surgeon capable of performing any abdominal operation. A fundamental knowledge of medicine was essential, and also a thorough grounding in general and special pathology. He gave an account of the method of training in force at the Johns Hopkins University, which aimed at the production of a man with a good knowledge of general pathology and a wide acquaintance with regional pathology. He referred to the vague and puzzling symptoms which might accompany stricture of the ureter, and which illustrated the point that every gynaecologist should also be a urologist. He gave examples of occasions on which the pelvic surgeon might have to go far afield—for example, resecting the bowel. The gynaecologist must, in short, be trained to handle any abdominal emergency which it was possible to treat. Dr. J. W. G. H. RIDDEL (Plymouth) remarked that all practitioners had not had the good fortune to be attached to a large teaching school. He described his own experiences, and submitted that the training of a general practitioner was by no means negligible as a branch of education in obstetrics and gynaecology. Professor R. J. JOHNSTONE (Belfast) agreed that the gynaecologist should be capable of dealing with any condition which he might find in the abdomen. All of them were constantly meeting with surprises in their practices, and diagnoses could seldom be exact. He thought that each gynaecologist would do well to spend a year as a demonstrator of anatomy immediately after qualifying. Considerable time must be devoted to pathology. Professor Johnstone did not agree, however, that a gynaecologist should not also be an obstetrician. Professor J. P. MAXWELL (Peking) thought that an obstetrician should be allowed a large working knowledge of gynaecology. He had had experience of the training in Baltimore, and he did not think that the education given in Great Britain in pathology combined with surgery was so intensive as in Baltimore. Dr. A. E. GILES praised the systematic training of Baltimore, and agreed that a sound knowledge of obstetrics was essential to a gynaecological surgeon; experience of general practice was also of very great value. The association of gynaecology with abdominal surgery was most intimate; manual skill was of less importance than sound judgement and good diagnostic ability. Professor C. G. LOWRY (Belfast) thought that the intensive training in pathology was the keynote of the training at Baltimore. The PRESIDENT remarked that they had been made to feel the shortcomings of their own education. It was most important that great attention should be paid to the special pathology of the pelvic organs. The personality of the teacher was also a matter of considerable weight. Professor CULLEN, replying, thought that anatomy should be studied by a man for himself. A fundamental knowledge of medicine was essential. He felt very strongly that no operator had a right to open the abdomen unless he could deal with any condition he might find there.

PROPHYLAXIS IN CONNEXION WITH THE ALBUMINURIA OF PREGNANCY.

Mr. L. C. RIVETT discussed the prophylactic treatment of cases in which albuminuria had been present in previous pregnancies. Recent work had shown that permanent renal damage resulted frequently in this way. It was important that all such patients should report at once as soon as the menstrual period was missed. It then became necessary to maintain the alkalinity of the urine at a fixed figure, and, to do this, as much as one and a half ounces of solid alkali might have to be given daily. The protein intake, including meat, milk, and eggs, should be curtailed, and milk as a beverage should be absolutely prohibited. Bread or greasy meat might be taken sparingly, however, every other day. Free daily action of the bowels should be maintained, and care taken as regards sufficient fresh air, rest, and avoidance of strenuous exertion. He cited a series of cases in illustration of these points. The PRESIDENT said that they had been brought up in the idea that these cases were purely functional, but recently they had become rather uneasy in their minds about the subject. Dr. JAMES YOUNG (Edinburgh) thought that if the facts as cited in the paper should be confirmed they must necessarily shed some new light on the etiology of the condition, and he inquired what theory underlay the line of treatment proposed. His own investigations had shown that permanent renal damage occurred in only about 8 per cent. of cases. In about 50 per cent. of the total there was evidence of recurrence in subsequent pregnancies, and in these cases there was risk of permanent damage to the cardio-renal system. The total risk of permanent damage was, however, comparatively small. The old classification would have to go by the board, since these cases showed a tendency to recur. The general rules of hygiene had doubtless a very great effect on the progress of these patients, but did not constitute the whole of the treatment. Dr. A. CROOK (Norwich) said he had been giving heroic doses of sodium bicarbonate, but without much result. A considerable proportion of chronic renal cases showed no albumin in the urine during pregnancy. Dr. H. L. H. GREER (Belfast) had given alkali for heartburn, and found that there was a general improvement in the comfort and condition of his patients. In scarlet fever it had been observed that, if the urine was kept slightly alkaline, nephritis did not occur. Since he had been giving his patients alkalis he had had no case of albuminuria, even in those who had suffered with eclampsia in previous pregnancies. Other factors, such as diet, focal sepsis, and constipation, had an important bearing; the fatty substances especially should be avoided. The indiscriminate drinking of milk during pregnancy was not good; the teeth required attention, and also the tonsils and nasal sinuses; the cervix should be treated if necessary. Dr. F. H. LACEY (Manchester) said that for some time he had had the urine very carefully examined in these albuminuric cases, and he was surprised how frequently *B. coli* had been detected. The administration of alkalis in these cases was of undoubted benefit. Dr. L. C. RIVETT, in replying, said that the theory underlying the treatment was the same as that in scarlatinal nephritis. He was not convinced that there was any specific toxin at the root of the trouble; he thought it was due rather to the excess of the normal products of metabolism. He had been particularly impressed by the great improvement in patients treated with alkalis. The question of focal sepsis was important, but this might occur in the absence of albuminuria.

SECTION OF DISEASES OF CHILDREN.

Friday, July 26th.

TONSILS AND ADENOIDS.

THE third morning in this Section was devoted to a discussion of the medical and surgical aspects of tonsils and adenoids, with Mr. T. TWISTINGTON HIGGINS in the chair. The opener, Mr. J. ARNOLD JONES (Manchester), said that the function of the tonsils was still undecided; while it was probable that they were concerned with the defence of the alimentary and respiratory tracts, it was also known that when a tonsil became chronically hypertrophied or diseased it lost this defensive power. Hypertrophy of Luschka's tonsil was widespread among all climates and races, but undoubtedly adenoids were commoner in damp temperate climates. Although most prevalent between the ages of 3 and 14 years, the condition did occur in quite young babies, producing difficulties in sucking, and easily remedied by removal of the vegetations without an anaesthetic. The diagnosis of adenoids was usually easy, but the procedure of inserting a finger into the naso-pharynx was a disagreeable process and rarely necessary. In infants where the condition was suspected it was the speaker's practice to introduce a small cage curette and remove any growth that was found. In older children the only form of treatment was surgical removal. He preferred a cage curette; the commonest cause of haemorrhage was the leaving behind of a tag of adenoid tissue. It had recently been his practice to give all his patients a course of sodium bicarbonate before operation; secondary haemorrhage was rare, and out of 12,000 cases had been the cause of fatality in only two instances. Recurrence of adenoids did occur in a small percentage of cases. Mr. Arnold Jones enumerated the indications for tonsillectomy, which included interference with respiration or speech, chronic enlargement of the cervical glands, recurrent sore throats, systemic affections attributable to a focus in the tonsil, chronic lacunar tonsillitis, and diphtheria carriers. In the diagnosis of chronic sepsis in the tonsils the size of the organs was no guide; by applying pressure, pus or cheesy secretions might sometimes be squeezed out, while enlarged glands at the angle of the jaw were a useful help. Tonsil puncture was undoubtedly promising as a method of diagnosis, but Mr. Arnold Jones preferred to rely on ordinary clinical grounds. Tonsillectomy by the guillotine in expert hands was safer than dissection, and equally efficient. The deeper anaesthesia required for dissection put the operation in the ranks of the major ones, and in inefficient hands either operation might end in failure. For the guillotine operation Mr. Arnold Jones preferred Heath's type, although he had been recently trying the Popper-Heath modification. Haemorrhage was usually easily controlled by bathing the face with cold water, and occasionally a swab squeezed in hydrogen peroxide could be held in the tonsillar fossa. Beyond this it was seldom necessary to go, and it was only a tedious procedure to ligature all bleeding points. Occasionally an unusually large artery might have to be dealt with, and haemorrhage occurring a few hours after operation was sometimes troublesome. During the period 1913–28 there had only been at the most six fatalities following the operation for tonsils and adenoids at the Royal Manchester Children's Hospital; the total number of operations performed numbered 27,000. Dr. T. A. GOODFELLOW (Manchester), speaking as a general practitioner, said that diseased tonsils and adenoids were a matter of daily concern, especially where the climate was humid. He thought that more attention ought to be paid to the acute affections of these organs, for by early and prompt treatment of acute conditions there was a chance of preventing dire results. He did not agree that the diagnosis of adenoids was so easy as the opening speaker had made out, and he had been frequently struck at operations by the mass of adenoid tissue removed out of all proportion to the symptoms present. He enumerated some of the symptoms which would lead a general practitioner to suspect the presence of adenoids, and mentioned the familial incidence of the condition and its greater frequency among the Jews. He thought that there was some value in nose drill if properly carried out, especially after the adenoids had been removed. With regard to the tonsils, it was an important point to determine which cases ought to be operated on: local treatment with such substances as Mandle's paint did a lot of good sometimes, and it was his practice to allow one lapse before calling in the surgeon. He referred to the importance of suspecting diphtheria in all cases of acute tonsillitis, and ended with a strongly worded protest against the removal of tonsils and adenoids in out-patient departments. Miss G. HERZFELD (Edinburgh) discussed the relationship between the tonsils and enlarged cervical glands. She had analysed a large number of cases of tuberculous cervical glands, including nearly 700 cases on which she had operated. She found that in 95 per cent. of cases it was the tonsillar gland which was primarily involved, and yet on inspection the tonsils often appeared healthy and not markedly enlarged. Examination of tonsils removed in such cases showed evidence of tuberculosis in a varying percentage of cases, and out of a recent series of seventeen cases tuberculous tonsils had been found in nine. Removal of the tonsils in early childhood seemed to prevent the development of tuberculous cervical glands in later life, but if the glands were already involved it was doubtful whether tonsillectomy ever cured the condition. Miss Herzfeld mentioned other surgical conditions for which tonsillectomy was indicated, including the presence of pneumococcal infections of bones and joints. She mentioned the association of adenoids and flat feet in the same type of child, and concluded by referring to the psychological shock of the closed bag type of anaesthesia.

