by Colonel Elliott and Captain Henry to be very strong. The parietal pleura should be sewn together if possible; if the opening is too large then it may be stitched to the lung and visceral pleura. The skin and muscle are brought together with a few interrupted sutures. Where the skin, however, cannot be closed the wound should be firmly packed with gauze, a salt or paraffin pack, and strapped.

After-Treatment.

This depends on the progress of the case. The majority, where the ideal early operation can be carried out, should do very well and make an uninterrupted recovery. It is extraordinary how quickly a lung will expand after the pleura is closed. If much blood should collect it should be aspirated. If gas infection or empyema supervene the ordinary treatment should be carried out and the pleural cavity drained. This can be done through the original wound if dependent; if not, a lower rib should be resected and the cavity drained.

Localized Collection.

A local collection of pus round the wound may develop and require evacuation.

Conclusions.

The ideal methods of modern war surgery are (1) early operation, (2) complete excision of wound and damaged tissues, (3) removal of metal fragment and clothing, (4) mechanical cleansing of wound (the use of strong antiseptics is to be avoided), (5) complete suture of wound. Provided one can get *early and complete* operation, there is far more danger from secondary than from primary infection.

The treatment of wounds of the chest, therefore, follows the same lines as those of the abdomen, head, knee, or other joints; they require just as early operation, and it will be found that the results are just as good.

THE TREATMENT OF GUNSHOT WOUNDS OF THE ELBOW-JOINT: A PLEA FOR PRIMARY EXCISION.

By C. MANSELL MOULLIN, F.R.C.S.,
Lieut.-Colonel R.A.M.C.(T.F.),
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The ultimate results of the injuries inflicted in gunshot wounds of the elbow-joint cannot be regarded as satisfactory. In the majority there is complete, or almost complete, ankylosis. If the wound pursues a thoroughly aseptic course, and the injury is confined to the olecranon or one of the epicondyles, the joint may regain a fair range of movement. But when, as in the majority of instances, the wound becomes septic and the bones are badly comminuted, especially if the lower end of the humerus is involved, the results are deplorable. Effective drainage is very difficult to carry out, even if Carrel-Dakin's method is employed. Acute septic inflammation nearly always follows. The whole region of the elbow becomes immensely swollen. Accurate reposition of the broken fragments is out of the question. A great deal of new bone is thrown out, many of the fragments become necrosed, and after a prolonged illness running into many months the elbow is left either ankylosed at an awkward angle, so that often the patient cannot use his hand to feed himself, or at best with a limited degree of flexion and extension, with rotation at the shoulder-joint as a clumsy substitute for supination.

The results of primary excision of the elbow-joint, on the other hand, are wonderfully good, provided sufficient bone is removed—that is to say, the lower end of the humerus just above the level of the epicondyles, the whole of the head of the radius and the ulna at the same level. I have notes of five cases in civil practice performed for injury in which the joint was excised in this way, with complete restoration of movement and recovery of the muscles so that the arm was to all intents and purposes as strong and as useful as it was before. Even if the conditions are such that the wound is already infected, the drainage is so free that a serious degree of sepsis can usually be avoided, and there is not that enormous mass of callus thrown out, binding everything together and locking the fragments so that they cannot move. It is true that, owing to the necessity of re-educating the muscles of the forearm, which have been separated from their attachments, it may be twelve months before recovery is complete, but the fingers and wrist can be used after the first few weeks, and, if a suitable splint is provided, the elbow as soon as the wound is sound.

The operation, of course, is much more tedious when performed for injury than when performed for disease. The muscles cannot be so easily separated from their attachments, and when the bones are comminuted and the fragments displaced, there is need of careful dissection, which may take up valuable time. But provided the operation can be done before septic infection has spread far, and sufficient bone is removed, the results are so different from those of the conservative method of treatment that there is no comparison between them.

It is not, of course, possible to say whether the conditions at a casualty clearing station are such as to allow a proceeding of this kind to be carried out at a time when every moment is required, but the only conclusion at which one can arrive from three years' experience at a base hospital, is that if primary excision of the elbow were adopted more generally a great deal of illness and suffering would be saved and much more useful limbs would be left. Excision can, of course, be performed later with an excellent result, and doubtless in many cases it will be, but this means a second operation of some gravity and a second period of convalescence before recovery is complete.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

REAMPUTATION.

