

REGISTER OF HOSPITAL
APPOINTMENTSMEDICAL REGISTRARS
FROM

Dr. R. A. Rowlands ... June 8th, 1914.
Dr. F. G. Crookshank ...

SURGICAL REGISTRARS
FROM

Mr. W. S. Perrin ... Oct. 20th, 1913.
OBSTETRIC—Mr. Gordon Ley Oct. 15th, 1914.

RESIDENT ACCOUCHEUR

Tenure of appointment: three months

FROM
Mr. L. D. Cohen (Sen.) ... Mar. 6th, 1917.
Mr. C. H. B. Avarne (Jun.) Mar. 6th, 1917.

HOUSE PHYSICIANS

Tenure of appointment: three months

FROM
Mr. R. Mathews ... Feb. 26th, 1917.
(Dr. Percy Kidd and Dr. Wall).
Miss F. G. Bell ... Feb. 1st, 1917.
(Dr. F. J. Smith and Dr. Leyton).
Mr. C. H. Carroll ... Feb. 7th, 1917.
(Dr. Hadley and Dr. Lewis Smith).
Miss Welsh ... Jan. 22nd, 1917.
(Dr. Head and Dr. Thompson).
Miss Pearse ... Apr. 12th, 1917.
(Dr. Hutchison).

HOUSE SURGEONS

Tenure of appointment: three months

FROM
Miss Schwab ... Dec. 23rd, 1916.
(Mr. J. Hutchinson and Mr. Warren).
Miss Colebrook ... Dec. 21st, 1916.
(Mr. T. H. Openshaw and Mr. A. J. Walton).
Mr. M. Shimberg ... Jan. 18th, 1917.
(Mr. Furnivall and Mr. Kidd).
Mr. E. C. Davenport ... Apr. 12th, 1917.
(Mr. Sherren and Mr. Howard).
Mr. F. M. Proctor ... Mar. 9th, 1917.
(Mr. Rigby and Mr. Milne).
Mr. F. M. Mosely ... Nov. 15th, 1916.
(Mr. Lett and Mr. Souttar).

To Ophthalmic Department

FROM

Mr. F. W. Fiedler ... Feb. 1st, 1917.

To Aural Department

FROM

Mr. G. Jones ... Mar. 30th, 1917.

RECEIVING ROOM OFFICERS

Tenure of appointment: three months

FROM
Mr. W. H. Forshaw ... July 24th, 1916.
Mr. R. A. Madgwick ... Nov. 21st, 1916.
Mr. H. G. Thomas ... Apr. 16th, 1917.
Mr. H. Gluckman ... Apr. 23rd, 1917.
Mr. D. C. Beaumont ... Apr. 23rd, 1917.

EMERGENCY OFFICERS

Tenure of appointment: three months

FROM
Mr. R. Paddock ... Mar. 6th, 1917.

OUT-PATIENT CLINICAL ASSISTANTS

Tenure of appointment: three months—and renewable

Medical FROM
Mr. O. Beddard ... Oct. 20th, 1916.
Mr. J. M. Scott ... Oct. 7th, 1916.

OUT-PATIENT CLINICAL ASSISTANTS (continued)

Surgical

FROM

Mr. D. W. Ryder Richardson Apr. 30th, 1917.
Mr. J. C. Collins ... Apr. 23rd, 1917.

To Ophthalmic Department

FROM

Mr. Roxburgh ... May 21st, 1912.
Mr. J. Eadie ... (Renewed).

Mr. Lister

Mr. H. R. Jeremy ... July 31st, 1914.

SKIN AND LIGHT DEPARTMENT

FROM

Mr. G. E. Vilvandre ... Feb. 1st, 1917.

SENIOR DRESSERS TO OUT-PATIENTS

PATHOLOGICAL ASSISTANTS

FROM

Mr. R. Donald ... Aug. 10th, 1914.

ASSISTANTS IN INOCULATION DEPARTMENT

Senior

FROM

Dr. G. T. Western ... July 25th, 1905.

Junior

CLINICAL ASSISTANTS FOR COUNTY COUNCIL CASES

To Ophthalmic Department

FROM

Mr. M. L. Hepburn ... Jan. 24th, 1910.
Mr. J. Eadie ...

To Throat and Ear Department

FROM

Mr. W. S. Perrin ...

To Skin and Light Department

FROM

OUT-PATIENT CLINICAL ASSISTANTS (UNPAID)

To Ophthalmic Department

FROM

Mr. Roxburgh

Mr. Lister

Throat and Ear Department.

FROM

Dr. Lack

Mr. Tod.

ORTHOPÆDIC DEPARTMENT

Senior

FROM

Junior

DENTAL DEPARTMENT

Anæsthetist

FROM

Mr.

House-Surgeon

FROM

Mr. R. Jarrett Sterwin ...

Printed for the Proprietors, by H. HORNER, 5, Rupert Street,
London, E. 1, in the County of Middlesex, Thursday, May 31st, 1917.

THE LONDON HOSPITAL GAZETTE

No. 195]

OCTOBER, 1917

[ONE SHILLING

EDITORIAL.

Once again we stand on the threshold of another Session, and find ourselves comparing sadly times present with times past. Ever since we were a College, 1741, we have always had each October an entry of a certain number of new students, but this year, for the first time, we feel we cannot look forward with assurance to any such entry. The reason is partly that all men reaching the age of eighteen are called up for military service, partly that owing to the great decrease of students taking the first year's courses, arrangements have been made with the authorities of the neighbouring East London College to have during the war these courses conducted in that College. In effecting this change our College authorities have been animated solely with the desire of making the best possible arrangements in the interests of our first year's students, and at the same time of lessening the financial burden which in these days presses so heavily on the College. The change has necessitated a temporary rearrangement of our Teaching Staff, with the result that Mr. Candy is added to the staff of the Chemical Department of East London College, although continuing to be responsible for the teaching here of Organic Chemistry. Mr. Mudge and Mr. Cunningham will teach Zoology at East London College, the teaching of Botany being, as heretofore, in the capable hands of Dr. Fritch and Dr. Salisbury. Apart from these changes, the work of the College and Hospital will, so far as we can see at present, continue on the same lines as those adopted at the outbreak of war, but under steadily increasing difficulties. During the year past, fifty-seven men have qualified from the "London" and during the coming year the number should not be much less.

Since our last issue we have to report with deepest regret and sorrow the loss of the following, all killed in action or while on service:—

Fleet-Surgeon E. Cox, R.N., of the *Vanguard*; and Seaman J. Ingerson, R.N., Captains F. R. Armitage, P. H. Burton, G. R. Plaister, and W. A. Sneath, all of the R.A.M.C.; Captain S. D. Ratnagar, I.M.S., Lieutenant J. E. Foreman, R.A.M.C., Lieutenant L. G. Will, R.F.C., and Private W. Stedman, Royal Fusiliers.

The following have been reported wounded:—
Captains G. W. Carr, F. M. Hughes, D. W. F.

