

passed through by means of a straight surgical needle and the ends cut short. The dead skin should be left *in situ* as a protective unless pus is present.

The oxygen causes an increase in the pulse of the posterior tibial artery. There is no rise in temperature, pain is relieved, and sleep promoted. Lint wrung out in 1 per cent. solution of picric acid is applied to the part and renewed every day. No cotton-wool should be employed or disastrous results will ensue. The lint and bedclothes next day will be found saturated with serum, sometimes clear, and sometimes blood-stained. The skin will have a peculiar wrinkled appearance, pointing to the previous state of oedema. The foot is warm even at the toes, and movement will have returned. At the end of the second day tingling sensations are complained of. A second injection may be given in the severe cases which are semi-gangrenous and where the oedema still persists. One injection is usually found to be sufficient, but picric acid should be used once or twice a day to keep the part dry and sweet. The effect of the oxygen on the deeper layers of the true skin is notable; a rich red velvet colour persists for several days.

I would advocate conservative treatment in all cases of trench feet unless gas gangrene should be present or grave toxæmia. Repair is slow but sure, and many hopeless-looking cases have recovered with useful limbs and small loss of structure.

I have to record one case of gas gangrene in a lance-corporal who was admitted with trench feet of the severest type. The left foot responded to the oxygen treatment, and the threatened gangrene in both feet disappeared, but the right foot never cleared up. The patient was too ill on admission to be operated on, and he died two days later. *Post-mortem* examination revealed extensive gas gangrene of liver and spleen. The gas gangrene organism was grown from the right foot, spleen, and liver. The blood from the liver was injected into a guinea-pig, which died fifteen hours after injection, and the same organism was demonstrated from its blood as was present in the organs of the man. Captain A. A. W. Petrie, R.A.M.C., kindly carried out these experiments, which were conclusive, microscopically and experimentally.

The cost of the oxygen treatment is small, and oxygen is usually available to most units. There is no risk to the patient if intelligently used. More punctures than three can be used, but healthy tissue as far as possible should be utilized. The length of time for repair and recovery of the part is long in the semi-gangrenous or gangrenous cases. The granulation tissue is often indolent with the epithelial margin heaped up, and here, again, oxygen has been found to stimulate epithelial growth, a hypodermic needle being utilized in place of the salvarsan needle.

The conclusion drawn is, that if the oedema can be relieved by withdrawing the serum, the circulation can be re-established, and during this withdrawal the tissues are given oxygen to keep them nourished.

These notes are offered as an additional line of treatment for combating a condition which is the despair of the military commander and medical officer. My thanks are due to Lieutenant-Colonel A. Hull, of — Base Hospital, for his helpful encouragement and permission to publish these notes, and to Captain A. A. W. Petrie for his experiments in the case of gas gangrene recorded above.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CARTILAGE GRAFTS FOR CLOSING CRANIAL DEFECTS.

In the *British Journal of Surgery*, January, 1917, p. 454, a method of closing cranial defects by portions of bone taken from the tibia is described by Mr. Albert Morrison, and in the *BRITISH MEDICAL JOURNAL*, March 3rd, 1917, p. 307, is an abstract account of a similar method advocated by Dr. R. Pfugradt, the bone in the latter instance being taken from the external table of the skull. The method I am about to describe I have found simple and efficient.

A flap of scalp slightly larger than the cranial defect it is proposed to remedy is turned down and separated from the dura mater. The edge of the internal table is separated also from the dura mater for about one-eighth of an inch all round. A flap of skin is now turned down over the false rib near the sternum, and with a scalpel a piece of

cartilage is removed slightly larger but corresponding in shape to the bony defect. If the opening is a large one several pieces of cartilage may be used. The piece or pieces of cartilage should be bevelled at the edges to allow them to fit under the bone. Should there be any difficulty in retaining the cartilaginous grafts in position, cross sutures of catgut can be inserted over the gap, from one side to the other, so as to form a cage under which the cartilage lies; this, however, is seldom necessary. The scalp flap should be replaced and sutured, and a few strands of silkworm-gut placed beneath the angle of the wound to prevent a hæmatoma forming.

