

carbon dioxide and of hydrogen in varying proportions. It often develops with astonishing rapidity, and may become clinically evident four to six hours after the receipt of the wound. The appearance of crepitation in the subcutaneous tissues is probably due to gas which has escaped from sub-jacent infected muscle.

The gas may accumulate under considerable pressure, and, in so doing, it adds to the embarrassment of a circulation which is already impeded by the presence of inflammatory exudate.

Coincident with the production of gas is a formation and setting free of various organic acids. The acids which occur in the *in vitro* fermentation of carbohydrates by *B. welchii* retard and finally inhibit the growth of the organism, and, unless there is a high amount of available protein present, the culture dies out rapidly. If, however, some method be adopted of neutralizing the acid as that is formed, as, for example, by the addition of calcium or of magnesium carbonate to the culture, then the growth is not only much more luxuriant but its vitality is considerably increased.

In infected tissues such a neutralization is brought about by the inflammatory exudate, for the buffer salts of the serum constitute an absorbing reservoir which will take up any excess of free acid, and it is only when this considerable reserve is used up, if ever this does happen, that one can expect to find an increased hydrogen ion content of the circulating blood.

There is, however, another contributing factor to the neutralization of acid, a factor which comes into operation in the later stages of bacterial growth. The early rapid growth of the saccharolytic group is succeeded by the more gradual development of members of the proteolytic group. The protein constituents of the damaged tissues are attacked by the digestive ferments elaborated by organisms of this second group, and are broken down by successive stages. The final product consists largely of ammonia bodies, and it is these that help to counteract the acids resulting from carbohydrate degradation.

It is probably just at this point that certain saccharolytic organisms become proteolytic, and throw in their lot with the real tissue digesting organisms.

The gas formed in the proteolytic stage of wound infection is malodorous because of the development of sulphuretted hydrogen and certain volatile bodies.

It is probably during the proteolytic period also that the toxic products are elaborated which give rise to the clinical condition of toxæmia. It is very unlikely that such a condition is established as the result of carbohydrate fermentation. The clinical picture of a man dying with anaerobic toxæmia is chiefly that of a rapidly progressive circulatory failure, and death may come so abruptly that it is often falsely ascribed to pulmonary embolism. It never bears a resemblance to that state of "air hunger" which clinical pathologists have proved to be associated with blood acidosis.

One may, then, summarize the pathological processes in an anaerobe-infected wound as being characterized by two main features—the production of gas and the death of tissue. Each of the two main groups of anaerobes above defined has its share in these processes, and the successive stages by which an anaerobe infection develops may be thus summarized:

1. The initial trauma in determining the death of tissue establishes a focus for growth. This is characterized by the latent period, which precedes any obvious clinical signs of anaerobic infection.

2. The first active phase of anaerobic infection consists in the development of the rapidly growing saccharolytic organisms, of which *B. welchii* is the chief. It is because of the richness of muscle in fermentable carbohydrate that this tissue provides such favourable conditions for the growth of organisms of the saccharolytic type. Their development results in the production of acid and gas. The gas accumulates first in the muscle and reaches the subcutaneous tissues by escape from the muscle. The pressure produced by gas and also by inflammatory oedema fluid leads to an anaemic condition in the tissues surrounding a wound, and this change initiates the second active period of anaerobic invasion. The muscle in the saccharolytic period is of a brick-red colour.

3. The second phase of anaerobic infection in a wound consists in active proteolytic digestion. This is characterized by death and digestion of the tissues. The process is

accompanied by the formation of sulphuretted hydrogen and of volatile substances, which give the penetrating putrefactive odour so typical of the later stages of infection. The previously red muscle becomes soft and diffuent. It may be stained black by a sulphide of iron formed by the interaction of sulphuretted hydrogen with the iron released from broken-down haemoglobin. The toxæmia which develops at this period results from the absorption of toxic substances produced in the breaking down of the protein molecule, and cannot be attributed to the acid which is formed in the breaking down of the carbohydrate molecule.

4. The final phase is that of successful bacterial invasion of the blood stream. It occurs in most cases just at, or immediately preceding, the death of the individual.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE VALUE OF PURE CARBOLIC ACID IN THE TREATMENT OF SEPTIC WOUNDS.