Jones, K. J. Yeo, Lieutenants Frank Corner and G. E. Spicer, all of the R.A.M.C.; Captain H. S. J. Haji, I.M.S., Lieutenant J. Cross, Royal West Kents; Second Lieutenant A. G. Elliott (Assistant Secretary to the Hospital), Grenadier Guards; Second Lieutenant A. G. R. Bench, R.G.A.; Second Lieutenant M. L. Bulger, R.F.A., Rifleman A. Bray, K.R.R., and Private J. R. Jones, R.F.

In addition, the following have been reported sick:—Major G. Y. Oliver, Lieutenant W. R. Barrett, Second Lieutenant A. F. Dence, and Private M. V. Roberts. Private E. O. Herriott, K.R.R., has been reported missing, and Gunner A. Palmer, "gassed."

To all our wounded, sick, and missing we tender our warmest sympathy and our best wishes for an early and complete convalescence.

Our Honours List has received many notable additions. The honour of Knighthood of the British Empire has been conferred on the Hon. W. H. Goschen and on Sir Douglas Owen; the Commandership of the British Empire on our Matron, Miss E. C. Luckes and on Miss A. McIntosh, formerly assistant Matron at the "London," and now Matron at St. Bartholomew's Hospital. The Companionship of Honour in the same Order has been conferred on the Rt. Hon. Lord Burnham. Lieut.-Col. A. B. Fry, Major W. M. Pryor, Capt. (Temp. Lieut.-Col.) N. C. Rutherford, and Captains P. H. Bahr and J. R. Marrack, M.C., have received the D.S.O., and Captains J. H. Bayley, L. G. Brown, C. N. Coad, J. N. Deacon, A. S. Heale, E. E. Herga, J. McDonnell, W. B. Purchase, A. P. Saint, H. M. Stephenson, and Lieut. D. H. Fraser, the Military Cross. Corporal A. J. Gridley (Librarian) has been awarded the Military Medal. The following Nurses have received the Royal Red Cross:—Misses M. Bates, E. Davies, A. Mead, E. Pearce, G. M. Richards. Temporary Lieut.-Cols. E. Hurry Fenwick and H. M. Rigby, with Captain H. F. Horne, have been gazetted Brevet-Majors; Captain F. M. Hughes has had conferred upon him the Croix de Chevalier of the French Republic. Major W. H. G. Aspland, the St. George's Medal and the Order of St. Vladimir, and Staff-Surgeon T. E. Blunt, R.N., and Colonel A. A. Howell, the Order of St. Anne (with Swords), all of Russia. Fleet-Surgeon E. T. P. Eames, R.N., has received the Order of the Crown of Italy, and Deputy-Surgeon General D. J. P. McNabb, R.N., the Ordre de la Couronne (Commander) of Belgium.

The following have been mentioned in despatches:—Temporary-Surgeon H. B. Padwick, R.N., D.S.O.; Colonel (Acting Brig.-General) A. A. Howell, of the London Rifle Brigade; Captain V. D. Corbett, Middlesex Regiment; Captain K. R. O'Brien, London Regiment; Colonel J. Galloway; Temporary Colonels Sir Bertrand Dawson and W. T. Lister; Lieut.-Colonels W. E. Hume and A. R. O'Flaherty; Major (Acting Lieut.-Col.) A. B. Fry, Major D. S. Skelton, D.S.O.; Captain (Acting Lieut.-Colonel) F. F. Muecke; Captains C. F. Burton, C. N. Coad (Temp. Major), O. C. P. Cooke, J. N. Deacon, N. F. Graham, G. W. Huggons, D. W. F. Jones, J. R. Marrack, M.C., H. B. Owens, D. H. Pennant, D.S.O., J. H. Porter, A. P. Saint, H. M. Stephenson, D. G. Rice-Oxley, S. Batchelor, J. H. Pendered, W. W. Treves, P. H. Bahr, H. E. S. Stiven, G. P. B. Holroyd, W. H. Fleetwood, R. D. Davy, and R. R. Thompson, all of the R.A.M.C. The late Captain M. F. Reaney, I.M.S., was mentioned in General Hamilton's Despatch for distinguished and gallant service in Gallipoli. Lieut.-Colonels H. R. Kenwood and H. S. Newland and Captain Martin Flack have been commended by the Secretary of State for Services in connection with the war.

Sir Bertrand Dawson has been nominated by the Royal College of Physicians Delegate to the Conference of Representatives of the Entente States, to be held at Monaco after the war. Major Sir Edward Worthington, C.M.G., M.V.O., has been appointed Physician to H.R.H. the Duke of Connaught.

To all we offer our warmest and most cordial congratulations.

Owing to the fact that the War Office no longer allows us, as stated in our last issue, to publish the places where our men are serving, or the number of their Battalion or Division, and owing to the fact that the list has grown so large, we only propose in the future to publish the list "*Pro Aris et Focis*" occasionally. We would therefore advise those who wish to keep the list for reference, to preserve the present list, and to correct it themselves from time to time.

As all the world knows, we have, since our last issue, been in a position to observe personally in the College and Hospital something of the horrors of war. Literally, the war has been brought to our own doors. While we don't like it, we are not dismayed.

To all those who are helping us to keep the GAZETTE up to standard, we again offer our heartfelt thanks. It is still a source of much regret to us that we should be able to print so little about our more distant campaigns. Gaza, Salonica, and Kut are surely within the sphere of our influence.

THE WORK OF AN ADVANCED CASUALTY CLEARING STATION IN THE SOMME AREA, SEPTEMBER 1916—MARCH 1917

The Casualty Clearing Stations—or Field Hospitals—as at present constituted, are mobile hospitals with a hut operating theatre in which every kind of operation can be performed; they have nominal accommodation for 200 lying cases, and are capable of considerable expansion up to two or three times this number at busy times. Except during winter months most of the cases are nursed in marquees; these are connected up in various ways so that quite large wards are made capable of holding 30 to 50 acute cases each. The C.C.S.'s are sent forward to within a few miles of the front line, so as to be in close touch with the field ambulances. It is desirable, however, that they should not be under shell fire, and that a railway should be conveniently near for evacuation of the cases by ambulance train.

The function of the C.C.S. is to do all necessary operations without delay, and to evacuate the patients to the Base as soon as their condition permits; slight cases are sent on after being fed and re-dressed.

"Necessary" operations are now recognised to include all cases of severe injury, such as abdominals, heads, compound fractures of bones and joints, and all cases where a missile is retained or has perforated fleshy parts, damaging the vessels or muscles—every case, in fact, in which, unless operation is performed as soon as possible, danger is feared either from the nature and situation of the wound, or from the subsequent onset of an acute infection, such as gas gangrene.

Complete excision of the edges of the wound and track of the missile as soon as possible is the surgeon's aim in every case of gunshot wound; by this means only can he hope to prevent infection.

It is obvious that this entails a great amount of operative work, and requires a well-equipped operating theatre where three, four, or even five tables can be kept constantly in action day and night.

