

to pleural adhesions over the lower lobes. The main lesions appeared to be in the upper and lower lobes of the right lung. The sputum was examined on several occasions for tubercle bacilli, with negative results. He had never suffered from syphilis, and the Wassermann reaction was negative. He indulged very moderately in alcoholic beverages and tobacco. The disease lasted for close on ten years, when death took place from bronchopneumonia.

The complications which chiefly deserve notice were a condition of chronic glossitis, and a persistent severe albuminuria from chronic nephritis, both of which were probably of toxic origin from chronic infection.

The patient was seen regularly over a period of three years up to the time of the termination. The general state of his health and nutrition was fairly well maintained, despite the secretion of a fair amount of purulent sputum daily and the presence of well marked albuminuria. There was a slight degree of cyanosis with but slight clubbing of the fingers. His tongue from the time when he was first seen was large, red, and unhealthy-looking, being deeply fissured. After coughing, and even on lightly wiping the tongue, the fissures were occupied and filled by expectorated purulent material. A condition of chronic glossitis undoubtedly arose from direct contact with the pus expelled from the lungs, and, despite careful cleansing with antiseptics, the tongue remained enlarged and chronically inflamed, with but slight inconvenience in the form of some local discomfort. There was no undue arteriosclerosis, no cardiac hypertrophy, and the systolic blood pressure never rose above 160 mm. The fundus oculi was normal. No oedema was observed.

The urine was examined on several occasions by Dr. R. L. Mackenzie Wallis of St. Bartholomew's Hospital, with the following results: The colour was pale. The quantity throughout was only a little in excess of normal and was well maintained up to the time of death. The reaction was acid. The specific gravity declined from 1020 in the earlier reports to 1014 a few weeks before death. The albuminuria was considerable and varied from 0.35 gram per cent. (Aufrecht) to 0.75 gram per cent. shortly before death. Globulin was usually present in too small a quantity for accurate estimation, but was approximately 0.05 gram per cent. on one occasion, and the ratio of albumin to globulin was about 8:1, which figures agree closely with those found in ordinary nephritis. Sugar, blood, acetone bodies, and urobilin were absent. Indican was present, from a trace in the earlier stages to a strongly positive reaction in the terminal stages of the disease. The total acidity was from 52.4 per cent. N/10 NaOH to 47.2 per cent. N/10 NaOH. Ammonia was present, from 0.05 gram per cent. to 0.03 per cent. The urea concentration test after the administration of 15 grams of urea gave a figure of 1.4 per cent. urea, whereas the urine a few weeks before death contained 2.1 per cent. urea, on a fairly liberal diet. The diastase content was usually 5 units, but was 10 units in 1921, six months before death. Microscopically, pus cells were present in fair number in the earlier stages, but became fewer in the later stages. Red blood cells were absent. Epithelial cells were usually present. The casts were generally of the granular and hyaline variety, and no epithelial and fatty casts were found at any time.

The low urea concentration and the low diastase figures in the earlier stages suggested renal inefficiency, but later examinations did not confirm this view, and shortly before death the urea percentage was normal. Blood urea tests were not performed. There was no evidence of uraemia or of its minor manifestations, so that the kidneys were probably not seriously affected despite the severe degree of albuminuria. The renal condition was probably one of toxic nephritis from septic absorption, for there was no evidence of lardaceous disease of any other organ, such as the liver, spleen, or intestines. The characters of the urine were more those of nephritis than of lardaceous disease, more especially in the absence of polyuria and of a urine of low specific gravity. No other septic complications occurred, and haemoptysis was absent throughout. No *post-mortem* examination was made.

I am indebted to Dr. Mackenzie Wallis for his reports, and to Dr. B. Barnard of Machen, Mon., for valuable information in the case of the second patient.

THE tenth congress of French-speaking anatomists and histologists will be held at Lyons from March 25th to 29th, under the presidency of M. Lesbire, professor at the Lyons Veterinary School.