Dr. D. NABARRO reported some work by Dr. R. A. MacDonald at the Hospital for Sick Children, Great Ormond Street, on the bacteriology of the tonsils in relation to rheumatism in children. It had often been suggested, he said, that the infective agent in this condition was to be found in the tonsils, and especially the streptococcus had been blamed. It ought therefore to be possible to find a bacteriological flora in the rheumatic type of child different from that in the tonsils of the non-rheumatic, and for this purpose a series of 50 rheumatic tonsils and 48 non-rheumatic tonsils had been investigated, and all varieties of streptococci present isolated. The results showed, however, that the tonsils from rheumatic patients did not differ materially from those of non-rheumatic cases as regards the characteristics investigated: actually the percentage of "inert" streptococci was slightly lower in the rheumatic group. Dr. Nabarro summarized the work which had previously been done on this aspect of the subject, and indicated that modern theories inclined to some hypersensitive state as a cause of rheumatism rather than an ordinary streptococcal infection. Dr. JEFFREY RAMSAY (Blackburn) referred to the work of himself and Mr. C. M. Pearce on the use of tonsil puncture for assessing the state of the doubtful tonsil. He mentioned the reasons for adopting the procedure, and described briefly the technique employed. In two cases of Henoch's purpura recently examined by means of tonsil puncture a pure growth of *Streptococcus pyogenes* was obtained and tonsillectomy led to great benefit. In the diphtheria carrier it was possible that infection lurked deep in the tonsils; it was also possible that in lobar pneumonia the organism might be present in the tonsil, as had happened in a recent case some eight weeks after the crisis. Dr. FRANK C. EVE (Hull) explained the method of tonsil suction by a simple instrument introduced by himself consisting of a glass funnel and tube and a strong rubber suction ball. Pus could be obtained for diagnostic purposes from the tonsil by this apparatus, and application of medicaments on to the everted tonsil could also be carried out by slipping a finger-stall over a similar instrument. The cleaning up of diseased tonsils before tonsillectomy by this means was important and might prevent haemorrhage. Mr. DENIS BROWNE said that the functions of the tonsils and adenoids were completely unknown, and he pleaded for some straight thinking on the matter. For the removal of adenoids he used a form of guillotine which cut from below upwards, and he showed how the ordinary curette, besides being often too big, was also liable to produce ripping of the pharyngeal wall, especially under light anaesthesia, which allowed "gagging." With regard

to removal of the tonsils, he made a spirited attack on the guillotine, enumerating certain elementary surgical principles which its use violated. He looked upon the leaving of a piece of tonsil behind as a surgical disaster likely to do the patient harm, and he particularly stressed the loss of blood which occurred when methods other than dissection were used. Mr. F. HOLT DIGGLE (Manchester) commented on the use of the finger for examining the nasopharynx, and explained that he preferred to rely on clinical examination of the child and a consideration of the symptoms. He discussed the recurrence of adenoids, and said that there ought to be a more careful scrutiny of the child before removing various portions of hypertrophied lymphoid tissue. It was his experience that enlarged tonsils and adenoids not infrequently disappeared while the patient was awaiting admission to hospital. It was important to ask in every case, Was the tonsil diseased? Was it the source of infection? and Was it the only source of infection? He emphasized the point that the slow, deliberate guillotine operation under a long anaesthesia met many of the objections raised to this form of tonsillectomy. Dr. H. BRACEY (North Warwickshire) discussed some of the aspects of tonsils and adenoids which came under his consideration. He mentioned the importance of the general type of child who had tonsillar hypertrophy as part of a general defect. Dr. ESTHER L. CARLING (Oxford) drew attention to the potentially tuberculous child whose main trouble was frequently throat affections. She emphasized the dangers of operations performed in out-patient departments. Dr. C. P. LAPAGE (President) agreed as to the connexion between flat feet and enlarged tonsils. He emphasized the importance of the toxaemia that arose from diseased tonsils, and explained how it might simulate tuberculosis. Dr. H. T. ASHBY (Manchester) said that beneficial effects of removal of tonsils and adenoids could only be expected if the proper cases were selected, and he insisted that a skilled operator was essential. Professor C. W. VINING (Leeds) had not found that tonsillectomy benefited cases of rheumatism, and he had not noticed the increase in weight after the operation which some other observers had reported. Dr. R. SCOTT STEVENSON said that the present method of removing tonsils and adenoids in the out-patient department of hospitals was a disgrace to British surgery. After some further discussion it was unanimously agreed that the following resolution should be sent to the Council of the British Medical Association:

> That this Section of Children's Diseases is of the opinion that operations for removal of the tonsils and adenoids in a child should not be carried out as an out-patient operation; and that provision should be made by hospital authorities and local authorities for children to be kept in bed under observation for at least forty-eight hours after operation.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

Thursday, July 25th.

THE PRESENT POSITION OF THE VOLUNTARY BOARDER.