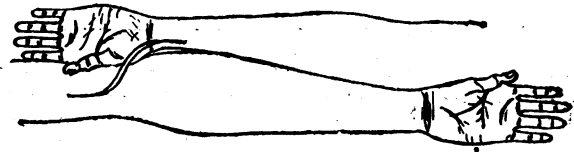
THOMAS YOUNG SIMPSON, M.D.,
M.S., F.R.C.S.

Plymouth.

A SIMPLE METHOD OF BLOOD TRANSFUSION.

SINCE blood transfusion is often necessary where there has been either primary or secondary hæmorrhage, it may be useful to describe a simple apparatus which I have on several occasions employed in direct transfusion.

The transfusion is from the radial artery of the donor to the median basilic vein of the recipient, the corresponding limb of each being used; and the connexion is made by means of a glass cannula, as illustrated. Each limb of the



cannula, and also its transverse portion, measures three and a half inches. The ends of the cannula are tapered, and have a flange near their termination.

The donor and recipient are placed in the dorsal decubitus and their abducted limbs are placed in the supine attitude on a small table between the patients. The surgeon and his assistant are then able to stand between the patients and have easy access to the field of operation. Before beginning the operation, however, the cannula must be in sterile liquid paraffin at the body temperature, ready for use. The radial artery of the donor and the median basilic vein of the recipient are simultaneously exposed under local anaesthesia by the surgeon and his assistant. A small slit is then made in the radial artery and one end of the cannula inserted to a little beyond its flange. A ligature is now tied round the artery and cannula, thus fixing the cannula in the lumen of the artery. With each pulse blood is pumped through the cannula, and, while this is so, its other end is inserted in a similar fashion into the lumen of the median basilic vein of the recipient. To keep the stream of blood, whilst flowing through the cannula, at its normal temperature warm sterile lotion should be continuously dropped on the cannula.

During the transfusion the condition of the donor must be carefully observed, and the transfusion stopped when symptoms of depletion are fairly evident. Most donors can stand it for about fifteen minutes without any untoward effects.

The one drawback to direct transfusion is, of course, that we cannot estimate the quantity of blood transfused. On the other hand, it is difficult to say how much blood any individual can give without suffering after-effects, so that in any case the donor's condition is the only safe gauge to go by. This method of transfusion may recommend itself to some on account of the simplicity of its technique, the cheapness of the apparatus, and the security which it affords against either blood clot or air entering the circulation of the recipient.

This transfusion cannula can now be obtained from Messrs. Down Bros., Ltd., London. I am indebted to Corporal H. J. Lowe, of the 11th Royal Warwick, for the illustrations.

JAMES BUCHANAN, M.B., Ch.B. Glasg., F.R.C.S. Edin.,
House-Surgeon, Norfolk and Norwich Hospital.

SUPPURATIVE (NON-TUBERCULOUS) ADENITIS TREATED BY ASPIRATION.

The advantages of aspiration, in the treatment of non-tuberculous adenitis, over excision, with frequent dressings, etc. and subsequent scar disfigurement are obvious, particularly in the upper part of the neck.

Case 1.—E. J., aged 35, male, complained of swollen and tender lymphatic gland just below the border of the jaw. As the condition did not subside under fomentations, and the skin became red and the gland adherent and soft, it was aspirated. About 1 c.cm. of pus was withdrawn; the symptoms rapidly subsided, and the gland was barely palpable when last examined. When aspirated it was the size of the terminal phalanx of the ring finger. It was aspirated once only.

Case 2.—H. W., aged 38, male, had acute inflammation of the left submaxillary salivary gland. The temperature was 101.5° F., and the pulse 100; he was unable to separate the teeth more than half an inch. The duct could be felt as a thickened cord in the floor of the mouth; no obstruction was palpable. He was sent to bed and ordered fomentations. The skin became red and oedematous and the gland fluctuant; it was aspirated five times, about 4 c.cm. of pus being evacuated. The gland was enlarged to the size of a small hen's egg. Complete subsidence and the probable avoidance of an external salivary fistula.

The method illustrated by these cases appears free from risk, provided strict antiseptic precautions are used and the patient kept under observation. As small a needle as will evacuate the pus should be used. Aspiration was done two or three times a week.