THE second International Congress of Comparative Pathology will be held at Rome from October 7th to 14th. Medical men, veterinary surgeons, botanists, and biologists who propose to attend should communicate with the President of the Congress, Professor E. Perroncito, 40, Corso Valentino, Turin.

THE eighth French Medico-Legal Congress will be held in Paris from May 24th to 26th, under the presidency of Professor Parisot of Nancy. A discussion on international legislation to control the sale of cocaine will be introduced by Professor Courtois-Suffit. Injuries of the vertebral column by industrial accidents and the law of industrial diseases will also be discussed.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF ADDER BITE.

I HAVE written out these notes at the suggestion of Sir Thomas Oliver, whose paper on adder bite was published in the *BRITISH MEDICAL JOURNAL* of December 9th, 1922 (p. 1114).

A boy aged 6 was brought to my house at Helston, Cornwall, in the autumn of a year between 1906 and 1910. While picking blackberries he had been struck by an adder at a point half-way between the base of the nail and the last joint of the right index finger. He walked half a mile home, was dressed in his Sunday clothes, and walked again to the station about half a mile away; then came four miles by train, and walked another half-mile down to my house. During the latter part of the journey he was exceedingly sick. My waiting-room was full, and it was not till he had been in the house half an hour or so that I was told a child had fainted. When I saw him—some two and a half or three hours after the bite—he was lying on the floor, blanched and sweating profusely and practically pulseless. With an injection of strychnine, hot bottles, etc., he gradually revived, and after he had had a stiff glass of brandy and milk I was able to put him in my car and drive him home. Two tiny punctures were just visible at the time of my first examination. By the time he reached home the arm was swollen and he was semi-conscious, and moaning with pain. Hot fomentations from hand to shoulder seemed to relieve this somewhat. The semi-conscious condition lasted about two days.

The morning after the bite, when the late Dr. Edward Permewan of Redruth saw the child with me, the right arm was swollen to the size of his thigh, the skin deeply mottled with all the colours of the rainbow, the swelling and discoloration extending half across the chest in front. Next day the discoloration extended across the chest back and front, and down the left arm to the elbow. There was some swelling of the root of the neck, but not enough to cause any difficulty in swallowing. The limitation of the discoloration was most marked. It did not extend to the neck, and was bounded below by a line drawn round the chest at the level of the lower part of the axilla.

From that time the child gradually improved, the swelling and colour dying down, and in about a fortnight he was quite restored to health.

Owing to the length of time that had elapsed before I saw him, local treatment was useless, but as a matter of precaution I incised the punctures and rubbed in some disinfectant. I think potassium permanganate. The child was so collapsed when I first saw him that I did not expect him to rally, and he must have had an exceedingly narrow escape from death.

The case impressed itself very deeply on my memory, and, though my original notes are lost, the above account is substantially correct as to the time when the various symptoms appeared.

In spite of the large number of adders to be found in Cornwall, this was the only case I heard of where a human being was bitten. I was told that when a lane was being cut through the gorse on a moor near Helston to make a 500-yards shooting range, 160 adders were killed. I asked a farmer once to get me some specimens, and he brought in five which he killed in a few minutes on the sunny side of a hedge one April morning. Personally, I had three very narrow escapes from being bitten when shooting and fishing, while my son has twice been struck on the foot. Hounds hunting at the end of the season, when the adders were sunning themselves after emerging from their winter torpor, were frequently bitten, but I believe always recovered. A terrier of mine was bitten under the jaw. The neck and face swelled up very much and the dog was unable to open its mouth for some days, and had to be fed on milk and brandy with a teaspoon. Except for deafness on the injured side, there was no after-effect. Years ago a nephew of mine, when in the *Britannia*, picked up an adder while ashore, and put it in his pocket and forgot it. Later on he put his hand in his pocket to see if the beast was still there, and was bitten on the ball of the thumb. I know no details, but remember that the boy was exceedingly ill and his people had to be sent for.

Norwich.

MARK R. TAYLOR.