THE second session of this Section was devoted to consideration of the problems presented by the voluntary boarder in mental hospitals. Dr. HENRY YELLOWLEES, who opened the discussion, said that in this country there were three classes of "mental" institutions: the county or borough establishments for rate-supported patients, the privately owned "licensed houses," and the registered mental hospitals. In addition to rate-aided patients, many of the county asylums were allowed to admit paying patients at a low figure, but no patient could enter these institutions unless he had been certified and a magistrate's order obtained. This was probably the greatest blot on the present lunacy administration. The licensed houses and the registered hospitals only received voluntary boarders. A voluntary boarder was a person who entered the institution on his own request, and was free to leave it at twenty-four hours' notice should he desire to do so; expressed willingness to remain was the sole criterion of such a patient's suitability to stay in a mental hospital. There was no more pitiable *reductio ad absurdum* than this, that the deciding factor as to a person's legal sanity was simply whether he could express a desire to remain in hospital. Another important question was that of the patient who, having entered a mental hospital of his own accord, became, owing to illness, incapable of expressing his wishes. This problem of the non-volitional case had always been the centre of controversy, and had led to the criticism that if a patient, fearing a mental breakdown, entered a mental hospital, he would not be permitted to remain when the very illness for which he sought care supervened, should it render him incapable of expressing his wishes. The Lunacy Act regarded voluntary boarders purely from the point of view of the liberty of the subject. It looked on them as persons who, having taken the risk of jeopardizing their personal liberty, must be safeguarded from any unscrupulous persons who might attempt to take advantage of this fact. The conception of a voluntary boarder as a sufferer seeking advice, treatment, and care in a hospital was utterly foreign to the Act. The unenviable task of interpreting and administering the law as to voluntary boarders fell on the Board of Control, and the result was a reasonably broad and common-sense interpretation. The Board did all it properly could to avoid or postpone the certification or removal of the non-volitional case. When there was some ground for expecting return of volition in a reasonable period, a week or two's grace was usually granted, particularly when the relatives urgently desired it. The crux of the whole matter was that the non-volitional patient could not legally remain in a mental hospital; the problem had so far proved insoluble, and seemed likely to remain so until the public view of mental disorder and its treatment had been re-educated and the law entirely recast. Assuming that care and treatment at home were impracticable, there was no alternative to certification, but two other possibilities might be legalized, the first being treatment of such patients in a nursing home, "free from the taint of lunacy." Dr. Yellowlees mentioned this course only to condemn it. Secondly, it might be made legal to retain uncertified in the mental hospital a voluntary boarder who had become non-volitional. This was the ideal arrangement, but it was difficult to see how it could be brought about. In the present state of public opinion, Dr. Yellowlees could imagine no workable system of "safeguards" which would be likely to meet with general acceptance. Provisional certification was a clumsy compromise which would probably have been unworkable, and in any case did not meet the difficulty. As things were, however, there was no alternative to certification if the voluntary boarder who had become non-volitional was to remain in a mental hospital. One practical difficulty immediately presented itself. The patient became certifiable; his relatives wished him to remain in hospital and were agreed that he should be certified. Was it fair to proceed with this and retain him as a certified patient? A majority of the public regarded this procedure as a gross breach of faith in the case of a patient who wished to leave, and many mental hospitals refused to keep as certified those who had been with them as voluntary boarders. Certification, though distasteful, would remain necessary until there was a more satisfactory alternative, and until the problem of the non-volitional case had been solved. There was much to be said in favour of certification in many cases, even under the existing law, and most of the public horror of it was the result of ignorance and prejudice. The extraordinary variety in the symptoms and needs of the patients admitted to a central hospital of any size, along with the constant dead weight of irrecoverable chronic cases, presented a problem which needed—among many other things—almost unlimited space, staff, and money for its solution. Dr. Yellowlees had long thought that the chronic, unpleasant, and noisy cases should be removed to completely separate and independent branches of the mental hospital.

Professor GEORGE M. ROBERTSON (Edinburgh) said that the Scottish Lunacy Act, though passed so long ago as 1857, was inspired by a medical spirit that seemed surprising for that period. The experiment of treating voluntarily patients suffering from mental disorders was first tried in Scotland in 1862. The voluntary patients who were

admitted to mental hospitals in Scotland under the 1862 Act were all of unsound mind. Any person could be admitted as a voluntary patient provided he made a written application to that effect. After admission to a mental hospital he might continue to enjoy the status of a voluntary patient, so long as he lived or until he gave notice of desire to leave. Since Scotland enjoyed such exceptional facilities in law for voluntary treatment, and possessed extensive resources in accommodation for private patients at moderate rates, the number of voluntary admissions of this class was very large, and far exceeded the number of those who were certified; 60 per cent. of all the private patients entering the mental hospitals in Scotland did so as voluntary patients, and in some hospitals among the richer classes this percentage was exceeded. If this was taken in association with the fact that a large number of persons suffering from mental disorder were also treated without certification in nursing homes in Scotland, it was obvious that the great majority of persons of the richer classes in England who suffered from mental illness were not certified. There were two great differences between the English and Scottish lunacy laws relating to voluntary patients. (1) According to the strict interpretation of the English law, a person of unsound mind, one who could be certified, could not legally become a voluntary boarder; or, after he had become one, could not remain so. Although in practice this law was not now strictly administered, nevertheless the legal difficulty existed and frequently created anxious problems. No such difficulty existed in Scotland, and the question whether the voluntary patient was of sound or of unsound mind did not arise. Only one condition need be fulfilled for becoming a voluntary patient in Scotland—namely, a written application expressing a desire to submit to treatment. The presence or absence of sanity was not a condition. (2) A voluntary boarder might only remain as such in England so long as he was definitely desirous of remaining so; in Scotland in these circumstances the patient would not be certified. There was only one condition that normally put an end to the status of a voluntary patient, and that was when the patient himself gave notice of his desire to leave. The onus of taking action to terminate the voluntary status was very appropriately placed on the patient himself, and the procedure had to be initiated by a definite and unmistakable signal. The problem of the non-volitional case was of two kinds: (1) the patient already in a mental hospital as a voluntary boarder, and (2) the patient at home. (1) A voluntary boarder who became non-volitional could not remain as such in a mental hospital in England; in Scotland he could, so long as no notice of his intention or desire to leave had been given. As the question of the soundness or unsoundness of mind of a voluntary patient did not arise in Scotland, the problem of the non-volitional case was so far simplified. It seemed a work of supererogation to certify a patient for reception and detention in a mental hospital who had already been legally received and was undergoing treatment there. (2) For over eighty years it had been legal in Scotland to treat a patient suffering from mental disorder, with a view to his recovery, in any house or home, without certifying him to be insane. The authority for this was the well-known "Schedule G," and its provisions had been more or less closely followed in bill after bill for England, none of which had, however, passed into Acts. This schedule undoubtedly influenced the views of the Royal Commission. As regarded treatment in nursing homes the speaker agreed with Dr. Yellowlees, provided that he had referred to ordinary nursing homes in England. A very different situation existed when a public corporation, with a disinterested board of managers, with a century of experience behind it and with unbounded resources, provided special nursing homes for mental patients. Professor Robertson had no hesitation in saying that at present such nursing homes were the very last word in the treatment of non-volitional cases of mental disease, without certification. The managers of the Royal Edinburgh Hospital at Morningside had established six associated nursing homes for nervous and mental patients. These admitted about 150 patients a year; they had a resident population of about seventy-five, and they had a staff of nearly ninety nurses. The demand for admission from all parts of Great Britain was so great that all these homes were full, and three more were about to be opened. The whole resources and experience of the Royal Edinburgh Hospital were placed at the disposal of these associated homes, and they appeared to be the ideal form of care for non-volitional patients, suffering from mental disease, whom it was not desired to certify. The treatment of the poor, especially of the rate-aided poor, had not kept pace with this progress. There had been legal difficulties in the way, just as in England. By the repeal of the provisions of Section 64 of the 1913 Lunacy Act (the Local Government (Scotland) Act), these legal difficulties had now been swept away, and there was nothing to prevent the rate-aided poor from enjoying in the future all the advantages of voluntary treatment that the rich had had in the past.

Sir C. HUBERT BOND thought that much confusion had arisen on the subject of the voluntary boarder owing to the wrong way in which the term "voluntary" was used—namely, the habit of regarding it as synonymous with early, mild, and recoverable, and applying it to such cases. Moreover, the continued use of the term "boarder" was misleading. Originally, it was meant to apply only to (1) those patients who had previously been under certificate, and who wished to re-enter the mental hospital voluntarily; and (2) relatives of patients who desired to stay as boarders in the asylum. The crux of the problem, however, was that the so-called voluntary patient might pass into a stage that had been termed "involuntary" or "non-volitional." The speaker did not look upon these terms with favour, and, moreover, the public did not understand them. As regards their attitude to treatment, he would prefer to place patients into one of three classes: willing, indifferent, or unwilling. Alterations in the existing Act were certainly desirable, but in order that they might be brought about it was necessary, in the words of the late Sir Clifford Allbutt, "that the static mind of the lawyer come to terms with the dynamic mind of the biologist." Sir Hubert Bond considered that it was impossible to do without certification. He hoped it would be retained for those patients who could not perceive that they were mentally ill, and also to protect people who had to meet those often hostile and dangerous patients—the "unwilling" class. Dr. E. MAPOTHER said that, in addition to the voluntary boarders in registered hospitals and licensed houses, there were two other groups which were very important, not only at present, but, owing to their significance, in the future. Into the Maudsley Hospital were admitted every year half as many voluntary boarders as into the sixty private institutions. In the City of London Mental Hospital there was a large group of voluntary boarders. Though these patients were not supported at public cost, they were probably more like those who would be so supported in the other public hospitals (when such expenditure is legalized) than any in the private institutions or the Maudsley Hospital. Dr. Mapother contended that so far as difficulties existed for the public mental hospital they were financial, and as regards the private mental institutions, they were not now, and had not been, in the law, but in the practice of the Board of Control. This was entirely at variance with Dr. Yellowlees's view, but it was the fact. The Board had persistently obstructed and restricted voluntary treatment. The law, in permitting this for the recurrent case, had obviously intended permission to continue when certifiable. The Board had not only insisted on certification, where possible, in the recurrent case, but opposed voluntary treatment in all but the recurrent case. In his view there was nothing in the law to prevent continued treatment as voluntary boarders of either certifiable or non-volitional patients. This view was strengthened by the fact that such a regime had been approved by the Board and in force for six years at the Maudsley Hospital. Elsewhere the Board was only slowly being forced by pressure of outside opinion into action upon the two logical principles: that the sole criterion of fitness to be a voluntary boarder is willingness, and the sole criterion of willingness is the last expressed wish of the patient. The moral was that, *before* the really essential changes in law, such as financial provision for voluntary patients in public hospitals, there was necessary a change in the connexion in the policy and in the personnel of the