The following technique has been evolved in the Dartford War Hospital in the large number of reamputations performed here. Various points were gleaned from various sources, and among the most valued recent suggestions is that of Major W. A. Chapple[1] to employ button sutures of relaxation in the deeper parts of the flap.

Preliminary.—During the waiting period use a weight and pulley with adhesive plaster to bring down the skin. Clean up the surface as thoroughly as possible but do not wait for all small pockets to become healthy. A fortnight is long enough.

Stage 1.—Apply a tourniquet. Curette the whole surface, especially any pockets, whilst flushing thoroughly with a dilute antiseptic.

Stage 2.—(Usually needed but not always.) Make a free incision down to the bone on the outer side of the limb, exposing it to above the intended line of section.

Stage 3.—Make a circular incision round the bone near its end, through the periosteum, above the point at which there are spurs and plates of new bony deposit; but where these extend up the shaft far, then at 1 in. from the surface of the stump. Carefully peel the tissues, including the periosteum, off the bone, splitting them through the outer incision.

Stage 4.—Cut the bone either with a Gigli saw, which we have been frequently employing for the past eighteen months, or by the ordinary saw if the tissues can be retracted sufficiently. Use a cloth retractor with a hole in it to slip over the end of the bone. I devised a special metal retractor but it did not work satisfactorily.

Stage 5.—Study the stump; see whether any of the fleshy mass needs to be trimmed to enable the skin to cover it. Free the skin from the underlying muscular tissues for 1½ in. to 2 in.; avoid scoring the subcutaneous fat.

Stage 6.—Remove the tourniquet; check all haemorrhage with ligatures and hot wet swabs.

Stage 7.—Suturing. Unite the periosteal sheath over the bone by a catgut mattress suture. Place two or three catgut sutures into the muscles, approximating them or inverting them as the case requires. Put in two or three silkworm-gut sutures, piercing rubber tubing in the way described by Major Chapple, compressing the flaps into good apposition.

One small rubber drain should be placed from the deepest part by the bone to the outer incision; another at the inner corner of the wound just under the skin flaps, which should be sutured at intervals of ¾ in. A very useful skin suture is often employed by my colleague, Mr. Bost. It pierces the skin ¾ in. from the edge then returns ¼ in. from the edge, which is thus slightly everted and closely apposed.

Since this technique has been used (1) we have taken to earlier operation; (2) we have removed rather less bone; and (3) we have had better results in the way of primary union.

[1] British Medical Journal, August 25th, 1917, p. 242.

Several officers have taken part in the operating. My thanks are also due to Colonel Bond for permission to publish this.

Major A. NEVE, F.R.C.S.E.,
Surgical Specialist, Dartford War Hospital.

Reviews.

MANSON'S TROPICAL DISEASES.

WHEN the first edition of Sir PATRICK MANSON'S *Tropical Diseases* appeared, in May, 1898, it marked an epoch, for it was the first volume in which an attempt was made to bring together and render available for the working doctor in one portable volume the large mass of new material with regard to diseases of the tropics which had then already accumulated. How great was the need of such a book was shown by the fact that the first edition had to be reprinted three times within nine months of its appearance and that a new and revised edition was called for in 1900. The fifth edition appeared in May, 1914, just sixteen years after the first. The new edition[1] has been thoroughly revised, but, we are glad to say, only a little enlarged. The text appears to have been revised throughout, but the most important accessions to knowledge which it notes as having been made since the fifth edition are those relating to the extracorporeal life-history of *Schistosomum haematobium*, due to the researches of Dr. Leiper, and the demonstration that dengue is conveyed by *Stegomyia calopus*. An alteration in arrangement of some significance is that rat-bite disease has been removed from the section on general diseases of undetermined nature to that on fevers, and that the chapter on pellagra which appeared in the last edition among fevers is now relegated to the section on general diseases of undetermined nature. In this chapter on pellagra a cautious attitude is properly observed. Sambon's hypothesis, which attributed it to a protozoal organism, transmitted by some blood-sucking midge belonging either to the Chironomidae or to the Simuliidae, is fully set out, but Goldberger's failure to communicate the disease and his consequent rejection of a germ cause are also noted. Additional evidence in favour of the view that the disease is due to defects in diet has recently been afforded by observations in America, as noted elsewhere in this issue (p. 593).