TRIANGULAR FRONTAL HYPERAEMIA IN INFANTS.

CERTAIN infants and young children display a phenomenon which has not, I believe, hitherto been noted in medical literature. It consists of a triangular area of hyperaemia situated over the juncture of the two frontal bones and extending from the anterior fontanelle above to the nasion

below—the base of the triangle being above and the apex, which is usually blunted or irregular in outline, being below. The width of the triangle varies, but across its centre it averages from three-quarters to one inch. The area is usually punctate in appearance, and at birth is of a bright red colour, the latter gradually fading as time goes on, to become eventually just a faint blush before finally disappearing altogether at or about the end of the second year. Occasionally the macules—which are not elevated—are replaced by streaks, and the colour may be deep enough to border on purple, and so set up the impression in the minds of the parents that the child has a birth mark, but I have never known one of these patches to remain visible for very long after the end of the second year. In some instances the colour is faint at the outset and disappears entirely in a month or two.

This peculiarity has been noted in both sexes and in dark as well as in fair children; it is comparatively common—2 out of 41 children examined on one day, and 3 out of 66 examined on another day, showing it; and it appears to be of academic interest only, no practical difference having been noted between those children who show it and those who do not.

A. F. G. SPINKS,
Maternity and Child Welfare Medical Officer,
Newcastle-upon-Tyne.

Reports of Societies.

DISRUPTIVE PHENOMENA IN GUNSHOT INJURIES.

A MEETING of the Pathological Section of the Royal Society of Medicine was held on February 20th, with Professor LEDINGHAM, the President, in the chair, when Professor S. G. SHATTOCK read a paper on the disruptive phenomena in gunshot injuries and their physics.

Professor Shattock observed that whatever clinical peculiarities gunshot injuries presented, their proper pathological interest, as injuries only, was limited to the fact that the velocity of the missiles produced special effects known as explosive, or better as disruptive. As was well known, Professor Vernon Boys some years ago succeeded in photographing bullets soon after their leaving the rifle, and demonstrated the presence of a conical air wave accompanying the missile. At first the displacement of air seemed of some importance, but it was quite negligible, although under the name of "windage" much had once been attributed to it. Amongst other proofs the speaker had found that, on firing with a service rifle and pointed modern British bullet, at 20 feet, through screens of tissue paper tensely stretched on wooden frames, the aperture in the paper very little exceeded the diameter of the missile.

The late Sir Victor Horsley attributed the disruptive effect chiefly to the factor of the spin of the bullet. A close study of the casts made from the cavities produced in soft clay by firing directly and at close range into the latter did not, in the speaker's opinion, confirm the evidence of this; the ridges on such casts presented only slight indications of any obliquity, and not more than due to the open spiral of the rifling. The most conclusive proof of the absence of spin was furnished by the study of British bullets fired into sand: the apex showed fine scratches due to the sand, which were not spiral but longitudinal. The disruptive factor was thus reduced to that of forward velocity acting upon a mobile and practically incompressible medium, the lung alone being excepted, in which no such disruption took place owing to the compressibility and ready escape of its contained air. The lateral disruptive movement was imparted to the medium by the intense compression in front of the bullet, which compression was also exerted more directly sideways by the conical point simultaneously acting as a wedge. It was in the skull that the disruptive phenomenon was most marked. The effect was still often supposed to be hydrostatic, but it was a hydrodynamic one, as shown by experiments made upon objects provided with a free exit—upon tins empty and others filled with water freely open at the top: two clear circular holes were made in the first; in the others the back was split into large triangular everted flaps. The rate of the wave transmitted by the incompressible water was equal to that of the bullet, which, as soon as it impinged, was accompanied by the receding wave of the water. Similar results were obtained in human and in sheep skulls when inverted

and filled with water; if the brain were left *in situ* in the inverted skull the same comminution took place.