Board. This was almost vital in order to ensure that the great influence of the Board in framing the law was used in the right direction. If such reconstitution of the Board was really impossible, then it should take representative opinion before using its influence. Dr. HELEN BOYLE (Brighton), speaking as a member of the National Council for Mental Hygiene, felt profoundly dissatisfied with the present position of the voluntary boarder. Excepting a few cases in London, it was a provision only for the well-to-do and the rich; it was entirely unattainable for the poor, for whom it was far more essential. It had been said that it was pushing at an open door to demand this amendment. Each Government, and every body of persons concerned, agreed to and approved this provision for the last twenty-five years and more. The speaker could not help thinking that the door was transparent, but not yet open, and that the glass which barred them out had a metal in it. So good were the present mental hospitals that it was thought that they would be besieged by those impecunious members of the public who would prefer ease to work. Surely, if discretion was given to the medical superintendent, it was a reflection upon him if he could not separate the sheep from the goats. In time, probably most mental patients would be voluntary boarders. In America there were far more voluntary boarders than certified patients. Now was the time to push open the door. There was reason to suppose that the Government would certainly not be uninterested in the provision of help for the most unfortunate of mankind.

Dr. R. EAGER (Exeter) said that it was surely time that these laws were altered so as to allow the same facilities to the rate-supported class as now only pertained to private patients. The present lunacy laws were framed in 1890, and were now sadly in need of revision, yet years went on and nothing seemed to be done in this matter. When the present laws were made it was evident that the sole idea in the minds of those who framed them was one of detention, and that this was thought necessary, on the one hand, to guard the patients against ill treatment by their relatives and those outside mental hospitals who did not understand them, as well as, on the other hand, to protect the public from homicidal attacks and other risks of disturbance to which some cases of mental disorder were prone. The idea of treatment, however, was not to be gathered from reading the Lunacy Act from beginning to end; in these days, when so much was being done in mental hospitals in this country to try to restore patients to health and discharge them back to their homes, it seemed that it was quite time for something to be done to make the law in this matter meet modern progress. It could not be claimed that the private mental hospitals in this country had any better provision for the treatment of cases of mental disorders in their early stages than the county or borough mental hospitals; indeed, it was improbable that many of them had as good equipment for the treatment of patients as had the public mental hospitals, and yet these were the very institutions that were forbidden to treat early cases which were wishful to obtain that treatment. He had had patients come to him and ask for admission who were, even on superficial examination, obviously suffering from early symptoms of mental disorder, and he had to refuse them. Also one had to tell them to wait till their symptoms were so bad as to be easily recognized, not only by the general practitioner, but by a magistrate, who need not be, and usually was not, a medical man. He sincerely hoped that the outcome of this discussion would be that some alterations would be quickly made to right this wrong. Dr. W. A. POTTS (Birmingham) said the opener of the discussion had raised the question, Why could not the mental case be certified and removed as a matter of course like a small-pox patient? His feeling was that there must be much education, not only of the public, but also of the medical profession, before this would be possible. The small-pox patient was told that, through no fault on his part, he had caught an infection dangerous to himself and others. But his experience was that the majority of the nervous or early mental cases had been told one of two things—either that there was nothing wrong with them, or that, if there was, it was their own fault for worrying and having such silly ideas. It was unusual for the patient to be told, as he should be, that he was either suffering from some chronic infection or, if thorough investigation showed there was nothing of that kind, that he must have some form of mental conflict, which was not his fault, but the inevitable consequence of an unsatisfactory environment in his home or school, or during some other important period of his life. As regards the statement that there was nowhere where the poor could go for satisfactory treatment, he knew that if they lived in West Bromwich they could go to Hallam Hospital, and would be welcomed there at any stage of their illness. So far from a mental hospital being the only suitable place for treatment, the fact was that the general hospital had many advantages, such as specialists in other departments, but, above all, the fact that it was happier for the patient to be treated just like any other patient, while it made nurses and junior medical assistants realize that the treatment of nervous and mental cases was just one province of general medicine, and not an occult science to be practised in a place apart.

Dr. F. E. FREMANTLE, M.P., was quite sure that there was not a single member of Parliament who did not sympathize with the difficulties regarding the voluntary boarder and early mental case. It was essential that the public should be made to realize what was wrong—and also their representatives in Parliament. Medical men should give more time to bringing the matter to the relatively uninstructed and static mind of the lawyer; the same applied to most members of Parliament. It was essential to try and get the Government to include the necessary legislation as part of their programme, and so bring about a much-needed reform. Dr. C. A. MORTLOCK-BROWN (Braunton) said that three classifications had emerged: (1) the legal one of "certifiable" and "non-certifiable"; (2) that recommended by the Board of Control to the Royal Commission of voluntary, non-volitional, and unwilling; and (3) noisy and quiet patients. The legal classification was a more or less practicable working one, and if the other classifications were adopted, would it really be any easier to forecast whether at a given time in the future a patient would be willing or noisy, than it now was to decide whether he would be certifiable? She saw no reason why non-certifiable cases could not be treated in institutions separated in every way from asylums. She did not wish it thought for a moment that she was averse to the total abolition of certification, but notification by name and address was a similar stigma, and in the three-fold stigma—the nature of the illness itself, residence in a mental hospital, and certification—enveloping the patient, certification was the minimum factor. Whereas both relatives and friends knew of the patient's being "put away," it was not until recently, when certification had been advertised in the press by the medical profession, that anyone but the immediate relatives knew or understood anything about certification. There were now on the Board of Control five medical men commissioners, one being honorary, and four medical men inspectors—in all nine medical men—but not one medical woman, and this despite the fact that for four successive years the number of females certified insane exceeded the number of males by 12 per cent. She appealed to Dr. Fremantle to use his influence to get two medical woman commissioners appointed forthwith—one honorary and one salaried.

Friday, July 26th.

FRONTAL LOBE TUMOURS.

The difficult problem of diagnosing and localizing tumours in the frontal lobes was the subject of a discussion on the third day of this Section. The discussion was opened by Dr. JAMES COLLIER, whose paper is published in full at page 289.