In the first case the pus was reported by the County Laboratory to contain spore-forming bacilli, and that of the second cocci. No local cause was discovered in either of the cases.

Burley, Hants.

H. E. C. KEITH MURRAY, M.D.

NITRO-GLYCERINE IN TRENCH FEET.

I CANNOT find any record of the use of nitro-glycerine in trench feet on account of its action in dilating the peripheral vessels and increasing the deficient circulation.

We have had such excellent results here with small doses of this drug combined with a little strychnine that I think it deserves attention.

The treatment is accompanied by electricity—first anodal galvanism, later the same interrupted twenty times a minute, and finally faradism. The electrification is undoubtedly of very great value, but nevertheless it is significant that the electrician has noticed the difference in cases where the drug has been discontinued or not used.

E. S. ELLIS,
M.O. Palace V.A.D. Hospital,
Gloucester.

Reports of Societies.

SUDDEN DEATH IN TABES DORSALIS.

At a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland on March 30th Dr. A. R. PARSONS related the facts of two cases of tabes in which sudden death occurred. The first, a man aged 41, had consulted him two years before, complaining of some difficulty in walking and unsteadiness. There was also slight trouble in micturition—at first difficulty; later, some loss of control. Seventeen years previously he had a sore on the glans penis, but no other symptoms. His wife had had one miscarriage. He was a healthy man, with the exception of his nervous system, which showed typical, if rather slight, signs of locomotor ataxia. The Wassermann reaction was faintly positive. The case ran the usual course for two years. Then one day at dinner the patient, who during the day had been in his usual health, suddenly changed colour, and when examined was found to be dead. The second case was very similar; the patient died suddenly while playing bridge. In neither case could an autopsy be obtained, but frequent careful physical examinations during life showed no evidence of arterial disease, and this could almost certainly be excluded. Dr. Parsons considered "cardiac crisis" to be the most probable explanation of death. This condition was almost entirely overlooked in the textbooks, but was mentioned by a few authors, notably Gowers and Osler.

The President, Dr. H. C. DRURY, considered the record of these two cases very important, but thought that, as no cardiac symptom had previously appeared and no anginal symptoms were present during the fatal attacks, it was questionable whether they could be called cases of cardiac crisis. In several cases of sudden death Professor O'Sullivan had found, as the only recognizable lesion, a sclerotic or atheromatous condition of the region of the aorta about the openings of the coronary arteries.

Dr. G. E. NESBITT was interested to hear that sudden death was a possible occurrence in a disease generally considered essentially chronic. He asked what was Dr. Parsons's experience of recent specific methods of treatment—for example, salvarsan or mercurialized serum by intrathecal injection. He had seen some apparent improvement follow, but could not obtain the results often claimed.

Sir J. W. MOORE suggested that death was more probably due to brain mischief—for example, cerebral haemorrhage—than to cardiac crisis of anginal nature.

Dr. W. M. CROFTON asked whether these cases had been treated by intensive mercurial inunction with sulphur baths while they were in Germany, as cases of arrest of the disease by this means were reported.

Dr. PARSONS, in reply, said that as far as was possible by clinical examination arterial disease was excluded. Death was also too sudden in both cases for cerebral haemorrhage. No specific treatment had been tried, either in this country or in Germany, where the cases had been treated at various times. He had seen many of the latter prescriptions, which seemed to consist almost entirely of well-advertised proprietary drugs. There was little hope of improvement when actual organic changes had taken place. He thought the explanation of cardiac crisis as a cause of death fairly probable.

Reviews.

MILITARY ORTHOPAEDICS.

WE had the privilege of publishing during 1916 a series of articles specially written for the JOURNAL by Colonel Robert Jones, C.B., Inspector of Military Orthopaedics, Army Medical Service, on the application of orthopaedic principles to the many problems raised by gunshot injuries. The articles have been collected and revised, and have now been published, with some additional illustrations, by the British Red Cross Society through Cassell and Co. The articles have been arranged in seven chapters, dealing respectively with the positions of election for ankylosis following gunshot injuries of joints; the suture of nerves and transplantation of tendons; the treatment of common deformities of the foot; the treatment of mal-united and ununited fractures; the transplantation of bone and some uses of the bone graft; some disabilities of the knee-joint, and the mechanical treatment of fractures under war conditions. The volume bears the title *Notes on Military Orthopaedics*,¹ and is not intended by the author to be a complete treatise, but rather to serve as a practical guide to the surgeon in treating conditions which arise with particular frequency after gunshot injuries.