We are apt to forget the value of old remedies in the multitude of new ones, which, admirable and useful as they may be in many cases, are often not so well adapted for the particular purpose for which they may be employed. The special class of septic wounds referred to is that in which the destruction of soft tissues has led to ill-defined attached portions of dead skin, subcutaneous tissue, or muscles. Much of such tissue it may be possible to cut away, but there is always more or less left which Nature must detach itself, and so long as such necrosed tissue remains adherent it is a veritable hotbed for the development and multiplication of pathogenic and saprophytic organisms not only capable of exciting active local mischief but proving also a fruitful source for septic absorption. It is difficult to get at these deeply embedded organisms by means of any of the more modern solutions recently introduced, or by any of the various methods adopted in their employment. But to soak all necrotic tissue freely with pure carbolic acid is to effect complete sterilization.

Any who have tried this old Listerian practice—for it is to Lister that we owe it!—will bear out the statement that wounds so treated rapidly "clean up"; any advance of the acute septic process in the immediate neighbourhood of the necrotic tissue ceases; pain in the part is relieved; the temperature often falls, and, in every way, both the patient generally and the part locally show signs of rapid improvement.

I have been induced to draw attention to this old method because I have failed to notice any allusion to it in the many contributions that have recently appeared in the journals on the subject of septic wound treatment; and still more for the reason that the abundant opportunities which the present war has afforded of testing its value in the particular class of cases referred to have amply justified its use in the way originally suggested and employed by Lister.

A. ERNEST MAYLARD,
Glasgow. Surgeon, Springburn Red Cross Hospital.

ADRENALIN IN ANGIONEUROTIC OEDEMA.

This disease, though rare, is very distressing and intractable. In the following case, that of a lady aged 39, it lasted for three years, and resisted all the reputed

¹ The Collected Papers of Joseph, Baron Lister, vol. ii, p. 38.

remedies. The first symptoms were numbness, tingling, and itching. The complexion became waxy, and the patient felt thoroughly depressed. The itching increased, and the part gradually reddened, then became erythematous, being well raised above the surface. The intense pruritus got worse the first day, remained stationary the second day, and on the third day gradually cleared up. The usual sites were: (1) Both eyelids, in which case it spread over the face, forming a huge urticarial and erythematous patch; (2) centre of the lower lip; (3) the interdigital spaces, spreading all over the fingers, chiefly the dorsum. The intense pruritus could only be controlled by holding the hand (when it was the hand that was affected) in a lavatory basin, and keeping the water running. Lotions and ointments of the usual type "got hot," and bandages had to be removed.

The chief exciting cause was worry, especially recurring sources of worry. The pruritus recurred very frequently, with only a few days' interval between successive attacks. Owing to the suddenness of the onset, the patient was often unable to go out to dinner; while dressing for dinner it would come on and quite disfigure her. The frequency would be much reduced during holiday, it rarely showed itself at such times, but on return from holiday it would speedily return. On one occasion, at the end of a visit to the West Coast of Scotland, she had intense pain in the right ear; there was nothing to account for it, and it disappeared in the morning; but during the journey, while on a steamboat, it returned with great intensity.

In the earlier part of the treatment she had, internally, calcium lactate, sodium salicylate, and nitroglycerin; and, externally, Lassar's paste, lotio calaminae, lotio plumbi, resinol, and many other remedies, but without any obvious effect. Then I tried adrenalin injections. I gave 4 minims of solutions of adrenalin chloride or epinine. The immediate effect was rather remarkable. The insertion of the needle was particularly painful; the patient then felt she was "going lifeless," a sensation almost like one of impending death; she was intensely anxious and dared not move, but lay quite horizontal. She had a numb feeling, beginning at the toes and gradually spreading up the body, and she felt as though she was being blanched. At this time there was definite pallor, which increased, and the pulse distinctly waned and became flickering. There was a zone of pallor round the injection, and always a black stain at the site of puncture. The unpleasant apprehensive feeling speedily passed off, and she felt quite well again. If the rash were fully out it took several hours to disappear, but when given in the first stage of numbness and itching the injection would abort the attack at once. After a few injections and observation of the specific effect I gave her suprarenal tablets three times a day. At first the attacks were diminished in frequency and severity, and eventually they ceased.

There were two patches, one on the back of the neck and one on the inner side of the knee, which came up in a similar way, but they were more raised and much more severe than the others. Although they yielded to adrenalin they did not disappear but left a lesion like psoriasis, which persisted for months. The patch on the neck received one dose of x rays, which produced a violent reaction and dermatitis, but it subsequently cleared up. The other remained stationary for years without causing trouble, and it has now almost disappeared.

It is now four years since any lesion has appeared, and the condition might be regarded as cured.

J. ALFRED CODD, M.D.Lond.,
Physician, General Hospital, Wolverhampton.

ANTHRAX IN UGANDA.

AN adult male Swahili, a lamp cleaner on the Busoga Railway, taken ill four days previously with shivering fits and pains in chest, appeared acutely ill when admitted to hospital. Respiration was rapid, cough constant, and expectoration free; pulse 120, respirations 40, temperature 102° F.