Dr. W. J. ADIE said that the "grasping reflex" had been of value in localizing tumours of the opposite frontal lobe. The fully developed reflex was very striking, but it also appeared in various incomplete forms; hence the term "grasping reflex" did not cover the entire phenomenon. In his opinion it was not necessarily confined to extensive lesions. The fits seen in frontal lobe tumours might consist of some movement of the head, eyes, and trunk to the opposite side, with simultaneous involvement of the limbs

of the contralateral side. Such an attack, however, might also occur in temporal lobe tumours. A fit beginning with clonic movements of the eyes with deviation to the opposite side was of localizing value in frontal lobe tumour; in fact, such movements might constitute the entire fit. Mayer's reflex was of great value, a unilateral exaggeration being a lateralizer to the opposite side and a localizer to the opposite frontal lobe. Homolateral hemiplegia appeared to be particularly common in endotheliomata of the frontal lobe, and Dr. Adie described cases illustrating this point. He thought ventriculography was especially valuable in frontal lobe tumours. Mr. GEOFFREY JEFFERSON (Manchester) considered that ventriculography could be well replaced by the method of "ventricular estimation." This consisted in the bilateral tapping of the ventricles by the occipital route, the withdrawal of cerebro-spinal fluid from each, and the comparison of the volume of the two samples of fluid. He had not found the injection of dyes of great value. Mr. Jefferson then described certain cases of frontal lobe tumour which he had encountered, and illustrated his cases with admirable lantern slides. Dr. L. J. J. MUSKENS (Amsterdam) said that he had met with a case showing the sudden occurrence of status epilepticus, without previous symptoms, in frontal tumour. Differential diagnosis from general paresis was sometimes difficult, particularly since general paresis was changing in character, cases of excitement becoming rarer. Bruns had called attention to ataxia and vestibular symptoms in frontal tumours. In 1917 the speaker had pointed out that cats, after an extensive frontal lesion on the right side, and also persons suffering from right frontal tumour, tended to fall to the left; in supratentorial tumours use might be made of this lateralizing symptom. This observation was confirmed by Grosmann in 1919, who described six cases of frontal lesion from bullet wounds; in every one of these cases the patient fell to the contralateral side. Dr. C. WORSTER-DROUGHT thought that mental symptoms were more frequent in frontal lobe tumours than in those affecting other regions of the brain. In his experience the mental symptoms associated with right-sided lesions were slighter than those accompanying left-sided lesions; the former might consist of mere memory defects, while the latter varied from euphoria to dementia. He agreed that involvement of the white matter of the brain was the important determining factor. Tremor he had found of no assistance, but the "grasping reflex" was a valuable sign when present; it was, however, often absent. Incontinence was a very frequent sign of frontal lobe tumour, and might be the only symptom present, or occur with only slight mental dullness. The absence of the epigastric and abdominal reflex on the homolateral side was also helpful. He had been impressed with the frequent absence of headache in cases of frontal tumour he had seen. The presence of papilloedema was very variable, and, he agreed, could not be relied upon, either for localization or for lateralization. Air ventriculography was of considerable assistance, but he had come to regard the procedure somewhat risky in posteriorly situated tumours; he was, therefore, glad to have heard Mr. Jefferson's opinion regarding the value of ventricular estimation. Dr. J. GODWIN GREENFIELD commented on the extraordinarily long history and the hardness of the tumour often met with in the astrocytoma type of frontal glioma. There was a greater tendency to degeneration and cyst formation in frontal lobe tumours; this probably resulted from some peculiarity of the blood supply. Dr. MACDONALD CRITCHLEY stated that the phenomenon described by Adie and himself as "forced grasping and groping" had been originally reported by Janischewsky as the "réflexe de la préhension." The phenomenon was made up of several component parts. First, it comprised a slow and gentle flexion movement of the fingers on appropriate stimulation of the palm. The optimum stimulus was a moving contact on the base of the fingers and ball of the thumb. The second phase consisted in a forceful and involuntary closure of the fingers when the examiner attempted to withdraw an object from the patient's hand. The involuntary nature of the inability to relax the grasp was shown by the fact that a painful stimulus—such as a live electrode—still elicited an identical firm closure of the hand. After the object had finally been extracted from the patient's hand the third part of the phenomenon became manifested by a slow, full extension of the fingers, followed by a slight closure. In this way the patient's hand might close again on the object which had just been released ("after-grasping"). In some cases a fourth set of phenomena was seen; if the examiner was attending to some other part of the anatomy, the patient's affected hand frequently "butted in" and obtruded itself by clasping the examiner's hand. Or it might be possible to get the patient to follow one's hand with his eyes shut by merely lightly touching the finger-tips. Each contact caused the patient to grope towards the examiner's hand ("forced groping"). In cases in which there was some impairment of mentation a feature may be noticeable, spoken of by Schuster and others as the "grasping affinity." Thus it might be observed that the patient's hand was always clutching an object—the lapel of the coat, or the bedclothes—as though the patient were unwilling to have his hand empty. In other cases, also, it might be noted that as soon as the physician entered the room or approached the bed, the patient's hand was extended like a tentacle in an effort to clutch the physician as he passed. It was now realized that the grasping phenomenon might appear in regions other than the hand. Thus it had been observed in the sole of the foot; Janischewsky had recently described a similar concomitant inability to relax in the jaw, so that an object placed between the teeth could not be released ("the bulldog phenomenon"). Although forced grasping and groping might be seen in various states of stupor and coma and in some instances of diffuse cerebro-vascular disease, its presence in cases of cerebral tumour usually indicated a frontal localization. Although of high localizing value, its importance as a lateralizing sign required some qualification. Thus, Dr. Critchley had seen two cases—and Schuster had also reported one—in which the grasping phenomena had occurred on the same side as the tumour. In these instances, however, there had been a severe degree of hemiplegia on the contralateral side, with the presence of ipsolateral slight psychomotor abnormalities such as the grasping reflex. Presumably the tumours were large ones in such cases, and were capable of producing bilateral signs. Dr. F. R. FERGUSON emphasized the importance of investigating all possible channels of information—a full detailed history, the careful examination of the patient, and the employment of ventriculography and ventricular puncture in suitable cases. In some cases daily physical examination revealed such variation in the physical signs that it was impossible to correlate them and localize the tumour; this was especially marked in cases seen some time after the onset. A patient presenting clinically a marked right-sided "frontal tremor," but with other signs at one time indicating a left-sided frontal lesion and at other times a right-sided, was proved at the necropsy to have a cholesteatoma situated exactly in the middle line at the posterior end of the corpus callosum. With regard to the localizing value of the "grasp reflex," he drew attention to a case at the National Hospital, Queen Square, with a right-sided grasp reflex; a left cerebellar tumour was found at autopsy. In this patient the cerebration and co-operation were very poor, and there was evidence of secondary hydrocephalus. Dr. Collier had said, in reference to the occurrence of mental symptoms in frontal tumours, that they were almost invariably present in bilateral frontal neoplasms. Dr. Ferguson had observed a patient with bilateral frontal metastatic deposits in addition to twelve other intracranial tumours, who did not show any abnormal mental symptoms ten days before death; despite the fact that Globus and Selinsky and Siefert had described a syndrome characteristic of metastatic deposits in which psychological abnormalities played an important part. Dr. A. A. MCCONNELL (Dublin) considered that ventricular estimation was of more value in the lateralization of a tumour than in localization, and especially in the case of frontal lobe tumours. One fallacy, however, was that a frontal tumour might cause occlusion of the foramen of Monro and so prevent the injected air from reaching the opposite ventricle. Dr. McConnell also dealt with the displacement of the ventricular cavities seen in ventriculograms.

SECTION OF DERMATOLOGY.

Friday, July 26th.

THE EPIDERMOMYCOSES.