It expounds the theory and practice of what has been called the Liverpool School of Orthopaedics, one of the greatest gifts that this country has made to practical surgery. Incidentally the whole art and mystery of the application of the Thomas splint—so simple in theory, but proving often so difficult in practice until the surgeon has seen it demonstrated—are set forth. So far as the printed word and clear diagrams can go, this volume will supply the place of a demonstration. But as will be seen from the list of subjects treated in the various chapters, the book covers a very wide field, and the author does not disdain here and there to give hints on prophylaxis, as, for instance, in the highly practical discussion on the qualities which a good marching boot should possess.

Sir Alfred Keogh, G.C.B., has provided an introduction, in which he observes that the term "orthopaedics" has now been extended to include cases not hitherto comprehended as belonging to this branch of surgery, the wider

¹ Published for the British Red Cross Society by Cassell and Co., Ltd., London, New York, Toronto, and Melbourne, 1917. 7emy 8vo. pp. 144; 128 figures. 2s. 6d. net.)

portance in securing the results which were expected from the scheme of Sir William Muir. Those of us who knew him intimately soon learnt to recognize that his contribution to the development of the new system was rather of a conservative kind, and that he was an ardent advocate for the gradual evolution of the Corps rather than a supporter of the more drastic methods of reform. In this he was justified by his long experience at head quarters in England and in India. No man was better acquainted with the official atmosphere or knew better when to support or even to provoke changes, and when to restrain the impetuosity of the more forward spirits of the new era. But he was not reactionary. He would perhaps have preferred to foster the development of science within the Medical Corps, as his work in India shows, rather than devote himself to organization. When the reorganization of the Medical Corps was taken in hand by Mr. Brodrick he was selected for the post of Director-General and charged with giving effect to the new measures, while expected to exercise a certain restraint. His official position was, therefore, one of exceptional difficulty, and he laid down his office with gladness, having managed with conspicuous success to control the conflicting opinions on those details for which it is often so difficult to provide. Taylor's influence on army medical affairs had often been great, but never greater, as we came to recognize, than when he held the post of Director-General. His interest in the progress of the Service was not abated by his retirement, and his influence on the course of events may be said to have increased. It is unnecessary here to speak of Taylor as a man apart from his profession. He was well known and exceptionally popular in the army, a sportsman, a fine horseman, a wide reader, and a lover of literature.

DR. WILLIAM MABON, emeritus professor of mental diseases in the University and Bellevue Medical College, New York, died on February 9th, at the age of 56. He took his degree at Bellevue in 1881, and, after occupying the post of superintendent of the Bellevue and Allied Hospitals for some years, he was in 1904 appointed president of the State Hospital Commission. Two years later he was placed at the head of the Manhattan State Hospital, the largest institution for the insane in the world. He was consulting physician to the New York Hospital for Deformities and Joint Diseases, and consulting alienist to the Neurological Institute.

PROFESSOR GIOVANNI PALADINO, of Naples, who died on January 25th, was born at Potenza in 1842. He studied medicine and took his doctor's degree at Naples. He worked for a considerable time at Leipzig under Ludwig and at Berlin under Du Bois Reymond. After holding some junior appointments he was called to the chair of histology and general physiology in the university, which he occupied till his death. He was the author of textbooks of histology and physiology, which have gone through several editions. The most important of his researches were those on the destruction and continuous renovation of the ovarian parenchyma in mammals and on the atrio-ventricular bundles in mammals. In 1908 he was created a senator of the Kingdom of Italy.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.
A QUARTERLY Council was held on April 12th, when Sir Watson Cheyne, President, was in the chair.

Jacksonian Prize.