The chapters on mosquitos and tsetse flies and ticks have been revised by Lieut.-Colonel Alcock, C.I.E., I.M.S., lecturer on medical entomology and general medical zoology in the London School of Tropical Medicine. The numerous illustrations in these chapters are of real value, for they not only help the comprehension of the facts established with regard to the life-history of the parasite, but will be found of practical utility for reference by workers engaged in the recognition and investigation of malaria and trypanosomiasis in districts where it is impossible to carry about a large library. No considerable alterations appear to have been found necessary in the chapter on dysentery, but a short section is inserted on Lamblia infection, and also a note on the isolation of the bacillus from the stools.

In spite of the many editions through which it has passed, the book retains the stamp put upon it in the first. It is the work of a master thoroughly familiar with a subject, to which, both directly and through his stimulating influence on his pupils, he has contributed so largely. Theoretical considerations are fully stated, but always along with the facts and observations upon which they are founded, as well as those which may be held to militate against them. This plan involves the inclusion of an immense number of details, which must be continuously increased or corrected as research progresses. It would be a very laborious undertaking to compare the new edition with the last on every point, but so far as we have carried this process we invariably find new work noticed. The new edition will maintain and extend the reputation of the work as a sound guide for the use of students and practitioners; it is comprehensive, without being too large for the practical purposes of a physician in the tropics.

[1] *Tropical Diseases: A Manual of the Diseases of Warm Climates.* By Sir Patrick Manson, G.C.M.G., M.D., LL.D. Sixth edition, revised throughout and enlarged. London: Cassell and Co., Ltd. 1917. (Cr. 8vo, pp. 968, with 12 coloured and 4 black and white plates, and 254 figures. 16s.)

X RAYS IN THE DIAGNOSIS OF DISEASES OF THE ALIMENTARY CANAL.

The Roentgen Diagnosis of Diseases of the Alimentary Canal[2] is the title of a book written by Drs. CARMAN and MILLER, respectively the head and the first assistant in the Section of Roentgenology, Division of Medicine, of the Mayo Clinic. The aim of the authors has been to select and arrange in a systematic manner those things which seem not only to be true but worth while, and especially those which they have verified by their own experience, and the result is a reference book which should be of very great value. In its general scheme the idea has been to follow the gastro-intestinal tract through from beginning to end, allotting a chapter to each definite condition of the part under consideration, giving a short reference to the principal published papers at the end. Arranged in this manner, a single chapter becomes a short monograph, complete in itself, and yet it remains an essential part of the whole scheme, as one chapter leads on to another. Any extensive description of apparatus has been avoided, but the general technique of examination is fully discussed, and an important point is made in Chapter II, in which the principle is laid down that each roentgenologist should have some customary routine to follow in order that his comparisons should be made on a uniform basis, but that at the same time, whilst following this routine, it should be made flexible to meet exceptional circumstances. Emphasis is also laid upon the fact that routine will not alone make diagnoses, but that the interpretation of findings, which can be learnt by experience alone, is quite as important as technical methods.

The vast amount of material at the author's disposal in the Mayo Clinic is evident throughout the whole book. Proof of this is seen in the chapter on syphilis of the stomach with its many illustrations of this condition. It is quite evident, as is pointed out, that syphilis cannot be diagnosed from the *x*-ray appearances, which would as a rule suggest cancer or ulcer; but the discrepancy between the extent of the lesion and the general condition of the patient, who is often under the cancer age, and is anaemic rather than cachectic, and is not markedly weakened or emaciated, are points which should give rise to suspicion.

In discussing the *x*-ray diagnosis of duodenal ulcer it is pointed out that the condition is so important and frequent that more than 2,300 cases have been proved by operation at the clinic. Careful investigation has convinced the authors, who had previously been sceptically inclined, that Cole's sign—namely, deformity of the duodenal contour—a "direct" sign of the presence of a duodenal ulcer, is of the greatest diagnostic value. There are many illustrations showing this condition, and these are the more valuable inasmuch as the cases have gone to operation and the *x*-ray diagnosis has been confirmed. A few rare conditions, not without interest, are to be found here and there throughout the book, but essentially the radiographic conditions illustrated and described are such as occur daily in any large *x*-ray clinic.