DR. G. H. LANCASHIRE, President of the Section, took the chair at the second session, when three papers were read. Dr. G. B. DOWLING gave an account of epidermal infections with yeast-like organisms, and made special reference to the spore of Malassez. He said that, during the last few years, considerable additions had been made to their knowledge of pathogenic yeasts. All the epidermomycoses were due to one family—the Oösporaceae—which resembled ordinary yeast in many ways, but were of simpler reproductive habits and also produced a mycelium. They were also very pleomorphic. From the pathological point of view the most important genus was monilia, of which the chief species was *M. albicans*, the organism that caused thrush. Clinically, scales from the lesions on the skin caused by monilia showed long, thin mycelia, with lateral thallospores. As a rule, it affected skin folds only, but when warmth and moisture were provided it might spread on to wider surfaces. There were six main types of infection: (1) generalized cases occurring in those subject to continuous water bath therapy; (2) cases in nursing infants; (3) intertriginous cases; (4) paronychia; (5) infections of the nail; and (6) dysidrosiform infections. In all cases the site of maximum infection was marked by a whitish accumulation of epithelium. Both intertriginous eruptions, paronychia, and dysidrosis were quite commonly caused by monilia. Dr. Dowling then proceeded to discuss the role of the spore of Malassez in dermatology. He pointed out that this organism, of which the forms were very varied, was always found in scales from the scalp. Many attempts had been made to cultivate it, and the first success had been claimed by W. G. Garner (1908); his work had been confirmed by MacLeod and the speaker in 1926. Benedek had also claimed to cultivate it in 1926; he stated that it was an ascomycete, and named it schizosaccharomyces, ascribing to it many dermatoses, including seborrhoea itself, pityriasis of the scalp, and acne. He had also been able occasionally to recover it from the blood, and had made very comprehensive and far-reaching claims for his organism, the characteristics of which, however, were quite different from that grown by Garner. Acton and Panja, in India, claimed to have cultivated the spore of Malassez on Petroff's medium as dry, white, chalky colonies, but their work was incomplete. Templeton also seemed to have done much the same. During 1927 and 1928 the speaker and Dr. MacLeod had published some observations on the organism cultivated by Garner's methods, principally on maltose agar. The organism was pleomorphic: it produced mycelial filaments, and fermented many sugars. When inoculated intradermically it was always pathogenic, giving rise in normal individuals to temporary follicular lesions only, but in seborrhoeic subjects to similar lesions which were rather more active and lasting; in those suffering from seborrhoeic dermatitis the lesions were often absolutely identical with those already present. Hence it was concluded that Garner's organism was, in fact, the spore of Malassez, and that this fungus alone was probably responsible for seborrhoeic dermatitis. Recently Dr. Dowling had also found that exactly similar lesions could also be produced by the inoculation of monilia. He thought there was no doubt that the spore of Malassez was a member of the monilia group. The PRESIDENT said that this was a most important and valuable paper, and a solid contribution to dermatology. Dr. ROXBURGH stated that in the treatment of monilia affections he had found prolonged soaking in iodine and water most useful. Sir NORMAN WALKER (Edinburgh) remarked that Unna's original ideas were now, after a lapse of time, being confirmed.

TREATMENT OF LUPUS VULGARIS.

Dr. A. R. HALLAM (Sheffield), in a paper on the early and organized treatment of lupus vulgaris, said that this was a common disease essentially associated with poverty, which was a grave drawback to its successful treatment. He emphasized the enormous time and trouble required in dealing with it. It was not a superficial, but a constitutional disease, for which no single remedy was adequate, and which few practitioners were sufficiently expert to treat. Besides a dermatologist other specialists were also required; for example, mucous membrane lesions were common, but often overlooked, to remain a source of danger unless the cases were submitted to a competent rhinological examination. Excision was extremely valuable in the early stages, but needed an experienced surgeon; in advanced cases this was impossible, and one had then to fall back on various measures, such as diathermy, caustics, and actinotherapy. The speaker regarded the Finsen light as very valuable, but said that it should be associated with the carbon arc as an auxiliary; the latter alone was quite insufficient. When available in summer time natural sunlight was still more effective. One of the greatest difficulties was the fact that the patients only came to seek expert advice when the disease was far advanced. Of 138 cases 34 alone were in such a stage as to offer a reasonable hope of cure, while in 85 the prognosis was very doubtful, and 19 were hopeless; 53 patients had had the disease ten years before they had applied for expert treatment. He held that all cases should have at their disposal the best treatment available, which fell into four categories: (1) prophylaxis; (2) education both of the medical profession and the public; (3) establishment of treatment centres; and (4) the systematic following up of cases. All senior medical students should be taught to recognize the disease in its early stages. Centres such as the Finsen Institute at Copenhagen would be of great value, not only to the patients actually treated there, but as a stimulus to other medical men. The PRESIDENT commended this very practical and apposite paper. He thought that on the whole the early diagnosis of lupus was much better now than formerly; one saw the severer forms of the disease much less often. Nevertheless, of course, there was much room for advance. Dr. P. B. MUMFORD (Manchester) supported Dr. Hallam's suggestion for the specialization of lupus treatment and the establishment of lupus clinics. Sir ROBERT BOLAM (Newcastle) said that in Durham much had been done by the county council to organize the control of surgical tuberculosis, including lupus, on sound lines in association with the tuberculosis officers and with hospitals specially qualified and equipped to deal with these cases. The county council paid for the work done, and the medical men employed received some remuneration. The scheme had been established about two years, and was working successfully. Sir NORMAN WALKER agreed with Dr. Hallam; special lupus clinics should be held. The sight of the advanced cases acted as a warning against neglect to the early ones. Local authorities were most helpful. Dr. L. SAVATARD (Manchester) remarked that the local authorities in the neighbourhood of Manchester were also anxious to do all they could to assist these sufferers. Medical practitioners still needed education in the early diagnosis of the disease. Dr. GARDINER (Edinburgh) said that in some cases the local authorities were to blame in taking away the cases from expert treatment, and in treating them blindly by light.

SYCOSIS BARBAE.

Dr. J. T. INGRAM (Leeds) read a paper on sycosis barbae, and reminded the meeting that Sabouraud had called this disease a disgrace to dermatology. Pathologically the condition was an external infection of the hair follicles of the adult beard with the staphylococcus, accompanied by surrounding hyperaemia. He distinguished it from seborrhoeic dermatitis of the same region, which never affected the beard alone. Sycosis was almost exclusively seen in the hospital type of patient, and he thought that the reason was that they shaved irregularly. He considered that he had had better results than the average in this disease (he had cured 11 out of 14 cases during a year) because he had studiously avoided the use of ointments, preferring strong antiseptic lotions, and had advocated regularly daily shaving by the patients. The prognosis of cases treated on such lines was, he believed, quite good. Dr. R. GIBSON (Manchester) believed that there was often a constitutional factor; he had found sea air useful in raising

the level of the patient's resistance to bacterial infection. He did not believe much in regular shaving, and thought that strong applications irritated the skin. Sir ROBERT BOLAM suggested that many of the worst cases were due to blepharitis following measles in early life; no less than 70 per cent. of the bad cases had such a history. Dr. SAVATARD asserted that the lower eyelids were constantly affected. Dr. DOWLING asked why in one patient affected with an acute staphylococcal affection of the beard the condition cleared up while another developed sycosis; he thought some constitutional factor must be at work. Dr. J. FERGUSON SMITH (Glasgow) said that the cases associated with blepharitis were really seborrhoeic sycosis. He held that sycosis was essentially seborrhoea *plus* staphylococcic infection. Dr. GARDINER recommended collosol manganese and eusol soap in preventing impetigo from developing into sycosis. Dr. HALLAM expressed agreement with Sir Robert Bolam. The PRESIDENT said that vaccines were useless in his experience. Colonel LONGHURST said that grooms in the Royal Artillery were very frequently affected by sycosis, although discipline compelled them to shave very regularly. Dr. INGRAM replied, and the proceedings of the Section then terminated.

SECTION OF PHYSIOLOGY AND BIOCHEMISTRY.

Friday, July 26th.

PHYSIOLOGY IN THE MEDICAL CURRICULUM.