This prize was awarded to Mr. Ernest W. Hey Groves, F.R.C.S., of Clifton, for his dissertation on methods and results of transplantation of bone in the repair of defects caused by injuries or disease. The following subject for the Jacksonian Prize for the year 1918 was selected: "The Injuries and Diseases of the Pancreas and Their Surgical Treatment."

Sir Arthur Sloggett, K.C.B., D.G.A.M.S.

Surgeon-General Sir Arthur Thomas Sloggett, K.C.B., C.M.G., Director-General Army Medical Services (France), was elected a Fellow under Section 5 of the Charter relating to members of twenty years' standing.

Central Midwives Board.

Dr. Walter Spencer Anderson Griffith, M.D., F.R.C.P., F.R.C.S., was appointed representative of the College on the above Board in the vacancy occasioned by the retirement of Mr. C. H. Golding-Bird.

University of London.

Mr. Charters J. Symonds, C.B., M.S., F.R.C.S., was appointed to represent the College on the Senate of the University of London in the vacancy occasioned by the retirement of Sir Rickman J. Godlee, Bt., K.C.V.O.

Assistant Pathological Curator to the Museum.

The title of the post held by Mr. C. F. Beadles was altered from Pathological Assistant to Assistant Pathological Curator.

The Services.

EXCHANGE.

M.O. of Infantry Battalion in France desires exchange with officer in training centre or hospital at home.—Address No. 1350, BRITISH MEDICAL JOURNAL Office, 429, Strand

Medical News.

SIR ERNEST GOODHART, Bt., and Mr. Gordon Goodhart have given the sum of £300 to Epsom College in memory of their father, Sir James Fred. Goodhart, Bt., M.D., who was one of the earliest pupils at the College.

THE next session of the General Medical Council will begin on Tuesday, May 22nd, when the President, Sir Donald MacAlister, K.C.B., will take the chair and give an address at 2 p.m.

A DECREASE is to be noted in the Home Office return of fatal street accidents for 1916 in England, Wales, Scotland, and Ireland; the figures being 2,837, as compared with 3,014 in 1915. There were 51,441 non-fatal accidents.

IN the obituary notice of Professor Dejerine, published on April 14th, it was, by a slip of the pen, said that the Moxon medal was awarded to him by the Royal Society. The Moxon medal for observation and research in clinical medicine is in the gift of the Royal College of Physicians of London, and was awarded by the College to Professor Dejerine in 1915.

A PAMPHLET entitled *Race Renewal* has been issued by the National Council of Public Morals (20, Bedford Square, London, W.C.), with a preface by the president, the Bishop of Birmingham. The activities of the Council up to the end of last year are described, special attention being given to the report of the private Commission on the National Birth-rate, which was reviewed in our issue of July 8th, 1916. In spite of the war the work of the Council has gone forward in various other directions, such as an inquiry into the influence of cinematographs, the education of public opinion in matters of sex, and a petition to the Chancellor of the Exchequer to diminish the penalties upon parenthood.

ON April 14th Princess Christian paid a visit to the College of Ambulance, 3, Vere Street, London, W., and witnessed a display of ambulance work given by the No. 1 London Voluntary Aid Detachment of the Red Cross Society. Her Royal Highness was received by the President of the College, Sir Rickman Godlee, and the Principal, Colonel James Cantlie. A transport section of fifty cars was inspected, and subsequently a demonstration of methods and technique of teaching of ambulance work was given. After the display the President asked Princess Christian to accept the first certificate of honorary fellowship of the College.

THE appropriations made by the Rockefeller Foundation during 1916 amounted to upwards of 8,249,000 dollars. The largest appropriations were for war relief purposes, making a sum of 2,590,000 dollars; the total amount appropriated for these purposes since the beginning of the war has been nearly 4,182,000 dollars. During the year the Foundation granted more than 600,000 dollars to the International Health Board, a subsidiary organization dealing mainly with methods for the relief and control of hookworm disease in the Southern States, in various Latin American countries, and in several British Colonies. This board has also made a survey of the principal epidemic foci of yellow fever, and has undertaken experimental work in connexion with the control of malaria. The China Medical Board, another subsidiary organization, which is devoted to the promotion of medical education in China, received from the Foundation over a million dollars.