There was marked deficiency in resonance over the whole of the left lung, with diminished air entry and tactile vocal fremitus, numerous moist râles throughout the left side of chest, with jerky "cogwheel" inspirations, and few crepitations scattered throughout the right lung. The apex beat was ill defined and the heart sounds

muffled. Clinically the case presented a typical picture of acute pulmonary tuberculosis, but in view of the existing plague epidemic the possibility of pneumonic plague had to be considered. Microscopical examination of the sputum for tubercle and plague bacilli showed that both were absent, but anthrax bacilli, with marked granular staining, were found to be numerous.

The patient was isolated. He died on the evening of the sixth day after admission, after about ten days' illness.

Post-mortem Examination.

There was a considerable quantity of straw-coloured fluid in the pericardium and a small amount in the pleural cavity. The left lung was extremely congested and oedematous, with patches of grey hepatization, which in parts had broken down into small caseating masses. Except for a small amount of congestion and oedema, the right lung was normal. The trachea was congested and the bronchial glands considerably enlarged. Films taken from the broken-down patches in the left lung showed anthrax bacilli. The liver and kidneys were somewhat congested; the spleen was enlarged and congested; no bacilli were found in a smear from the spleen.

The case is noteworthy for its rarity. It is, I think, the first case reported in the Protectorate. The man stated that he never came into contact with cattle or hides. Considering the large numbers of cattle and the extensive trade in hides, it is surprising that cases do not occur more frequently.

B. SPEARMAN, M.A., M.B., B.C.Cantab.

Jinja, Uganda Protectorate, B.E.A.

TONSILLECTOMY.

LIKE most of us, Dr. Stirling (BRITISH MEDICAL JOURNAL, June 9th, p. 765) considers the method he is used to for the performance of this operation is by far the best. With an experience of over four thousand tonsil operations the method that gives me the most satisfaction is that by the use of O'Malley's instrument: removing the right tonsil first, then changing the instrument to the left hand for removing the left tonsil. I find ethyl chloride the most satisfactory anaesthetic.

Wimbledon.

VINCENT GREEN, M.D.Edin.

Reports of Societies.

TROPICAL DISEASE IN THE BALKANS.

At a meeting of the Medical Section of the Royal Society of Medicine, held on Tuesday, June 12th, Sir RICKMAN GODLEE being in the chair, Major ALDO CASTELLANI delivered a lecture on the tropical diseases found in the Balkanic zone.

Malaria.

In the course of his lecture he said that the allied troops in the Balkans were exposed to many tropical diseases. That most frequently met with was malaria, the protean nature of which, though formerly well known, had been again brought into prominence. Pernicious cases were common in the late spring, summer, and autumn. The symptoms might simulate many other diseases, and a wrong diagnosis might easily be made with very serious results. Cases with symptoms pointing to lesions of the central nervous system were far from being rare, and he had met with the following types: (1) comatose, (2) delusional, (3) cerebro-spinal meningitis, (4) hemiplegic or monoplegic, (5) bulbar, (6) cerebellar, (7) tetanic, (8) eclamptic, (9) aphasic, (10) amaurotic, (11) spinal. The classical varieties of malaria as described in the books were not frequent. A purpuric and haemorrhagic form had occurred and resembled scurvy. It was marked by petechiae and haematomata, spongy and bleeding gums, and sometimes bleeding from mucous membranes. The spleen, however, was enlarged, and although parasites were found in only about 10 per cent. of the cases, they reacted to treatment by quinine. Another blood condition which might be closely imitated was pernicious anaemia. The patient was generally a young man or woman with the typical pallor and lemon yellow tint of pernicious anaemia; in some cases the liver was enlarged, or more rarely the spleen; there was either no fever or very little.

paragglutination. The recent paper by H. Conradi and R. Belling, "Ueber Fehlerquellen der Gruber-Widalschen Reaktion," is most instructive in showing that in an inoculated subject the titre of agglutinins for the injected bacillus may be increased not only by an infection with it, but also by an attack of various other diseases.—I am, etc.,

W. JAMES WILSON, M.D., D.Sc.,
Captain R.A.M.C. (T.F.).

No. 54 (London) General Hospital,
B.E.F., May 25th.

ANAESTHESIA BY WARMED ETHER.