The surgeons and anaesthetists have found it best to work in shifts—generally 16 hours on and 8 hours off—in order that they may remain fresh and capable of putting in their best work in a rush continuing perhaps for several weeks without a pause.

The general lines of treatment have now been fairly well worked out, and there are only small

varieties of method among those, at any rate, who have had an extensive experience of war surgery at the C.C.S. and at the Base; when time and opportunity permit, however, there are always new fields to explore, whether it be, for instance, the advantages of some new form of medicament as an application to wounds after operation, or the surgery of missiles retained in the lung.

We have lately been trying bismuth and iodoform paste and semi-liquid paraffin containing 5 per cent. salt and 1 per cent. iodoform as a dressing after operation which can be left safely for two or three days; results have been very satisfactory, and in some cases partial repair of the wound and track after excision has been possible.

The great advantages of a dressing of this oily nature are that it does not adhere to raw surfaces, and that its action continues for from one to four days; frequent dressings are thus avoided, and when the dressing is changed it is not painful.

I will now mention a few general points and conclusions I have formed which are not as a rule included in the articles appearing from time to time in the medical journals.

First and foremost, I would mention "Shock."

In the majority of the more severe cases the condition of the patient and the nature and length of operation he will stand require the greatest consideration.

Many patients, of course, must be operated upon immediately—e.g., for hæmorrhage with a tourniquet on the limb, or internal hæmorrhage, which is still continuing, or gas gangrene; many, however, are in such an extreme condition of shock after the time taken to reach the C.C.S., and the strain and jolting of the transport by stretcher and ambulance car, that they are quite unequal to standing an anaesthetic and severe operation until they have been thoroughly resuscitated.

The decision as to when the right time for operation has arrived depends on many factors and requires great deliberation. Patients, for instance, who arrive cold and pulseless must always be warmed and given drinks and salines; it is often found that, in the absence of fresh hæmorrhage, their condition improves even for 24 to 36 hours. After this time they may stand a severe operation and recover, where an earlier operation would certainly have ended fatally. If the operation is performed too soon, the patient will not rally from the extra shock in spite of all measures; if delayed too long, a virulent infection may come on and be equally fatal. The surgeon is therefore always up against shock, and it is this extreme shock which directly

or indirectly accounts for most operative failures. The pulse rate is not always a guide to the patient's condition; one not uncommonly finds a fairly slow pulse in conditions of extreme shock; careful investigation, however, will always show that the tension of the pulse in these cases is very low, indicating a very low blood pressure; the pulse and heart beat, in fact, are very weak.

All the recognised restorative measures, such as heat, salines, morphia, etc., have been tried and elaborated, and much good work has been done on the best kind of anaesthetic and on the blood pressure, hæmoglobin index, etc., before and after severe operations, but we are undoubtedly still a long way off the solution of the problem.

Perhaps the most disappointing results have been obtained from saline given intravenously and intravenous æther; the beneficial effect of these lasts often for only a very short time, and the depleted circulation of the wounded man seems quite unable to retain the added saline for any length of time; further, if the patient survives, he frequently runs a very high temperature, caused, perhaps, by dead bacteria present in the saline; such a resultant toxemia, added to what he is already fighting, may turn the scale against him in a few hours, or he may live several days. Stronger solutions of saline have been tried (up to 1.3 per cent.), with and without the addition of substances such as gelatin, and the results obtained justify a further trial.

As regards drugs, there are those who try many, especially pituitrin; personally, in extreme shock, I do not think that any except morphia or omnopon are of assistance.

To sum up, then, the best treatment for patients suffering from profound shock or collapse, is to give them time to recover as far as possible, and then to perform the necessary operation as quickly as possible.

ABDOMINAL CASES.

Success in these cases depends largely upon the rapidity with which they can be got off the battlefield and brought to the C.C.S. It has now been shown conclusively that, of cases which are operated upon, 45 per cent. to 50 per cent. are saved. This does not include those patients who arrive pulseless and cannot be sufficiently resuscitated to be operated upon.

In all cases it is most important to perform the operation as rapidly as possible. Everything which helps to save time should be utilised.

The simplest and least complicated operation, compatible with a complete result, should be done.

Thus resection of small intestine should not be done if suture of the perforations will suffice;

resection of the large intestine should very rarely be attempted, temporary colostomy on the proximal side of the wound causing much less shock. A double resection should practically never be attempted. In wounds of the small intestine a complete operation must of course always be performed; wounds of the large intestine, when unsuitable for suture, are generally best dealt with by temporary colostomy either at or above the wound. Resection operations are followed by great shock, and there is greater risk of post operative ileus and other complications than after suture of multiple perforations; this is increased by the fact that the patient has not had his bowels emptied by an enema before operation and has often been constipated.

Subcutaneous saline in the pectoral or axillary region should be started before operation and continued until two or three pints have been given.

The abdominal incision should be large, and planned to give free access to all parts probably wounded; by this means time is saved; the hepatic and splenic flexures and wounds in their neighbourhood are generally best dealt with by paracostal incision.

The wounds of entry and exit should be adequately excised, as acute infection or gas gangrene of the abdominal wall is common. If suitable, it is better that the abdominal incision should be separated from the wounds of entry and exit, and should not pass through one or other of them; in this manner there is a better chance of primary union of the incision. As little intestine as possible should be left outside the abdominal cavity for any length of time, as great shock results even if the intestines are covered over with hot swabs and towels. As soon as the abdomen is opened, all blood and fluid, etc., should be swabbed out rapidly, and the number, nature, and extent of the lesions then sought for as rapidly as possible. All the intestines should after this be kept inside the abdomen, except the part which is actually being dealt with at any particular time.

Time can be saved in closing the abdomen by using several sutures of thick silk-worm gut through all layers of the abdominal wall after the peritoneum has been closed by a separate suture. The disadvantages of leaving a pint or so of hot saline in the abdominal cavity at the end of the operation outweigh its advantages.

Drainage from the pelvis is generally unnecessary and of no advantage, at any rate in small intestine cases, except where much free faecal fluid is present. In large intestine cases a drainage tube to the region of the wound is generally

required. The success of abdominal operations is greatly diminished by complicated lesions such as are frequently found in the upper abdomen, especially where the diaphragm and pleura or lung are involved.

A simple wound or perforation of the stomach, on the other hand, generally does well.

X-ray localisation of the missile is often a great help both in diagnosis and treatment.

When great intraperitoneal hæmorrhage has occurred, as, for instance, in severe wounds of liver or spleen, direct transfusion of blood is useful and must be considered, but it is difficult to have a donor always ready! When resection of gut is necessary in a patient who is very bad, the use of a decalcified bone bobbin should be considered as a means of saving time.

INJURIES TO LARGE ARTERIES.

These are generally treated by ligature of both ends of the injured vessel through the wound, with excision of the wound and track. Owing to the interference with the blood supply, gas gangrene is very liable to be developed early in the wound and to spread rapidly up and down the limb. The great danger of this is seen very frequently when the popliteal artery or posterior tibial artery is wounded; it is always necessary, in these cases, to consider primary amputation. It certainly is often indicated when a compound fracture of a bone or joint is also present.