THE chairman of the third session of this Section was Dr. J. A. MILROY, a Vice-President, who called on Professor F. R. FRASER to open a discussion on the place of human physiology in the training of medical students. Professor Fraser began by comparing the older physiology and the new. Physiology now meant not only the study of individual organs, but also the way in which all the systems reacted to each other and adjusted themselves to changes in the environment. Good adjustment indicated what was called health. In disease an attempt was made to find external factors which had interfered with this co-ordination; hence the importance of physiology to medical men. Textbooks of medicine often gave a wrong impression of the practice of medicine. The necessity of studying the individual differences in patients and their differing reactions was not made clear enough. At the present time, although physiology was taught to every medical student, he did not come to the wards with such knowledge as would be of most use for the practice of medicine. In the pre-clinical years he could not fully appreciate the significance of physiology to his future medical studies. When he had begun his clinical work and had become able to appreciate the importance of physiology most of his clinical teachers were unable to teach him modern physiology. Also, the postponing of applied physiology suggested that there was a separation between physiology pure and applied which really did not exist. There should be no jump between experimental work on animals to observations in man. Professor Fraser pleaded for more co-operation between the physiologist and the clinician in their teaching of students; they would together find the best way of presenting applied physiology. A teacher must, if possible, be an investigator, in order to preserve his keenness in the subject; here also co-operation of the clinician and physiologist would lead to greater advance of knowledge. During the last ten years some progress had been made in this direction. As for methods in promoting this desirable relationship, American methods were quoted, where the physiological department was sometimes placed close to the wards. Another way was to encourage the young clinicians to become demonstrators of physiology. The heads of departments were so burdened with teaching and administration that it was difficult to work together. The freeing of the clinician from outside duties enabled him to keep in touch with physiology, and to infuse physiological principles into his clinical teaching. Dr. C. G. DOUGLAS (Oxford) commented on the difficulty of making the medical student realize the value of physiology. This might be due to the way in which the subject was presented to him. The present progress in practical human physiology had enabled them to study the body both at rest and at exercise, and its adaptation under varying conditions without interfering with its integrity. He advocated attention to human physiology early in his career. Interest and curiosity in his own body, if once aroused, would provide the student with a ground plan into which details might later be fitted. With regard to practical physiology, it must be admitted that apart from histology, there was a lagging behind, as compared with theoretical physiology. The restricting of studies to nerve and muscle did not arouse a student's interest to the slightest degree. These failed to represent the modern progress of knowledge. If all but the most essential were abolished, and experimental human physiology were developed instead, the teaching of the medical student would be more successful. The objective in a practical course was to get him to appreciate the broad fundamentals from his own experience. Human experiment could be used to make him think quantitatively. Dr. Douglas stressed the importance of studying the sense organs, which could only be investigated satisfactorily in man. To keep teaching abreast of the times expense was involved; this must be faced. Human physiology should be studied as soon as the student entered the department, but reference to disease should not be made too early, because the interrelation of the two could not be grasped at this stage. The function of the whole organism must be constantly kept in view. Sir HUMPHRY ROLLESTON (Cambridge) thought that it would perhaps be better to extend the confines of physiology while still maintaining the idea that there was one physiology, in contrast with comparative and human anatomy, rather than to emphasize the distinction between analytical or laboratory physiology on the one hand and human physiology on the other. This might perhaps be thought to be mainly a question of words, but there was the danger that if only those parts and details of physiology known at the time to have a direct bearing on human disease were insisted upon, the teaching of physiology would cease to lead the way to clinical advances, and that a full recognition of the significance of new observations in medicine would be delayed. It was universally recognized that advances in physiology, which at the time might seem to be devoid of any bearing on practical medicine, might subsequently become most valuable. In the speaker's student days the observations of Langley and others on the granules in the secretory cells of glands did not appear to have any practical application. Without in any way impairing the teaching of pure physiology in the pre-clinical years, much could and had been done to adapt the methods of instruction to the needs of future clinicians. Thus the members of a class could experiment on each other in testing the phenomena of the vascular, respiratory, and muscular systems, and of metabolism; the effects of failure in physiological efficiency, such as cyanosis, oedema, paralysis, anaesthesia, and paraesthesia, in patients from the hospital wards could be correlated with the normal; and histology, whether in the physiological or the anatomical department, could be studied in human instead of animal tissues when there were normally differences. By these means not only might the transition from the pre-clinical to the clinical period be made gradual instead of abrupt, and the watertight character of the curriculum mitigated, but an approach to, and even an anticipation of, the effect of similar teaching during the clinical years might be obtained. The problem by whom, when, and how physiological teaching should be given in the clinical years was, as Professor Fraser had shown, difficult to solve satisfactorily. With regard to the teachers most suitable for this task, it should be borne in mind that physiology, especially in its clinical applications, merged into experimental pathology and pharmacology. A young man primarily trained in physiology who intended eventually to take up clinical work, and who in the meantime was attached to a professional medical unit and had one foot in an experimental pathological or pharmacological department, would, from his extended sympathies, be well fitted to give the required physiological teaching in the wards, where he had a recognized position and was at home. Such a teacher should be free from the limitations inseparable from a purely laboratory or a purely clinical

worker. In hospitals without clinical units the difficulty might perhaps best be met by a pathologist of the physiologico-pathological type mentioned above, if such a one was available. It was to be hoped that the demand would create the supply. The instruction should be given when the students were in contact with patients, and perhaps most suitably in the second three months of their clerking, but a second course should be available later, in the third year of the clinical period, when the students were attending the out-patient departments.

Professor JOSEPH BARCROFT (Cambridge) said, in a letter which was read by Sir Humphry Rolleston, that Professor Fraser's main contention was wholly admirable; "the whole body was fitly framed together," and each part depended upon each other part—qualitatively and quantitatively. Their interdependence meant a position of mutual stability, to which the body would return in health if it was displaced by circumstances from that position. In so far as it did not return health was impaired. The failure of the body to return to its stable state was a matter of pathology, but pathology might rightly be held to include also, not only the actual failure and its signs, but also the causes of failure, of which by far the most prominent in recent years had been bacterial or other parasitic infections. The appearance of a toxin in the blood was an alteration in the internal environment of the organism, just as was an increase of hydrogen ion or a rise in temperature. The reactions to that increase in toxin—which reactions enabled the body to return to its normal condition of stability—were on all fours, philosophically, with the reactions to temperature and to acidaemia. Fifty years ago pathology was dominated by morbid anatomy, then it became dominated by bacteriology, now it should find a place for what Professor Fraser called human physiology, in so far as this, in his sense, really was pathology. There was no sharp line between physiology and pathology, and the medical student should be shown in physiological lectures and practical work the consequences of impairment of physiological function. All the points in Professor Fraser's remarks about the signs and symptoms of cardiac failure were enforced in the regular physiology course in Cambridge, except that the word "digitalis" was probably not used, but the expression "a drug" or "a medicine" substituted. Alternatively, the medical student had much to learn from consideration of evolution and primitive forms of life, and it would be an ill-balanced course which excluded such learning. Professor Fraser would, doubtless, not agree that the physiology of man was fundamentally different from that of the brute creation, except in detail. Probably, being less adaptable to alterations in external environment, man required, and had acquired, a more rigorous control over the constancy of his internal environment, but the difference was trifling. The reasons for using man as the example were: (1) that it is man whom the doctor is going to treat—a reason which would not apply to a veterinary class; and (2) many important experiments demanded intelligence on the part of the person on whom the experiment was performed. For these reasons, and in virtue of the general considerations put forth so forcibly and clearly by Professor Fraser, quite one-half of the practical experimental work in Cambridge was now done on the students themselves; about one-third was on the nerves, heart, and muscles of the frog; and the remaining sixth on general principles governing oedema, etc., which involved no living organism. Professor B. A. MCSWINEY (Leeds) was disappointed in Professor Fraser's paper because he had left so little of a disputable nature. He thoroughly approved the suggestion of increasing human experiments in the preclinical years. The student was taught to realize the variations among normals. Not enough attention was given to applying these principles to biochemistry. Experiments on the student himself were numerous in this field. The speaker considered that the chief value of these studies was before the student entered the wards, but they should be continued during clinical work. Much depended on the choice of the teacher. There was a need of full-time appointments for experimental medicine. These officers could link up the departments of physiology and clinical medicine. Room could be found in the curriculum for practical physiology if some less necessary studies were cut out.