SIR,—To whom should the credit be given for the invention of "open ether" and of "warmed ether"? Hitherto these discoveries have been assumed to have originated in America. It has, however, been recently pointed out to me by Mr. E. Mayer, of Messrs. Mayer and Meltzer, that the late Mr. Lawson Tait published in 1883 an account of "an apparatus for administering ether vapour at blood-heat."¹ Lawson Tait was an enthusiastic advocate of ether, which was given (by the sister in charge or by a nurse) after the simple fashion introduced by Sir James Simpson for the administration of chloroform—that is, by dropping it on the outside of a single fold of a towel. Certain directions were given by Lawson Tait for successful anaesthesia: thus the towel must be not too thin, but of such a texture as to ensure the passage of air freely through it; the ether must be dropped continuously, not splashed on, in order to obtain a continuous volume of ether vapour, and the towel must be puffed out around the face at a distance of an inch, or an inch and a half, so as to "enclose a body of vapour." Lawson Tait held that the only risk about the administration of ether was the occurrence of bronchitis in old people. Hence he devised his apparatus for giving in these cases warmed ether vapour at a temperature of 33° C. A glass boiler containing three drachms of ether was suspended in a hot-water tank, beneath which was placed a spirit lamp. From the boiler an exit tube passed to a Junker's mouthpiece.

It is fairly obvious that these are the first published accounts of "open ether" and of "warmed ether." It is curious that they should have been so long neglected, for Lawson Tait's writings must have been widely read. Was this neglect due to prejudice arising from the unskilful administration of ether and the greater convenience to the surgeon of chloroform, or was it due to the influence of Clover, which led strongly in the direction of closed methods? Perhaps the use of closed methods condemned ether entirely for abdominal operations in the eyes of some surgeons. It seems a pity that Lawson Tait's methods were not more practised.

Dr. Beresford Kingsford's letter in your issue of June 2nd (p. 748) raises a point of considerable importance. He objects to rebreathing during ether anaesthesia. On what grounds? The observations of Dr. Pembrey and myself on the composition of the air under masks during ether anaesthesia² show that in open methods (which include warm vapour anaesthesia) there is some rebreathing. This is looked upon as beneficial to the patient, owing to the stimulating effect of carbon dioxide upon the respiratory centre. We found that carbon dioxide is present in adequate but not excessive amount, and the oxygen supply is ample. There is no danger of acapnia. It is in the closed methods that the rebreathing is excessive; the amount of carbon dioxide is too high, and the oxygen may be decreased to a point which is dangerously low.

It will, I am sure, much interest Dr. Kingsford to know that in Kappeler's *Deutsche Chirurgie*, 20, 1880, s. 185, appears an illustration of Hawksley's inhalation ether apparatus of the "draw-over" type. It is almost exactly similar to that described by Dr. Kingsford. "There is nothing new under the sun."—I am, etc.,

London, W., June 2nd.

FRANCIS E. SHIPWAY.

FRAGILITAS OSSIUM, BLUE SCLEROTICS, AND OTOSCLEROSIS.

SIR,—In a note on fragilitas ossium (BRITISH MEDICAL JOURNAL, June 2nd, p. 739) it is stated that "the earliest record of association of the blue sclerotic with fragility of the bones was made by Eddowes in 1900." This is a mistake. In 1896 I contributed a short article to the

¹ *Diseases of the Ovaries*. Fourth edition, p. 266.

² *Proc. Roy. Soc. Med.*, 1916, vol. x, No. 2, p. 7.

BRITISH MEDICAL JOURNAL, entitled, "Hereditary tendency to fracture." In it I described the history of three or four generations of a single family in which an extraordinary number of fractures occurred, many of them under my own care. I added: "The only other symptom common to these cases was a blue sclerotic," which I had never seen under other circumstances. This was four years before Dr. Eddowes's record.—I am, etc.,

London, N.W., June 4th.

JOHN SPURWAY, M.B.

Universities and Colleges.

UNIVERSITY OF LONDON.

A MEETING of the Senate was held on May 23rd.

Examinations for the M.B., B.S. Degree.—It was resolved to exempt candidates for the M.B., B.S. degree from attendance at certain systematic lectures.

Examiners.—The following were appointed staff examiners in the subjects indicated for medical degrees for 1917-18:—*Anatomy*: Professor R. W. Reid. *Bacteriology*: Professor R. T. Hewlett. *Chemistry*: P. Haas, D.Sc., and Professor J. M. Thomson. *Forensic Medicine and Hygiene*: Dr. F. J. Smith and Professor Matthew Hay. *General Biology*: J. S. Thomson, M.Sc., and J. T. Cunningham, M.A. *Medicine*: Professor A. J. Hall and Dr. James Galloway, C.B. (internal). *Mental Diseases and Psychology*: Dr. R. H. Cole and Dr. W. H. B. Stoddart. *Obstetric Medicine*: Professor W. C. Swayne and Dr. G. F. Blacker. *Pathology*: Professor F. W. Andrews and Professor J. Martin Beattie. *Pharmacology*: Professor R. B. Wild. *Physics*: W. Makower, D.Sc., and F. L. Hopwood, M.Sc. *Physiology*: Professor D. Noël Paton. *State Medicine*: Dr. R. K. Brown and Dr. W. G. Savage. *Surgery*: Mr. William Turner, M.S., and Dr. V. Warren Low. *Tropical Medicine*: Professor F. M. Sandwith, C.M.G., and Dr. C. W. Daniels.