When the femoral artery is ligatured, there is a much better chance of saving the limb, but here, also, gangrene of the leg, or gas gangrene, not uncommonly supervenes if the general condition of the patient was bad before operation.

Cases suitable for arterial suture are very rare because the wound is always septic and the injury to the vessel often extensive. A really suitable case is well worth a chance. The one case I have had—a wound of the popliteal artery and vein—was kept for three weeks at the C.C.S., and sent to the Base in good condition with every prospect of success.

It is important to remember, when amputation is being considered, that primary amputation is borne well and secondary amputation badly, especially in popliteal artery wounds. Ligature of the femoral artery in Hunter's Canal for wounds of the popliteal artery has been tried, but has not, in my experience, been more successful.

When amputation has been performed on a patient whose condition is very grave with a wound of the popliteal vessels, operation through the joint is very useful; it can be performed very quickly; the resulting shock is very small, and the spread of infection is arrested.

JOINT INJURIES.

The most common serious injuries are those of the knee and elbow joints associated with injury to bone.

Severe elbow joint injuries rarely do well under palliative treatment; primary excision, partial or complete, probably gives the best immediate and removes results. Knee joint injuries are undoubtedly the most serious and difficult of all cases. Correct treatment requires judgment and experience, and is of vital importance to the future not only of the joint but also of the limb or life of the patient.

No branch of war surgery has been more discussed during the past two years, and even now certain operations which are advocated strongly by some surgeons are not generally performed by others. Such operations are, for instance:—

- (1) Deliberate arthrotomy through the patellar tendon for the removal of foreign bodies from the joint and repair of the rent in the capsule by suture from within. This is practised extensively by certain French surgeons.
- (2) Primary excision of the joint as a complete set operation.

Three points in treatment of knee joint cases are absolutely essential, *i.e.*—

- (1) Immediate and effective immobilisation of the joint;
- (2) An X-ray examination;
- (3) Careful and aseptic operation.

Without these three essentials all work on knee joints is dangerous and should not be attempted.

Important as is early operation, if the means for carrying out the essentials are not obtainable, it is better simply to dress and immobilise the joint effectively, and then send the patient back to a hospital where correct operative treatment can be carried out. Efficient immobilisation can best be obtained by a Thomas's splint with light extension and gutters of perforated zinc on which the limb rests.

Cases in which only a small fragment of missile has perforated or penetrated the joint are best treated at first by aspiration to remove excess of fluid or blood-stained synovial fluid followed by immobilisation. When a foreign body has been localised in the joint, it should be removed generally through the wound of entry after complete excision of the latter down to the capsule. After removal of the foreign body, the joint should be irrigated with double strength saline, the capsule completely stitched up, and the remaining

layers of the wound completely or partially closed, whenever possible.

The practice of washing out such joints with stronger solutions, such as Eusol or æther, and of injecting glycerin and formalin or æther into the joint after operation or aspiration, has been given an extensive trial. The action of these antiseptics in the joint is, I think, questionable, and personally I feel that in some cases it may be harmful. The abnormal mobility of the joint as an end result seen in England, in cases which have made an uninterrupted recovery, seems to me to confirm this.

I have therefore given up all antiseptic solutions for the joint cavity, and use only double-strength saline.

In the severest knee-joint injuries with large portions of shell present and extensive injury to bone, early or complete operation is essential if the joint, and indirectly the limb, are to have any chance at all. The foreign body must be removed, all loose portions of bone and the injected surfaces removed and scraped away, and thorough irrigation of the joint carried out; the capsule of the joint should always be closed, if possible. If this cannot be done, the choice rests between—

- (1) Closing the joint as far as possible, and shutting off the rest with a dressing of bismuth iodoform paraffin paste or glycerine and saline;
- (2) Leaving the joint freely open, and using Carrel's method.

In the majority of cases my experience is that a closed or nearly closed joint does well—often better than expected—whilst an open joint often leads to disappointment. When raw surfaces of bone are left, it is best to apply B.I.P.P. before closing the capsule.

In all cases where the bone injury is extensive, and the general condition bad from loss of blood or acute infection, amputation should be performed without delay; hesitation or conservatism in such cases may lead to fatal consequences.

COMPOUND FRACTURES OF LONG BONES.

The general lines of treatment of these cases are:—Free excision of the wound and track with sufficient opening up to allow free drainage and prevent subsequent tension, and thorough cleaning up of the fractured ends of the bone, with removal of all loose fragments.

A splint which will immobilise the fragments, and also allow frequent attention to the wounds, is then applied. In fractured humerus cases a Thomas's arm splint fulfils all requirements

and permits extension from the forearm. It is comfortable, and prevents movement during transport.

The outer limb should be about 3 inches longer than the inner one, so that the arm can be brought fairly near to the side during transport.

Cases of compound fractured tibia and fibula are often serious and difficult to treat. Long incisions for opening up the track are necessary, and should be made if possible in the length of the limb and not across it.

A Page's or Thomas's splint with perforated zinc trough and extension from the limb is the best splint for treatment. When extension from the leg is prevented because the wounds are situated too low down, the foot can be kept in correct position by slinging it with strapping or glued bandage from a framework of aluminium splinting fitted to the end of the splint.

Compound fractured femur cases always require very radical treatment. Their condition on arrival at the C.C.S. depends very largely upon whether it has been possible to immobilise them up the line by a suitable splint soon after the injury is received. Thus those patients who have had the limb immobilised on a Thomas's splint at an advanced dressing station are in a much better condition than those who have had some other form of splint applied.

In operating on these cases at the C.C.S. the wound and track must be freely and boldly excised, and if gas gangrene is present it is often best to excise the whole infected muscle up to its origin and down to its insertion. The more experience one has had of these wounds, the more freely does one excise and open up.

When the fracture is high up, or when, owing to the situation of the wound, a Thomas's splint cannot be applied, an abduction frame is best.

When the fracture is low down, with much comminution and extensive injury to muscles, amputation should be considered.

GUNSHOT WOUNDS OF HEAD.

All head injuries, except obviously slight scalp wounds, require careful investigation.

In busy times patients not uncommonly arrive at the C.C.S. as walking cases without head symptoms, although a small depressed fractured or penetrating wound is present. Omitting wounds of the scalp only, the question as to whether early operation (at a C.C.S.) is advisable in all cases has been discussed from time to time; against early operation the arguments are that—

(1) Many cases stand operation better after 24-48 hours;

(2) They travel well to the Base, where there

is more time and greater facility for investigation, operation, and after treatment;

(3) After operation, patients should not be moved from the C.C.S. for from two to three weeks, which leads to congestion at the C.C.S.

In favour of operation, on the other hand, it is evident that—

(1) All wounds are infected and require excision with thorough cleansing of the track and removal of all dirt and foreign bodies. This applies to the skull and brain as well as to other parts of the body, and can only be efficiently carried out under anaesthesia.