Dr. F. W. J. A. LAMB (Manchester) suggested that many practical experiments of an easy kind could be performed on the blood, the circulation, and the sense organs. He advocated a second practical course during the time of clinical work, taking such subjects as dyspnoea and cyanosis. These lectures aroused the students' interest. Physiology was a science subject as well as a medical subject. He preferred not to speak of human physiology contrasted with animal physiology, so much as synthetic and analytic. Lectures were a necessity, as also was a good equipment. Dr. J. A. RYLE agreed with Professor Fraser that enough had not been done. He approved of the appointment as medical registrars of men who had worked in the physiology department. He discussed Dr. Batten's views on defining the limits of the normal. As instances of practical physiology he mentioned the examination of the intestinal tract with the barium meal and the sigmoidoscope; also the examination of the circulation and the fundus oculi. Where there was no medical unit these difficulties of teaching applied physiology were greater. He suggested that this teaching should continue right through the medical curriculum. Co-operation of the different departments would be more likely to achieve their object rather than the establishment of a special department. Professor A. V. HILL agreed with the previous speakers as to the importance of practical human physiology. He explained that the nerve muscle work was allotted its proper proportion. He emphasized the great danger of insisting that the head of physiological departments should be medical men. The majority might be, but care must be taken not to exclude from such positions men approaching the subject from other sciences, such as physicists and biologists. This would be very bad for physiology. Another point was that bad experiments on man were not as good as satisfactory animal experiments. Care must be exercised in selecting satisfactory human experiments. Dr. H. W. DAVIES (Leeds) said he preferred to put these human studies early in the physiology course and continued then in advanced courses after the second M.B. Medical units made the problem much simpler as regards the continuation of these principles. A background of experimental medicine during the study of physiology gained the students' interest and facilitated teaching. He disagreed with the occasional entry of physiologists into wards; it must be regular if it was to be useful, and medical units enabled this to be done. Dr. C. G. IMRIE (Sheffield) spoke of Professor Leathes and his early introduction of physiological investigations into the physiology course. He considered that bedside teaching of physiological principles was essential. Professor H. S. RAPER (Manchester) was of the opinion that some changes were desirable to increase the students' interest. In biochemical studies the material studied should be obtained direct from biological sources and not from bottles. With present staffs it was not possible for the physiological department to continue the teaching of applied physiology. A special appointment might be made for this purpose. The teaching of pure physiology must not be neglected in a university. He emphasized the importance of self-examination by the student. He was accustomed to using radiological methods in teaching students. Dr. J. A. MILROY (Chairman) wished to see a special department of applied physiology. He spoke of the danger of exceeding the limits of assimilation of the students. Professor FRASER, replying, spoke of his satisfaction in hearing what was being done in the preclinical years. Little mention had been made of the later ward teaching and its difficulties. He agreed with Professor Hill that the professor of physiology should not necessarily have studied clinical medicine, but he wished that the physiologist would sometimes enter the wards in order to help in suggesting investigations and their methods. Dr. DOUGLAS, in his reply, discussed the effects of a lack of human physiology introduced early in the course. He considered that in time there would be a supply of clinical teachers with physiological knowledge.

SECTION OF HISTORY OF MEDICINE.

Friday, July 26th.

This Section met under the presidency of Dr. E. M. Brockbank, and its business consisted of five papers, the first of which was read by the President, and entitled "John Dalton, physiologist and would-be physician." He chose this subject because he had heard personal accounts of Dalton from relatives, who on their part had hearsay information from their forebears who lived with him. Several unpublished letters were read, giving an account of his desire to take up physic and of his comments on the discouraging criticism of relatives to whom he had communicated his wishes. Eventually he accepted the post of teacher of mathematics and natural philosophy in the Manchester College, and joined the local literary and philosophical society, where he read five papers on physiological subjects. The most important of these was on colour vision, in which he described carefully, for the first time, various forms of colour-blindness, of which he was a subject himself. This defect was called Daltonism for some time. The other papers were on the mind; on the mechanical effects of atmospheric pressure on the animal frame; on respiration and the causes of animal heat; and on the quantity of food taken in health compared with the quantity of the excreta during the same period. Dalton's want of tolerance of other people's opinions until he had tested them for himself, and some rather remarkable conclusions which he drew, were referred to. Some personal characteristics, and an account of his association with doctors and medical studies, concluded the paper.

Sir D'Arcy Power then read a paper on "Surgeons who were never surgeons," in which he gave short accounts of the lives of those who obtained the Fellowship of the Royal College of Surgeons of England without having practised and sometimes without having intended to practice. He told of Richard Robert Madden, who became a notable author and traveller; of William Guybon Atherstone, who identified the first diamond at what is now Kimberley; of Robert James Stone, who wrote notable textbooks on astronomy, chemistry, physiology, and health; of George Redford, who is best known in connexion with sculpture; of Francis Thomas McDougall, who became Bishop of Labuan and Sarawak—the only English bishop who passed the examinations and was admitted to the Fellowship; and, lastly, of Alfred Smee, who became scientist to the Bank of England, and who perfected a system of printing the cheques and bank-notes. All these gentlemen were honoured in their generations and were the glory of their times, although they were never surgeons, for they left a name behind them that their praises might be reported.

Dr. Wilson Parry's paper was entitled "A note on the impetus given by religion to surgery during the third epoch of the Neolithic period." He explained that in order to facilitate the exit of demons from the cranial cavity of man it was the custom in the Stone Age (prior to 2000 B.C.) for the priest doctors to trephine the skulls of the living, using only the stone implements of the period. The site chosen for the operation was always on healthy bone, and there were rarely any signs of injury, fracture, or post-operative bony infection. The lumen was either circular or oval and funnel-shaped, and the edges perfectly smooth. These ritualistic operations were far in advance of the surgery of the period, and, being successfully performed, gradually paved the way for cranial operations for the relief of diseases. Dr. Parry showed a large number of lantern slides illustrating his points, and at the close of his paper answered a number of questions.

Dr. G. Fletcher (Manchester) gave an account of the life and work of Dr. James Braid (1795–1860) of Manchester, a general practitioner who in his day won something of a European reputation for himself, mainly in connexion with hypnotism, the art of which he learnt in 1841 from a travelling mesmerist. He became interested in the subject, and treated hypnotically, with more or less success, many cases suffering from various kinds of rheumatism and paralysis, as well as cases of deaf-mutism, failing vision, corneal opacities, and tic-douloureux. He was not the first to discover the hypnotic state nor was he the first to assert that this state was wholly subjective; but he did reach that conclusion independently and by dint of much experiment, and he also devised a simple method of producing hypnosis. His great merit lay in the fact that he stripped mesmerism of its occult and baseless extravagances, and reissued it in the form of hypnotism for the service of the physician and the psychologist. To his work is directly attributable the subsequent developments of hypnotism in France and elsewhere, and for this work he ranks with the notable figures in the records of Manchester medicine.

The last paper was read by Dr. E. Bosdin Leech (Manchester) who gave an account of the work of Dr. Charles Harrison Blackley, a pioneer in researches into the causation of hay fever by pollen, work which, though recognized in America, is still practically unknown and unrecognized in his own country. He was born in Bolton in 1820, and became a general practitioner in Manchester. Himself a sufferer from hay fever, he recorded in detail the symptoms of his own disease, and used himself for experiments designed to discover the causation of the disease and the best methods for its relief. His claim to fame lies in the fact that, whilst others had described the disease and had theorized on its cause, he experimented and proved that it was due to pollen. As he himself stated, he started out to test by actual experiment the validity of the various opinions on the cause of the disease. He experimented with the air of the town, comparing it with that on the edge of the town and that of the hayfield, and regulating his holidays to sea or country that he might try new areas for his investigations. He tried the effect on himself of all sorts of grasses and flowers, choosing certain fields in turn, according to the crops growing in them, in all experimenting with thirty-five different natural orders, and as a result he brought extensive evidence to show that pollen was the cause of hay fever. In his lifetime Blackley, like many pioneers, was looked upon as somewhat of a faddist—a man who played with grasses—but in reality he is one of whom both Manchester and England may justly be proud.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A SIMPLE METHOD OF REMOVING TONSILS.

By the following technique we believe that most general practitioners should be able to remove tonsils safely and efficiently. Our opinion is derived from a series of several hundreds of cases which we have treated by this method during the past twelve months.

Anaesthetic.—In children up to about the age of 12 years anaesthesia is inducted with ethyl chloride on an open gauze mask of the type used in ordinary general anaesthesia, followed by ether until the patient is well under, when ether and oxygen are given through a Boyle's apparatus. For older children and adults a chloroform-ether mixture is used for induction.

Method.—The patient is put into position lying on his back, and after induction a sandbag is placed under the shoulders and a Davis-Boyle's gag introduced. The gag gives an excellent exposure of the fauces, maintains the tongue in position, and carries, as an integral part of the tongue-piece, a tube for connecting with the anaesthetic apparatus. The gag may usefully be held by a University College pattern jack. Illumination is provided by a head mirror and a Phelps lamp. The tonsils are gripped at the anatomical upper pole with tonsil forceps, preferably not toothed, and the tonsil is pulled as far as possible from its bed. The mucous membrane of the anterior pillar close to the tonsil is then snicked with a pair of special scissors (made by Down Bros.) with long handles and blades curved on the flat, which also act as blunt dissectors, and the space between the capsule and faucial muscles defined. It is of advantage next to separate the upper pole first, and then to enucleate the tonsil by blunt dissection. In doing this the most difficult part is in the region of the lower pole and lingual tonsil, but with care the difficulty can be overcome. It is important to see every stage, and frequent swabbing may be necessary, but when once the tonsil is completely enucleated