Personnel of Senate.—Professor G. A. Buckmaster has been appointed the representative on the Senate of the Faculty of Science for the remainder of the period 1915-19 in the place of Professor A. D. Waller, resigned.

Annual Report of the Vice-Chancellor.—The Vice-Chancellor, Sir Alfred Pearce Gould, in his report on the work of the University during the past year, stated that the number of members of the University who were known to be serving, or had served, with the forces, was estimated at about 21,000. The war had increasingly depleted the teaching and administrative staffs, but the component colleges and individual workers had managed to close up the gaps by mutual assistance, while economies undreamt of in normal times had been effected. The University through its research departments and laboratories had come to the assistance of the Government departments in fulfilling the manifold requirements of the war. The report also referred to the admirable response to the demands of the War Office made by teachers and qualified students in the medical schools of the hospitals affiliated to the University.

The following candidates have been approved at the examinations indicated:

THIRD M.B., B.S.—*†J. I. Keen, *†J. H. Thomas, C. V. Boland, C. C. Chesterman, Hetty E. Claremont, Raghunath Ganesh Dani, P. O. Ellison, T. S. Evans, J. W. Heekes, J. J. Jhirad, F. A. Knott, E. E. Lightwood, J. E. G. McGibbon, G. A. S. Madgwick, F. Molina, V. J. E. C. del S. Perez y Marzan, Pinthu Sai, B. Sampson, Raghunath Dadoba Shirvalkar, P. Smith, D. J. Thomas, Lotty Weihermann.

B.S. EXAMINATION.—S. Forsdyke.

* Honours.

† Distinguished in Surgery.

The following candidates have passed in one of the two groups of subjects:

Group I: Hannah K. Alton, Elizabeth L. Ashby, Margaret S. G. Bott, Dorothy T. Daintree, Alice M. L. Greaves, Rosalie Jobson, W. A. E. Karunaratne, S. Muttiah, M. Schwartz, Ellen Syk. Group II: T. A. Davies, Susan A. Finch, H. M. Holt, H. C. Jennings, C. V. Pink.

UNIVERSITY OF BIRMINGHAM.

DR. J. W. RUSSELL, F.R.C.P., has been elected joint Professor of Medicine to succeed Professor Saundby, whose resignation takes effect on September 30th. The council has resolved to recommend the court of governors at its next meeting to confer the title of Emeritus Professor upon Professor Saundby in recognition of his conspicuous services to the University and his eminence in the general field of medicine.

The vice-chancellor, Professor Gilbert Barling, F.R.C.S., has been appointed the representative of the University on the General Council of Medical Education and Registration for five years from October 1st.

THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS.

MR. HARRISON CRIPPS, of St. Bartholomew's Hospital, has decided to offer himself for re-election as a member of the Council, and Mr. Vincent Warren Low, C.B., of St. Mary's Hospital, will also seek re-election. There are five new candidates: Mr. Henry Betham Robinson, Member since 1885, Fellow 1887, of St. Thomas's Hospital; Mr. Francis James

Steward, Member 1895, Fellow 1898, of Guy's Hospital; Mr. James Sherren, Member 1899, Fellow 1900, London Hospital; Mr. Harold Barr Grimsdale, Member 1894, Fellow 1894, of St. George's Hospital. Mr. Grimsdale, M.B., B.C.Cantab., is ophthalmic surgeon to a hospital not at present represented on the Council, nor are there any eye surgeons nor representatives of Cambridge University at present among the Councillors. The fifth candidate is Fleet Surgeon Percy William Bassett-Smith, C.B., R.N., Member 1883 and Fellow by election 1916, professor of clinical pathology, and lecturer on tropical medicine, Royal Naval College, Greenwich, who offers himself for election as a representative of the Services.

The Services.

TERRITORIAL FORCE.

TERRITORIAL DECORATION.