(2) Many cases which have remained at C.C.S.'s for 24 hours or more without operation have grown steadily worse.

(3) The number of cases in which no improvement is seen after operation, are only a small proportion of those in which rapid improvement and recovery occurs as a result of operation. Although prepared to admit that many slight cases may travel to the Base without harm, and that certain severe cases cannot be helped or saved by operation, my own opinion is undoubtedly in favour of early operation in the majority of cases.

The operation should consist of the following steps:—

Shaving the whole scalp.

Excision of the scalp wound down to the bone.

Removal of depressed bone and cutting away of the soiled edges of the bone.

Irrigation with 2 per cent. saline and careful digital exploration of the track (only if there is a retained missile localised by X-rays and easily accessible).

Glove drain down to the damaged brain.

Closure of the wound except for the drain, as far as possible.

If the dura has been penetrated, the opening should be enlarged and bloodclot and brain debris washed away. If the dura is not penetrated, but there is evidence of pulped brain matter and blood clot under it, it should be opened in this class of case also; this is very common. As a general rule, a retained foreign body should be sought for at the primary operation only when it has been accurately localised by X-rays and lies fairly near the surface in the neighbourhood of the entry wound; in this case the exploring finger should be very gently passed down the track till the foreign body is felt; it can then be removed with the aid of a spoon.

CHEST WOUNDS.

Until recently, the general opinion has been against early operation in gunshot wounds of the chest.

Patients have, as a general rule, been kept absolutely quiet for about three days, and have then been aspirated for hæmothorax, if present; after this, they have been sent on to the Base if their condition has permitted.

Investigation of after results of cases in which a missile has penetrated the chest wall and remains in the lung or pleural cavity shows that many get secondary manifestations of sepsis, such as empyema or abscess of lung, and that the resulting mortality or permanent disablement is higher than could be wished. This has opened up the question of early operation in such cases, and surgeons are coming round more and more to the opinion that in certain picked cases—e.g., when a missile of fair size is present in the pleural cavity, or, superficially, in the lung—better results can be obtained by early operation—that is to say, within the first three or four days.

If a fairly large portion of shell has penetrated the chest, carrying in clothing and dirt, it is obvious, in my opinion, that it should be removed, if accessible, as soon as possible, the only question being whether the patient is in a fit condition to stand the movement necessitated by an X-ray examination and the shock of an operation. As a matter of experience, it is surprising how well the operation is borne, especially if it is performed before the patient is showing the effects of sepsis.

Further evidence in support of early operation is added by the course followed by those patients who are too ill to be evacuated from the C.C.S. after three or four days. In these sepsis generally comes on after a few days, and when an operation has to be performed, after a week or ten days for empyema, it is too late to arrest their downhill course.

To sum up, therefore, early operation is probably advisable in cases selected in accordance with what has been said above; such cases should be X-rayed and the F.B. localised; if it is free in the pleural cavity, removal is indicated. If it is large enough and near enough to the surface to ensure a successful and not too prolonged operation, removal in this case also is indicated. The parietal pleura should be closed after operation; the visceral pleura and lung also should be sutured if a counter incision through healthy lung has been necessary.

General anaesthesia is well borne, but personally I prefer a preliminary injection of omnopon and scopolamin, followed by local infiltration with a solution of novocain and adrenolin.

If necessary, a small quantity of general anaesthetic can also be given, but a minimal amount only will be required.

The danger of fresh hæmorrhage taking place from the lung after operation is real, but not common. If cases are carefully selected, I am confident that successes will far outnumber failures.

Further, I would call attention to the frequency with which an X-ray examination discloses the presence of a foreign body much larger than had been anticipated from the size of the wound.

S. G. LUKER.

THE WANDERINGS OF AN R.A.M.C. OFFICER

Qualifying just a year before the outbreak of hostilities with Germany, I applied for a commission in the R.A.M.C. on the outbreak of war, and was gazetted in due course. On joining, I was posted to a field ambulance at Aldershot. After some months' service there, and later at the Royal Herbert Hospital, Woolwich, and Cambridge Hospital, Aldershot, I received orders for Gallipoli.

We embarked at Southampton on the big hospital ship *Aquitania*, a boat of some 50,000 tons, and similar to the torpedoed *Britannic*, both in size and speed. The draft, principally reinforcements, embarked on the ship, consisted of over 100 medical officers, about the same number of nurses, also some hundreds of R.A.M.C. other ranks.

The voyage out was a most pleasant one—it was calm practically the whole way; the only time anyone was at all upset was in the Bay of Biscay, which was a bit rough at the time.

Our great delight on board was early morning physical drill, followed by a plunge in the palatial swimming bath on the ship. We stopped *en route* at Naples to coal. Officers and nurses were allowed ashore, and we spent a most enjoyable time seeing round the town and places of interest. The ruins of Pompeii attracted a large number of nurses and medical officers. I was very much interested in the Museum at Naples. This place is full of fine old statues and works of art—not the least interesting were relics from the ruins at Pompeii. These relics included a most complete collection of surgical instruments, including obstetric forceps fashioned by the ancient Romans. After an enjoyable day in Naples, we returned to the ship, and that same evening we sailed for our destination, Lemnos, the base for the Dardanelles.

We arrived at Lemnos after a few days' voyage. We came through the straits of Messina—from the ship we could see clearly the ruins at Messina and the effects of the great earthquake which had devastated Sicily some years before.

On arrival at Lemnos, officers and men were disembarked in to a tug which came alongside, and transferred us to the R.A.M.C. Dépôt ship, the P. & O. *Simla*, which has since been torpedoed and sunk. From this boat the majority of the officers received orders and were sent up to the Peninsula.

I was sent on shore the following day with a number of other medical officers and a large number of R.A.M.C. men—about 800 rank and file, all told. We were accommodated in bell tents here at the R.A.M.C. detail camp. At this place, which was nicknamed "The Dogs' Home," I languished for five weeks, sleeping in a tent and subsisting chiefly on iron rations—bully beef and biscuits, with occasional variations in the form of rice puddings, etc., and jam. We found all this a very great contrast to our first-class hotel meals on the *Aquitania*. Our great troubles in the "Dogs' Home" were the plague of flies and the frequent dust storms, which seemed to arise at a moment's notice. Millions of flies used to swarm in our camp, settling in the food in great swarms at meal times and buzzing around in a most annoying way. The flies and the sandstorms were responsible for many cases of sickness amongst officers and men at Lemnos. Quite a number went down with dysentery and a few got paratyphoid and were sent home. The life in camp was very monotonous, as one had nothing to do but just wait in the camp all day presumably for orders, until 4 p.m., when one was free to go out and walk about.

Eventually the joyful day came when orders arrived, and I was posted to the staff of a stationary hospital at East Mudros.