Taken as a whole this work is a valuable record of systematic and careful observation of cases; it is well got up; the letterpress is excellent; the illustrations are well chosen, profuse, and typical of the conditions described. It is the best book which has as yet been published on the subject, and it should become a standard textbook.

[2] *The Roentgen Diagnosis of Diseases of the Alimentary Canal.* By Russell D. Carman, M.D., and Albert Miller, M.D. Philadelphia and London: W. B. Saunders Company. 1917. (Roy. 8vo, pp. 558; 504 illustrations. 6 dollars net.)

NOTES ON BOOKS.

WE have on several occasions called attention to the excellence of Mr. MUIRHEAD BONE'S illustrations in the periodical, *The Western Front*,[3] published for the Government from the offices of *Country Life*. The first five numbers have been collected into a volume containing, with extra letterpress and index, 100 plates of places and incidents with the British armies in France, in munition works in England, and with the Grand Fleet. The volume is of permanent interest, for Mr. Bone has the power of giving not only a transcript of a landscape which is faithful to its outlines, but can record its spiritual effect

[3] *The Western Front.* Vol. I (15s.; monthly numbers 2s.). *Generals of the British Army.* Part I (5s.). London: Published for the Government by *Country Life*, Ltd.

Obituary.

JOHN GORDON SHARP, M.D.Edin., LEEDS.

Dr. Gordon Sharp of Leeds died there in the early morning of October 16th with tragic suddenness; he had been at work on the previous day.

John Gordon Sharp, who was 55 years of age, was a native of Keith, Banffshire, Scotland. He graduated M.B.Edin. in 1891 and M.D. in 1896, and had studied also in Manchester, Paris, and Berlin. He won the Milner-Fothergill Gold Medal in Therapeutics (University of Edinburgh), and was awarded the Hunterian Society's Medal, 1910, for an essay on ergot. He made many important contributions to medical journals on pharmacological and other subjects, medical and non-medical. He was a member and foreign corresponding secretary to the Therapeutical and Pharmacological Section of the Royal Society of Medicine.

Dr. Sharp went to Leeds in 1895 and spent the whole of his medical career in that city. He was an active member and at one time chairman of the Leeds Division of the British Medical Association, and also a research student of the British Medical Association and of Owens College. He had been honorary physician to the Leeds South Dispensary and honorary medical officer to the Beckett Home, Meanwood. Although over military age and not in robust health, Dr. Sharp did twelve months' military service with the R.A.M.C. in South Shields and Clipstone camp, and for the past year and up to the day before his death had done military work at Chapeltown Barracks, Leeds.

Dr. Sharp had decided views on the place of alcohol in therapeutics, and by his writings and lectures did much good work for the cause of temperance; his was the strenuous endeavour of a modest, honest, and conscientious man. For many years he was secretary of the Leeds Branch of the British Medical Temperance Association.

Dr. Sharp leaves a widow and two daughters; a brother, Colonel A. D. Sharp, C.M.G., is now in France on military service.

He was buried at Lawnswood Cemetery on October 19th; the day was a perfect October day. Patients, friends, and men representative of the various activities of the city showed their respect and their appreciation of his civic worth by their presence at the last rites.

Universities and Colleges.

PARLIAMENTARY REPRESENTATION OF UNIVERSITIES.

The scheme for university representation in Great Britain contained in a schedule to the Reform Bill proposes to increase the number of university representatives in Great Britain from seven to ten, and that three members should be allotted to the Scottish universities voting as a single constituency. The voting would be on the proportional representation system, each elector having one transferable vote. The Business Committee of the General Council of the University of Glasgow has put forward a scheme under which there would be three constituencies, each returning one member—namely, Edinburgh, with 12,654 voters on the register at January 1st, 1915; Glasgow with 9,307, and Aberdeen and St. Andrews with 6,965 (Aberdeen 5,000, St. Andrews 1,965).

UNIVERSITY OF EDINBURGH.

At a meeting of the University Court on October 22nd it was reported that £2,000 had been received towards the fund of £4,000 offered to the University by some friends of women's education to help to meet the expenses incurred in the introduction of women students to classes in the faculty of medicine.