It had been asserted, by Professor Stargardt in 1914, that the British rifle bullet was designed for expansion; that, on striking, the momentum carried the leaden core over the aluminium cone, and split the mantle. A study of bullets fired experimentally through calvariae of different thicknesses, the bullets being recovered in cotton waste behind, showed that on perforating dense bone the momentum on impact caused the lead to splay out or mushroom at the open base, and not at the junction of the lead and aluminium. In the first degree the mantle was evenly turned back over a projecting rim of the lead; in the later the mantle was split and turned out or recurved, like the sepals of a fuchsia, the splitting starting at times when scored by the rifling. On compressing bullets in a vice some of the lead was expressed from the open base, but no displacement occurred over the harder aluminium cone. The cupro-nickel mantle of the British bullet, however, was less resistant than the German, of steel. This the speaker was able to show by taking equal lengths of the two, placing a steel ball over the open end, and testing by increasing loads the pressure they would withstand. The British mantle began to yield or open out under a load of 180 lb.; the German, under a load of 390 lb.

The Fermentative Reactions of B. diphtheriae.

Dr. C. C. OKELL and Miss E. M. BAXTER read a paper on the fermentative reactions of *B. diphtheriae*. They had examined the fermentative reactions of the serological types of virulent *B. diphtheriae* described by Eagleton and Baxter, as well as their unclassified cultures. The most useful agents for differentiating the *B. diphtheriae* appeared to be glucose, saccharose, lactose, dextrin, glycerin, and litmus milk, and glucose and saccharose appeared to be the sugars of most practical use in differentiating the diphtherial from the diphtheroid groups. All the serological types of virulent *B. diphtheriae* so far examined had practically identical sugar reactions. Fermentative reactions at present available could not be used to distinguish between the various serological types or between virulent and avirulent forms.

The Inheritance of the Specific Iso-agglutinable Substances of the Red Blood Cells.

Dr. S. C. DYKE communicated the results of an investigation undertaken by Dr. C. H. Budge and himself in the maternity ward of St. Thomas's Hospital into the inheritance of the specific iso-agglutinable substances of the red blood cells. Ninety-seven unions were observed with 98 offspring. In no case was it found that the iso-agglutinable substances A or B of the red cells appeared in the offspring without having been previously present in the blood of the parents, this being in conformance with the hypothesis of von Dungern and Hirschfeld. Placental blood was used for ascertaining the blood group of the infants; it was found that in only 16 out of the 98 cases investigated was it possible to allot the placental blood to its group by means of the agglutinins of the serum; in the remaining 82 the agglutinins were either completely or partly absent. In determining the group of the offspring reliance was consequently placed upon the reaction of the red cells. It was pointed out that 32 of the 98 babies examined appeared to be of a different group from their mothers.

Carcinoma of the Skin in Rabbits.

Dr. J. A. MURRAY showed preparations of two squamous-celled carcinomata of the skin which he had produced in rabbits as the result of eight months' painting with an ethereal extract of tar. The latent period of the development of those tumours corresponded fairly closely with that seen in the mouse. Dr. Murray said that they were likely to prove of great value in the investigation of therapeutic measures, for the rabbit was a particularly favourable animal for that purpose.

PRIMARY UNION IN SUPRAPUBIC OPERATIONS.

A MEETING of the Urological Section of the Royal Society of Medicine was held on February 22nd, with Sir JOHN THOMSON-WALKER in the chair. Mr. RALPH THOMPSON read a paper on the propriety of attempting primary union in cases of suprapubic operations on the bladder and prostate.

Mr. Thompson first described in some detail thirty-one cases in which he had performed primary union after suprapubic cystotomy, and which he classified under the seven following

unceasing and unavailing efforts for reform, his loyal and courageous service to the profession will long stand as an example and encouragement. His loss at the moment, when the central body of the Association is entering upon the critical phase of the negotiations he conducted locally with marked ability and devotion, is an unlooked-for disaster.

The Services.

THE DIRECTOR-GENERAL, A.M.S.