Life was much pleasanter there—the feeding was quite good, and I had plenty of work to do; our patients principally were wounded, or dysentery and paratyphoid cases from the Peninsula. Altogether I spent some five months at Lemnos, part of which time I was detached from the hospital for duty on a transport ship, the s.s. *Ionian*, a boat of some 8,000 tons. This ship was converted into an auxiliary hospital transport during the evacuation from the Peninsula. We accommodated about 2,000 wounded and sick on board.

After the evacuation of the Dardanelles, the stationary hospital closed down, and we received orders for Egypt. We embarked on the hospital ship *Carisbrook Castle* early in February, and left Lemnos for Alexandria. As the ship steamed

out of Lemnos harbour, we all felt extremely pleased to see the last of the place. On this desert island we had lived for months under canvas right through the winter, in spite of blizzards, sand storms, heavy rain, and every form of discomfort. The cold in winter was so intense that one had to sleep completely dressed in bed—on the Peninsula the conditions of course were even worse; at this time several hundred cases of frost-bite were evacuated to our hospital at Lemnos.

The voyage down to Alexandria took five days. On arrival there we disembarked and went under canvas on the outskirts of the city at a place called Gabarri.

The unit remained at Alexandria for some ten days before entraining for Port Said, our destination. At Port Said we opened out the hospital and increased our accommodation to 400 beds. We were originally a 200-bed hospital, but at Lemnos we expanded to as many as 900 beds, at one time we there had nearly a 1,000 patients in the hospital.

The hospital at Port Said was fixed up partly in some schools, which we took over on the sea front, and partly in large marquees which we erected near by. Most of the cases which the hospital treated at Port Said were wounded from the Suez Canal Force; other cases were relapsing fever, malaria, sunstroke, and typhoid fever, and a few isolated cases of small-pox. Work was not too strenuous at Port Said, so we managed to work in a good deal of amusement in the form of sea bathing, tennis, and cricket, besides occasional visits to hospital and naval ships anchored in the canal.

Early in April the hospital was detailed for German East Africa. Before leaving, nearly all the staff of the hospital, including the nurses, were able to obtain leave to visit Cairo and elsewhere. I was particularly fortunate in being able to visit Cairo, and Luxor, some 600 miles from the former city.

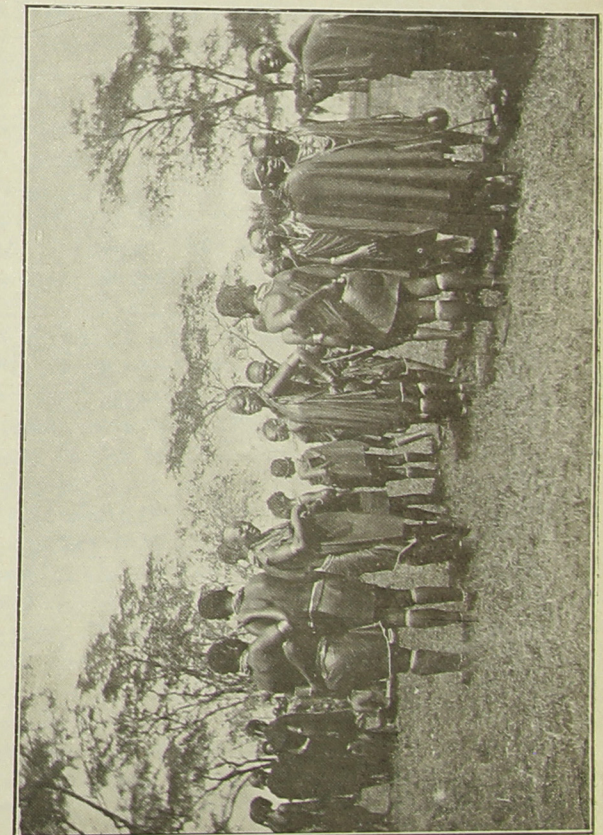
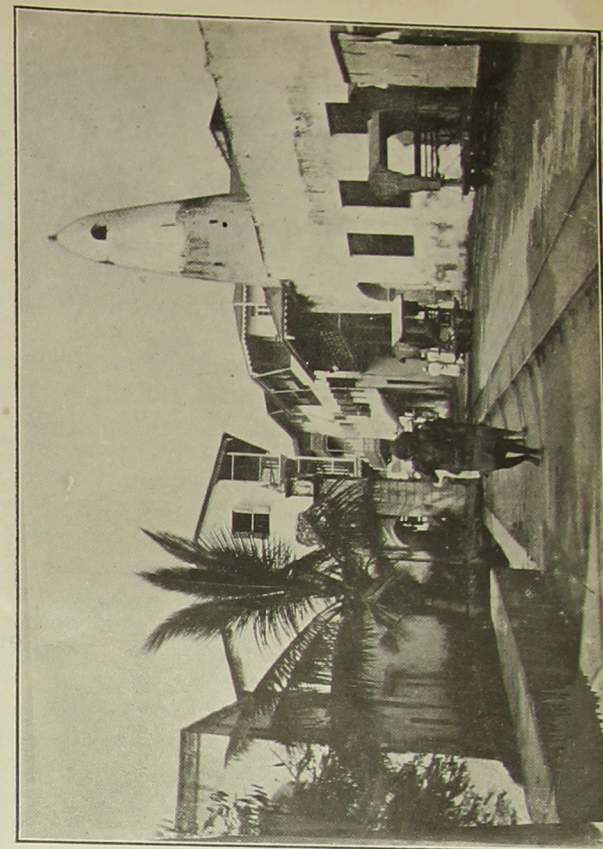
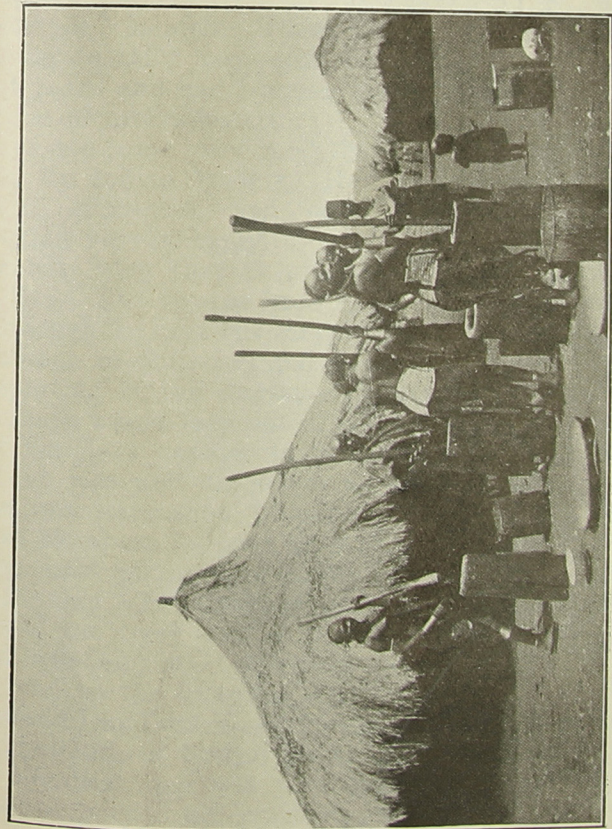
I was able to bring away some mementoes of these places, as I took some very good snaps of the pyramids and mosques at Cairo, and also some good views of the old Egyptian temples and tombs of the Pharaohs at Luxor.