THE King has conferred the Territorial Decoration upon the following officers:

Army Medical Service: Colonels C. T. Green, J. R. I. Raywood. *Royal Army Medical Corps:* Lieut.-Colonel W. G. Richardson; Majors (temporary Lieut.-Colonels) G. A. Troup, A. W. Anderson; Majors A. Butler, A. C. Hartley, R. B. Sidebottom (attached Cheshire Regiment), R. Brodie (attached Seaforth Highlanders), P. Paget (attached East Kent Regiment); Quartermaster and Honorary Major T. Spibey; Quartermaster and Honorary Captain C. W. Hearn.

Obituary.

JOHN MITTFORD ATKINSON, M.B.LOND.,

FORMERLY OF HONG KONG.

THE death of John Mitford Atkinson at the age of 60 removes from our ranks one who did yeoman service during twenty-five years in the colony of Hong Kong. He was the son of the Rev. S. Atkinson, M.A., was educated at Taunton, matriculated at the London University, and entered the London Hospital. He obtained honours in Botany at the Preliminary Scientific Examination and the London Hospital prize for Zoology in 1876. He took the diplomas of M.R.C.S.Eng. and L.S.A. in 1878, graduated M.B.Lond. in 1881, and in 1894, when home on leave, he obtained the D.P.H.Camb.

After acting as assistant medical officer at Kensington Infirmary he, in 1887, entered the Colonial Service and was made superintendent of the Civil Hospital, Hong Kong, where he found much scope for administrative changes in the hospital, and though he encountered local opposition he was able, in the end, to substitute a European staff of nurses trained in British hospitals for those who were formerly employed, and the Civil Hospital rose to the front rank. Here it was that many of the disabled Russian sailors of the cruiser *Varyag*, after their fight with the Japanese cruiser *Chemulpo*, received at his hands that skill and care which induced the Czar to present Dr. Atkinson with a gold cigarette case mounted with the Imperial arms in diamonds, as a slight appreciation of his services.

Plague was rampant in the colony, and Atkinson set to work to abate the scourge, and, as a member of the Executive and Legislative Council of the island from 1903 to 1912, his influence was felt. He contributed many articles on plague, malarial fever, and mosquitos to the *Lancet* and *BRITISH MEDICAL JOURNAL* from 1901 to 1913, and in June, 1894, he read before a meeting of the Hong Kong and China Branch a report, afterwards published in the *BRITISH MEDICAL JOURNAL*, of a remarkable case of compound depressed fracture of the frontal bone, with wounds of the urethra and scrotum, which ended in recovery. In 1897 he became P.C.M.O. for the colony, but continued to carry on his duties as head of the Civil Hospital.

In 1912 he retired from the Colonial Service, settled in London, and for a time practised as a consultant in tropical diseases. He received a commission as major in the R.A.M.C. on July 26th, 1915, and was appointed head of the Richmond Military Hospital, converting the old and interesting workhouse and infirmary there into an up-to-date war hospital. In addition, all through the winter months he devoted his evenings to ambulance and first-aid work. But the long years of hard work and hard play in the climate of Hong Kong had told their tale, and the strain of the hospital administration taxed his strength; finally,

under the advice of medical friends, he resigned his commission. For a little while he seemed to improve, but on May 23rd his end came quite suddenly, after one of the many anginal attacks from which he had suffered.

He was fond of cricket and lawn tennis, was the owner of a few ponies when in Hong Kong, and was a good runner, having run for the London Hospital in the inter-hospital sports. He loved to do good by stealth, and many a one would be able to testify how Atkinson had helped them through monetary and other difficulties. He married on August 3rd, 1898, the eldest daughter of the late Mr. James Eastmond, of Puddington, Devon, and leaves his widow and two sons, aged 17 and 16 years, to mourn his loss.

DR. JOHN JAMES NASON, of Stratford-upon-Avon, who died recently at an advanced age, was a member of an old and well-known Warwickshire family. He received his medical education at Guy's Hospital, took the diplomas of M.R.C.S.Eng. and L.S.A. in 1856, and graduated M.B.Lond. in 1858, winning an exhibition and gold medal. He settled at Stratford-upon-Avon about sixty years ago and acquired a large practice. He took a keen interest in the old infirmary, was a member of the medical staff, and greatly assisted the movement for the erection of a building more appropriate to the important work performed. Changes and additions in the building have been made from time to time to keep it up to date. On the occasion of his retirement from the active medical staff in 1880 he was appointed honorary consultant and was presented with his portrait in oils and a service of plate, together with a suitable address. The portrait now hangs in the board room of the hospital. Dr. Nason also took great interest in civic affairs; he became a member of the borough council in 1867 and subsequently held the offices of councillor, alderman, and chief magistrate. On the termination of the latter office he was presented by his fellow members with a handsome silver cup as a mark of esteem. He was a regular attendant at Holy Trinity Church, of which he was a warden from 1884 to 1914, when he resigned in consequence of advancing years, and was appointed honorary churchwarden. He took great interest in the work of the British Medical Association and was president of the Birmingham and Midland Counties Branch in 1884-5.