It is officially announced that Major-General Sir William Boog Leishman, K.C.M.G., C.B., of the Army Medical Staff, has been appointed to succeed Sir John Goodwin, K.C.B., as Director-General of the Army Medical Service, with effect from July 29th next, when the latter will vacate the appointment after five years' tenure. Sir William Leishman was born in Glasgow on November 6th, 1865, the son of the late Professor W. Leishman, and was educated at Westminster and at the University of Glasgow, where he graduated M.B. and C.M. in 1886. He entered the Army Medical Department, as it was then called, as surgeon, on July 27th, 1887, passing fifth into Netley. He became Major R.A.M.C. after twelve years' service, and on April 15th, 1905, was promoted to Brevet Lieutenant-Colonel, in recognition of his services and of the distinction he had obtained in original investigation and research. On December 11th, 1911, he became substantive Lieutenant-Colonel, on October 15th, 1912, Brevet Colonel, Colonel on March 1st, 1915, and Major-General on October 24th, 1918. Three years after obtaining his commission Captain Leishman (as he then was) went to India, where he served for six and a half years. He took part in the Waziristan expedition in 1894-95, and received the medal and clasp. He held the appointment of staff surgeon to Sir George Wolseley at Lahore, and did a considerable amount of work in bacteriology. His researches in connexion with kala-azar are well known. The parasite was first observed in 1900, but Leishman did not publish his discovery until 1903, when the same observation had been made by Lieut. Colonel Charles Donovan, I.M.S., afterwards Professor of Pathology in the Madras Medical College. On return to England Sir William Leishman was posted to Netley, where he worked at bacteriology in Sir Almroth Wright's laboratory. He was Assistant Professor of Pathology at the Medical Staff College and R.A.M. College from February 1st, 1903, to January 31st, 1910; he was then appointed Professor of Pathology at the R.A.M. College, which post he held until January 31st, 1914. When war broke out he was War Office expert on tropical diseases on the Army Medical Advisory Board. He was sent to France in 1914 as Adviser in Pathology, which post he held until he was brought to England in April, 1918; he was appointed Director of Pathology at the War Office (June 1st, 1919). He was created a knight in 1909, C.B. in 1915, and K.C.M.G. in 1918; he was elected a Fellow of the Royal Society in 1910, and has received honorary degrees from the Universities of Glasgow and McGill. He was President of the Society of Tropical Medicine and Hygiene in 1912, and of the Section of Tropical Medicine at the Annual Meeting of the British Medical Association at Brighton in 1913.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Appointment of Demonstrators.

THE Vice-Chancellor has approved the following appointments of Demonstrators for one year from Michaelmas term, 1922:

Department of Human Anatomy.—M. H. MacKeith, B.M., M.A., W. W. Wagstaffe, B.M., M.A., Beatrice Blackwood, M.A.

Department of Physiology.—H. M. Carleton, M.A., C. G. Douglas, B.Sc., D.M., F.R.S., E. G. T. Liddell, B.M., M.A. (for three years).

Department of Biochemistry.—P. C. Raiment, B.A., M.R.C.S., L.R.C.P., G. L. Peskett, B.A.

UNIVERSITY OF CAMBRIDGE.

THE Council of the Senate recommends the appointment of the Right Hon. Sir T. Clifford Allbutt, K.C.B., M.D., Regius Professor of Physic, to represent the Vice-Chancellor at the octocentenary celebrations of St. Bartholomew's Hospital to be held on June 5th, 6th, and 7th.

Professor F. Gowland Hopkins, Mr. G. E. Wherry, and Dr. L. Cobbett have been appointed members of the M.D. Degree Committee.

UNIVERSITY OF LONDON.

At the January matriculation examination of the University of London 163 passed in the first division and 862 in the second division; 42 took a supplementary certificate for Latin.

The Graham Legacy Committee has reappointed Dr. V. R. Khanolkar to the Graham Scholarship in Pathology for two years from April 1st next. On this occasion the value of the scholarship is £300 a year. The reappointment was made on the recommendation of the School Committee of University College Hospital Medical School, at which Dr. Khanolkar's researches have been carried on during the past three years.