I have still vivid recollections of a fourteen mile ride on a camel in the desert at Cairo.

We arrived back in Port Said to find the hospital packed up ready to move off to Port Suez, from which place we had received orders to embark for East Africa.

On the day we left Port Said, two hostile aeroplanes appeared over the town and dropped a number of bombs in the canal and about the town, but did comparatively no damage.

ILLUSTRATIONS TO ARTICLE ON "THE WANDERINGS OF AN R.A.M.C. OFFICER."



The journey to Suez was full of interest. The track ran alongside the canal for some distance, so that one had a good view of the various camps dotted about near the canal, and the large transports loaded with troops passing through the canal. We arrived at Suez that evening and embarked on board a small ship of some 3,000 tons. Two other hospital units embarked on the same ship, so that we were a little over-crowded, as not only were there three complete hospital units on board, but all our nurses, about 35 in number, were included. We learnt from the captain that we should stop to coal at Aden *en route*, and that the voyage to Mombasa, our destination, would take about three weeks. The weather was terribly hot. In the Red Sea the heat was particularly unpleasant, and every one slept on deck. Aden was sighted after some days, and we were all very glad when the ship was anchored and we were able to get ashore to see the place. Aden from the ship presented the appearance of a vast cinder heap with not a sign of vegetation anywhere to be seen. On reaching shore, most of the officers and nurses hired cars and motored out to see the old water-works, which appeared the only thing of interest in the place. These water-works were situated about a mile out of the town right up in the hills. They consisted of huge circular tanks which have been dug out of the solid rock and earth. The tanks were about 200 feet deep, and were connected by a series of channels. These water-works had been accidentally recovered in comparatively recent years, and had been excavated under the direction of archaeologists.

There are some very good shops in Aden run chiefly by Indian traders. Here one can buy tobacco, cigarettes, and ostrich feathers in particular, very cheaply.

We left Aden that evening and set sail for Mombasa. The voyage from Aden was delightful, although the heat was very trying. One often saw schools of porpoises and numbers of flying-fish sporting in the waves, and occasionally a huge shark would leap out of the water. After about ten days voyage, land was sighted, and soon one was able to make out through field glasses our destination, Mombasa. As the ship entered Mombasa harbour all eyes were rivetted on the most picturesque tropical scenery seen from the ship. Hundreds of palm trees lined the banks of the river, and little white bungalows nestled here and there. We anchored just off the town, and on the following day the whole unit disembarked and entrained for our new destination, Myubuni, in British East Africa.

At Mombasa one was very struck with the bustling activity at the quayside, where hundreds

of niggers were at work, unloading barges and loading up on to the trains. These black chaps were very scantily clothed, with just a loin cloth, and heavy brass bracelets round the arms and ankles. Most of them wore huge brass earrings—one I noticed was particularly proud of a huge safety pin stuck right through the lobe of his ear. I did not get an opportunity of seeing much of Mombasa at this time, but some months later on my return journey I stayed there some three weeks and so had an opportunity of thoroughly exploring the place. The climate at Mombasa, as also at all the low-lying coast towns in this part of the world, is very unhealthy. A damp sort of heat always prevails, and mosquitoes are extremely troublesome. Malaria is very rife in these towns, and dysentery and cases of sunstroke among Europeans are very frequent. The town of Mombasa is extremely pretty. Tall cocoa-nut trees and shady palm-trees abound everywhere. The bungalows are very prettily built, chiefly one-stoney affairs with spacious verandahs running around the buildings. The native quarter of the town is also very picturesque—narrow, dirty cobbled streets, with tall, quaint houses on either side, make up a typical Eastern scene. Most of the shops are run by Indian traders. There is a good golf course in Mombasa, also some very fine hotels. The resident Europeans ride about in rickshaws, and a lot of them own little tram-cars which are pushed by native boys along a little tramway track running through the town. I was not surprised to see the ubiquitous Ford motor-car, several of which were plying for hire in the town.

A special train had been booked to take our hospital and personnel to Myubuni, a distance of about 200 miles inland. The journey took about 18 hours. We travelled all night, and arrived at our destination about noon the following day. At one place on the journey up, where the train had stopped to enable us to get refreshments, we witnessed an Ingoma, or native dance. A crowd of about 50 natives gathered round in a big circle, and went through a variety of contortions to the tune of Tom-Tom—to our great amusement. We had many glimpses of native life from the town. These natives live in grass huts, usually built in small clearings in the trees. Several families live together in one hut, sleeping together on the bare floor, often in close contact with their domestic animals. I have often seen a small flock of goats and a number of chickens driven into the same hut which the native family occupy at night.

On arrival at Myubuni, we detrained and set out for the camp, which was situated quite near the station. On arrival we all set to work to put

up tents and marquees for the hospital. At the time of our arrival Myubuni was the scene of great activity. Men and munitions were being concentrated here for General Smuts' great advance which was expected shortly to take place. A great army, chiefly South Africans and Indian troops, besides several regiments of native troops, the King's African Rifles, as they were known, were in camp here. In addition, the Royal Flying Corps had a large number of aeroplanes in readiness to fly over the border of German East Africa. Within a week our hospital of 400 beds was in full working order in readiness to receive wounded and sick. We took over from another British stationary hospital all their patients. This hospital was packed up in readiness to move further up the line to Moschi, a large village at the base of Kilimanjaro, in German East Africa. Soon after arriving at Myubuni, I received orders to take over command of an ambulance train running from Myubuni to railhead, which at that time was Moschi, the headquarters of another hospital. Moschi at that time had just been evacuated by the Germans. This was a centre of a very great agricultural district chiefly made up of coffee plantations reaching to the foot of Kilimanjaro. This great mountain dominated the scene here; it is 12,000 feet high, and can be seen from a very great distance. The summit is remarkable, in that it is always covered with snow, both in winter and summer. To look up on a frizzling hot day and to see the snow on the mountain was a most refreshing sight. I remained on the ambulance train about three months, and saw a good deal of the country in German East Africa. On the railway one saw the damage the Germans had done to the line in their hasty retreat; they had destroyed most of the line and removed the rails. The railway, however, was very rapidly repaired, and as this was done my journeys were extended into conquered German territory. My job was to evacuate the wounded and sick from the advanced hospital. The ambulance train consisted of three administrative coaches, a kitchen coach, second-class coach for myself and staff, and a large Red Cross ambulance coach for the seriously wounded and dangerously sick cases. The remainder of the train consisted of just ordinary cattle trucks. The number of sick and wounded which I could bring down varied with the size of the train. I usually managed to bring away between 200 and 300 patients down to the base. My patients were a very cosmopolitan crowd; the bulk were South Africans, others Indian and native troops and porters. Most of the cases were malaria and dysentery. The length of the journey varied; it was usually about 200 miles. Accidents were

very frequent on this railway, and the Germans often used to wreck the lines by mines and bombs, so that wrecked coaches and overturned trains were not infrequently seen along the line. The personnel of my train was quite small—a corporal, three men, an Indian sweeper, and a couple of native servants completed the staff. The life on the train enabled me to see a good deal more of the country than most men.