DR. JAMES ALBERT WETHERELL died recently at his residence in Hull after a short illness. He received his medical education at the University of Edinburgh, where he graduated M.B., C.M. in 1886 and M.D. in 1890. He took the diploma of L.R.C.P.I. in 1885. He had served as assistant medical officer to the Barnsley Union Infirmary, and later as medical officer and Government Resident at East Kimberley, West Australia. Later he settled in practice at Hull, and was a member of the East York Division of the British Medical Association. His wife died about four months ago, and her death appeared to have impaired his health.

DR. JOHN SIDNEY GRAY, who died at Winnipeg on February 11th, had won by his zeal, ability, and idealism the affection and esteem of his colleagues and the devotion of his patients. He occupied the Chair of Gynaecology in the Manitoba Medical College for many years and, since the year 1886, had been the Registrar of the Manitoba Medical Council. He was also representative of the Medical College on the University Board of Studies, and in 1912, upon the formation of the Medical Council of Canada, was unanimously chosen to represent the Manitoba Medical Board on the Dominion Council. He was born near Heckston, in the province of Ontario, on January 26th, 1850, and obtained his medical degree from McGill University in 1876. He practised for a few years in Winnipeg and then went to Europe to study gynaecology, taking a post-graduate course under Lawson Tait. He leaves a widow, one son, and two daughters.

DR. EPHRAIM CUTTER, of New York, died on April 25th, in his 85th year. He was one of the early American laryngologists, and invented many instruments. He graduated in arts at Yale in 1852, and in medicine at Harvard in 1856. He settled in New York in 1881.

Medical News.

A DISCUSSION on meat inspection problems will take place at a meeting of the Royal Sanitary Institute at the Town Hall, Weston-super-Mare, on Saturday, June 30th.

WE are asked to state that the office of the Assistant Director of Medical Service, Canadians, London Area, has been removed to 13, Berners Street, W.1 (Telephone: Museum 3250).

THE London Insurance Committee has appointed a sub-committee to consider the policy of continuing the office of medical adviser for sanatorium benefit, rendered vacant by the death of Dr. J. E. Squire. Dr. George Johnston has been appointed temporarily to attend on three days a week.

THE Chancellor of the Exchequer has informed Captain Rowland Fothergill that officers in uniform and nurses in uniform in attendance on officers are not excluded from the exemption from entertainments tax contained in Section 3 (2) of the Finance Bill. The concession does not extend to nurses when not in attendance on sick or wounded soldiers or sailors.

WE learn that the American Council of Defence—a body organized for the purpose of mobilizing the industries of the country and to supply the needs of the army and navy—has appointed a pharmaceutical and chemical section, and has nominated Mr. Frank G. Ryan, president of Messrs. Parke, Davis and Co., who has enlisted in the army, to be its secretary.

PROFESSOR WARTHIN is giving a course of lectures during the present summer session at the University of Michigan (Ann Arbor, Vermont) on the pathology of camp, trench, and hospital infections, and of trauma, on repair, and on munition workers' diseases. He would be glad to have duplicate slides for the purposes of his demonstrations. So far as we are aware no such course has been given at a university in this country, and its institution is evidence of the thoroughness with which our colleagues in the United States are going into this war.

The child welfare institution, known as the National Children's Home and Orphanage, has published, under the title, *A Sanctuary for Little Pilgrims*, an account of the work of its branch, the Children's Sanatorium at Harpenden. Dr. T. N. Kelynack, the medical adviser and visiting physician, contributes a note on the aim and scope of the sanatorium, which is devoted to the care, education, and treatment of tuberculous and tuberculously disposed children, opened seven years ago by Sir Thomas Barlow. The pamphlet is illustrated with plans and reproductions of photographs, which give a good idea of the sanatorium and its open-air school.

OWING to the urgent need for further accommodation for war staff in the immediate neighbourhood of the War Office and Admiralty, the offices of the Board of Education are to be removed to the Victoria and Albert Museum at the request of the Prime Minister. It will not be at all easy to carry on the work of the Board, especially during the period of transition, and the president relies on all concerned to co-operate with him in order that the administration of the system of public education shall not suffer in efficiency. Although the administrative offices will be at South Kensington, rooms in Whitehall will be retained for the use of the president, parliamentary secretary, and permanent secretary of the Board, and for conferences, deputations, and interviews. The precise date on which the new quarters will be taken up will be announced later; in the meantime, correspondence should continue to be addressed to Whitehall in the usual way.