UNIVERSITY OF BIRMINGHAM.

THE prize medals awarded by the University Clinical Board for the past session, together with the Arthur Foxwell memorial medals for 1921 and 1922, were distributed on February 19th by Principal Grant Robinson. The following were the recipients: Senior Medical Prize (gold medal) and Senior Surgical Prize (gold medal): H. S. Savage. Midwifery Prize (gold medal): P. Quinet. Junior Medical Prize (silver medal): S. H. Cookson. Junior Surgical Prize (silver medal): A. G. Taylor. Arthur Foxwell Memorial Gold Medals (for excellence in Clinical Medicine): 1921, A. S. Cookson; 1922, R. J. Gittins.

Medical News.

A SPECIAL course in tuberculosis will be held at the Brompton Hospital for Consumption during the week beginning March 19th. A preliminary meeting will be held at 11.30 on that day; on other days the course will occupy practically the whole day—from 10.30 to 3 or 4 p.m. It will consist for the most part of demonstrations, and will include a few lectures. Full particulars may be obtained on application to the Secretary of the Hospital.

DR. J. H. SEQUEIRA will give a lecture on "Advances in the Treatment of Skin Disease by Light" on Thursday, March 8th, at 5 p.m., in the Anatomical Theatre of the London Hospital Medical College. The lecture will be open to senior students of the hospital and to post-graduates.

THE Prix de Carthage, a biennial prize founded in 1921 for scientific or historical work, has been awarded to Dr. Nicolle of the Pasteur Institute of Tunis for his investigations of typhus fever, kala-azar, trachoma, and Malta fever.

THE *Times* correspondent in Shanghai announces that the Associated British Chambers of Commerce there have passed a resolution welcoming the British Government's decision to devote the Boxer indemnity to purposes beneficial to Great Britain and China, and urging that the money be expended on the education of Chinese on British lines and the support of British medical work, educational and clinical, in China. The financial claims of Hong Kong University were pressed, and it was recommended that only a limited number of travelling scholarships to Great Britain should be granted.

THE next series of lectures to medical students and practitioners, arranged by the staff of Queen Charlotte's Lying-in Hospital, Marylebone Road, N.W., will be given on Thursdays at 5 p.m., commencing on March 15th, when Dr. C. Hubert Roberts will deal with rupture of the uterus, and terminate on April 19th, when Mr. Leonard Phillips will speak on the scope of Caesarean section.

THE sum of £48,487 was collected by the Hospital Sunday Fund last year as against £50,173 collected in 1921. During forty-nine years the sum collected by the Fund amounts to £1,835,711.

A DINNER to celebrate the twenty-fifth anniversary of the foundation of the Röntgen Society will be held on Thursday, March 15th, at the Hotel Cecil, Strand, London, W.C. Tickets, price 17s. 6d., including wine, may be obtained by members from the honorary treasurer, Mr. Geoffrey Pearce, 33, Newton Street, W.C.2.

A BELGIAN Pediatric Society has been founded at Brussels under the presidency of Professor Pêchère, and a congress of the Association of French-speaking Pediatricists will be held at Brussels in September under his chairmanship.

IN connexion with the course on children's diseases arranged by the Fellowship of Medicine at the Children's Clinic, Western General Dispensary, Cosway Street, N.W.1, Sir William Bayliss will deliver a lecture on the use of saline injections in the treatment of disease on Monday next, March 5th, at 5 p.m. Members of the medical profession are invited to attend.

A CHADWICK Public Lecture on the principles and practice of sanitary legislation will be given on Monday, March 12th, at 8 p.m., in the Inner Temple Hall, by Dr. Charles Porter, medical officer of health for the borough of St. Marylebone.

THE Council of the University of Paris had decided to confer the honorary degree of Doctor of Medicine on Professor W. W. Keen of Philadelphia and Professor Golgi of Pavia.