At the half-yearly meeting of the General Council of the University on October 26th it was reported that 5,000 members of the University were now serving in the forces, and 368 were known to have been killed or died. It was resolved that a Chair in German should be established after the war provided that an endowment sufficient to yield an income of £800 was obtained. The Principal expressed a strong opinion that no professor of any subject in the University should be asked to accept a salary of less than £800 a year. The Finance Committee reported that the number of women students had increased this year as compared with last, and added that it was significant that the increase was in the faculties of science and medicine.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

An ordinary meeting of the comitia was held on October 25th, the President, Sir Frederick Taylor, Bt., occupying the chair.

Members.

The following candidates having passed the required examination were admitted as members:

J. J. Conybeare, M.B.Oxon, D. E. Fenwick, M.B.New Zeal., J. G. Greenfield, M.B.Edin., Helen M. M. Mackay, M.D.Lond., L.R.C.P., W. S. Sharpe, M.D.Durh., L.R.C.P., J. C. Tull, M.D. McGill.

Licences.

Licences to practise physic were granted to 89 candidates who had conformed to the by-laws and regulations and passed the required examinations.

The Preliminary Examination.

A report from the committee of management recommending modification of the regulations for the preliminary examination was further considered and adopted. The chief difference between the new regulations and those previously in force is the omission of Latin as a compulsory subject.

Recognition of Schools.

King Edward VII Grammar School, Southampton, and Lancing College were added to the list of institutions recognized by the committee of management in chemistry and physics, and Bootham School, York, was recognized for instruction in biology also.

The Committee of Reference.

The President reported on the proceedings of the Committee of Reference under the Military Service Acts during the past six months.

CONJOINT BOARD IN SCOTLAND.

The following candidates have been approved at the examinations indicated:

Final Examination.—R. Pollok, A. Bissember, H. Wildeboer, J. B. Minford, F. G. Pailthorpe, G. N. Groves, C. C. Magee, Agnes E. Keen, H. G. Smith, B. M. Lynam, R. Quesada-Jimenez, I. Davies, L. P. Samarasinha, C. V. Samwell, Phoebe Foott, R. D. Howat, D. McK. Black, G. P. de Silva, C. D. Pullan, *Medicine:* J. L. West, Arukatti Patabendigo Frederick Abeysuriya. *Surgery:* A. Parker, W. G. Wilson. *Midwifery:* S. A. Faulkner, Indranarayan Borrah, A. E. W. Sandelson, Arukatti Patabendigo Frederick Abeysuriya, C. R. C. Moon, A. P. McLeod, A. Parker. *Medical Jurisprudence:* H. W. Howatson, Lizzie R. Clark, T. H. J. Douglas, D. A. Walpola, C. E. S. Runciman, J. Boyd, C. R. C. Moon.

The following have been admitted Diplomates in Public Health: Annie R. McKail, Ella F. Pringle, J. L. Owen.

Medical News.

The Minister of National Service has appointed Mr. J. Seymour Lloyd, C.M.G., a member of the Parliamentary Bar, to be Director-General of Recruiting and the Rev. J. R. McLean, a minister of the Presbyterian Church, to be Deputy Director-General.

Dr. Woods Hutchinson began a course of three public lectures, arranged by the Chadwick trustees, on "The part of hygiene in the European war," on Wednesday last. The remaining lectures will be given on Thursday, November 8th, and Wednesday, November 14th, at 3.30 p.m.

The demonstrations of specimens of inflammation and gunshot injuries, to be given at the Royal College of Surgeons of England by the Pathological Curator, Professor S. G. Shattock, F.R.S., on Mondays, Nov. 5th, 12th, and 19th, at 5 p.m., will be open to medical students and practitioners; first aid and ambulance students desiring to attend will also be admitted.

The French public has long been asking why, if the British soldiers in France could have periodically a bath and change, their own could not. After the commanders of units, the engineers whose duty it was to supply huts and pipes and taps, and the commissariat who controlled the water, soap, and linen, had fumbled with the matter for months which ran on into years, somebody had the bright idea that as the medical department was responsible for the health of the troops it would be logical to hand the bath question over to it. Within a very short time each division was provided with a *section d'hygiène corporelle*. Each possesses a movable hut containing three rooms, the first an undressing room, the second a douche room, and the third a dressing room. There is a disinfector, a drying hut, and three store tents. The staff consists of three non-commissioned officers, three stokers, and ten orderlies, including a hairdresser and pedicurist. When the man reaches the dressing room he finds clean underclothing ready for him and his uniform dried and stoved. The men pass through at the rate of forty in twenty-five minutes.