A NEW publication devoted to the surgery of the organs of movement has made its appearance under the editorship of Dr. V. Putti, professor of orthopaedics in the University of Bologna and director of the Orthopaedic Institute there. It bears the title *La Chirurgia degli Organi di Movimento*, and will be published in fasciculi, six of which will form a volume of 600 pages. The subscription price for foreign countries is 35 liras. It is published by L. Cappelli, Bologna, and Messrs. Williams and Norgate, 14, Henrietta Street, London, W.C.2, are, we understand, the English agents. The first fasciculus opens with a paper by the editor on the surgical mobilization of ankylosis of the knee, and among the other contributions is one by Dr. Delitala on traumatic lesions of the bones of the foot, and another by Dr. Serra on transplantation of bone. In the matter of printing of text and illustrations the new publication is got up in a manner to excite the envy of the editor of a weekly medical publication in this country.

Letters, Notes, and Answers.

THE telegraphic addresses of the BRITISH MEDICAL ASSOCIATION and JOURNAL are: (1) EDITOR of the BRITISH MEDICAL JOURNAL, *Atiology, Westrand London*; telephone, 2631, Gerrard. (2) FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand London*; telephone, 2630, Gerrard. (3) MEDICAL SECRETARY, *Mediscera, Westrand London*; telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

Queries, answers, and communications relating to subjects to which special departments of the BRITISH MEDICAL JOURNAL are devoted will be found under their respective headings.

ANSWERS.

MESSRS. WEISS AND SON (287, Oxford Street) state that they make a truss corresponding to that as to which "R." inquired in the JOURNAL of June 9th.

LETTERS, NOTES, ETC.

ADVANTAGES OF BIEBRICH SCARLET AS A PLASMA STAIN.

DR. A. KNYVETT GORDON (Medical Superintendent, Virol Research Laboratories, London, W.C.1) writes: In routine histological work it is customary and advantageous to use a "contrast" stain after the nuclei of the cells have been defined by haematoxylin or (in the case of chronic or sublimated hardened material) by methylene blue. For this purpose eosin is commonly employed, but it has two disadvantages: (1) It not infrequently extracts the colour from the previously stained nuclei; and (2) it colours everything else with the same intensity. Benzopurpurin is free from these drawbacks but it is useless in weak solution, and in adequate concentration is apt to stain very unevenly, and to deposit gelatinous flakes in portions of the section. Picrorubin (Van Gieson's stain), picro-erythrosin and similar preparations have the grave disadvantage of discharging the colour almost completely from the nuclei after the preparation has been mounted for a short period.

Biebrich scarlet is soluble in water freely and is best used in 1 per cent. solution. It never overstains and does not discharge the colour from the nuclei. Most sections are stained sufficiently in two to five minutes. It does not wash out in alcohol, clove oil, cedar-wood oil, or xylol. Its chief advantage, however, is the fact that it stains different tissues with varying degrees of shade and tint. Muscle, for instance, is stained a yellowish-brown, and the protoplasm of young epithelial cells a bluish-pink, while the older keratinized cells are bright scarlet. In an epithelioma, for instance, the degree of pressure to which the epithelial cells have been subjected, which is a valuable guide to the rate of growth of the tumour, is well differentiated. Used after methylene-blue for tissues that have been fixed in Flemming's or Zenker's fluid it does not discharge the nuclear stain. The staining is of marked permanency and the preparation is now obtainable from British Dyes, Ltd., Huddersfield.

"ANTI-TENSION SPRING" FOR STRAPPING.

DR. H. ELLIOT-BLAKE, of Beer, Devon, has devised a means of preventing undue pressure on a tender part by strapping a knee or other joint. A layer of wool or lint is wrapped round a small ruler, or other similar object, in such a way that it can easily be withdrawn, leaving the sheath behind. The strapping is applied to the affected part over the ruler and sheath, and the ruler withdrawn. If this appliance, which Dr. Elliot-Blake calls an anti-tension spring, be placed over an artery, under a joint, or over a tender area, there is elastic recoil. The circulation is not interfered with. When used at the knee the ruler and scabbard are laid along the middle of the popliteal space or over the tender spot. The advantages he claims are: (1) Relief of local unnecessary constringency; (2) a generally improved pressure; (3) arterial and return circulation promoted; (4) anxiety about too tight strapping avoided; (5) the safety pressure gives the *tension spring*.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *post restante* letters addressed either in initials or numbers.