Starting from Myubuni, we passed through Taveta, Kahe, Mombo, Wilhelmstahl, German Bridge, the scene of a German defeat, over the river Pagani to Korogwe, and later, when the railway had been completed, to the German seaport of Tanga. All these districts traversed by my train were very unhealthy and malaria was everywhere prevalent. All my staff at various times fell sick with malaria, in spite of using mosquito nets at night and taking prophylactic doses of quinine.

The heat at times was excessive; the only way to keep cool was to wear as little clothing as possible and keep under cover. I usually wore just a pair of shorts, light khaki shirt, and pith helmet. I had good opportunities *en route* to look round the captured German towns, particularly Wilhelmstahl and Korogwe.

Wilhelmstahl is situated some ten miles from the railway station of Mombo, right up in the mountains, necessitating a continuous climb uphill of some 4,000 feet. The Germans had left most of their womenfolk collected from all over East Africa at this town. Some 500 German women and children were congregated here at the time of the British occupation. I saw a good deal of Korogwe too; at this place the enemy had left practically intact a huge hemp factory with many thousands of pounds worth of raw hemp stored. The old church at Korogwe had been converted into a German hospital. This was taken over by a British stationary hospital later, together with some wounded British officer prisoners and a large number of German wounded native troops and porters. These hapless men had been left behind by the Germans in their hurried retreat.

Our advance into German territory was somewhat delayed owing to the very thorough way in which the Germans had everywhere blown up the railway bridges and removed the railway lines, including the bolts and sleepers. All this material had to be replaced. Our engineers supervising a large number of blacks and Cape boys, were putting down railway lines at the rate of three miles a day, which was pretty good, considering the awful heat and unhealthy climate. One of the biggest bridges the Germans successfully blew up was the one over the river Pagani. This place was the scene of a rather

tragic occurrence; one of my orderlies while washing clothes in the river here was very nearly snapped up by a crocodile. He escape the fate of an Indian soldier who on the same day fell in here and was eaten up by one. These reptiles infest most of the African rivers, and are very difficult to spot, as they look like a log of wood drifting on the water.

Beyond Korogwe the Germans had run a whole train, including the engine, into the river after blowing up the bridge which spanned it. Quite a lot of their rolling stock they had destroyed in this way. I saw several German trains with their engines completely destroyed by fire and overturned alongside the railway track. At Tanga several engines had been run clean over the wharf into the sea.

During my long railway journeys to and fro from railhead to base I often saw quantities of big game, herds of ostriches, and buck. At one time a huge rhinoceros charged the train and was instantly killed. I used to like watching the monkeys flitting about in the trees; one often saw some scores of these little creatures jumping about in the jungle near the railway track. We captured one which was rather too venturesome and kept it on the train as a mascot.

Near German Bridge the enemy succeeded in blowing up a train which had just preceded my ambulance train. The explosion caused the complete wreck of the train besides a number of casualties, 8 killed and 40 wounded. Owing to the unevenness of the newly-laid railway track, accidents to trains were of fairly frequent occurrence, several times some coaches of my train were derailed, and once the front part of my train broke away from the rear coaches; fortunately the train joined up again of its own accord, and no one in the train appeared to notice this little occurrence.

After three months' ambulance train work I was transferred to an Indian Field Ambulance stationed at Taveta. There I treated European sick and wounded. My confrere there very nearly lost his life at the hands of a South African Tommy patient, who suddenly went mad. This man got hold of his gun and cornered his victim in a grass hut. At ten paces distance he levelled his gun and fired, but fortunately my pal ducked in the nick of time so that the bullet just missed his head and penetrated his pith helmet.

After a short time with the Field Ambulance I received orders to proceed to an advanced post at Lolkissale, near Kondoa Irangi, to take up duty as Senior Medical Officer. I proceeded by Ford ambulance car—a very exciting journey of some 150 miles. Our road lay right across the

veldt. We went through rivers, across huge dongas, travelling many miles right through the long grass some 4 to 5 feet high, with barely a vestige of track to be seen. The little track one could see was very uneven and full of deep pits; often the car sank axle-deep into the soft sand. At one time we bumped into a huge ant heap hidden in the long grass; I was thrown out one side of the car and the driver on the other, and though we escaped with a shaking, the car fared worse, for the petrol tank fixed on to the dashboard was jolted clean overboard by the impact, and our small stock of petrol was rapidly flowing away into the grass. We managed to stop the flow, and eventually fixed the tank on with a couple of nails and resumed our journey without further trouble. En route we got some shots at some wild beasts and buck. I had the good luck to bring down a guinea-fowl with my rifle; it made an excellent repast for the following day. We were unable to complete our journey that day, so we camped in the bush for the night. In this part of the country lions and hyenas abounded and we were kept awake for some time by the frightful howls of these beasts. My driver and self slept with fully loaded rifles alongside us in case of an attack by a prowling lion in the dark. At intervals in the night one could hear these brutes prowling around the car. At daybreak we breakfasted on the guinea-fowl and some biscuits, after which we got into the car and completed our journey to Lolkissale without further incident. On arrival there I took over charge of the advanced hospital at the post from another medical officer, who was very glad to be relieved, having been some months there living by himself.

The hospital consisted of a number of big grass huts and some bell tents, the whole capable of accommodating some 400 patients. The hospital was enclosed all round by a border of prickly thorns to keep out the lions and other prowling beasts. Lolkissale was famous for its lions, their roaring at night coupled with the cries of the hyenas made sleep impossible until one got used to the din. These lions were particularly troublesome on the arrival of ox convoys, which used to arrive sometimes twice weekly, bringing rations and munitions up to General Van Deventer's troops, who at that time were at Kondoa Irangi. During these treks sometimes as many as 100 oxen would be lost, the deaths chiefly occurring from the bites of tsetse fly. Lions frequently attacked the convoys on the road, carrying off a good few oxen in spite of the vigilant native and European guards. One night we trapped a huge lion over 12 feet long. Now and again parties of us sat up all night in trees in the hope of shooting a lion. The usual plan was to tie up an old ox

as bait to a tree near by. After a patient wait of an hour or two one would hear rustling near by, soon to be followed by a frightful roar as the lion scented its prey. As the lion made its spring on to the ox, we flashed out our acetylene lamps on to the scene, levelled our guns, took careful aim and fired together if possible. In this way we occasionally bagged a lion, though more often we only wounded the beast, so that it managed to crawl away and lose itself in the darkness. After some time at Lolkissale I was transferred further up the line to a place some 60 miles distant, known as Ufiome.

At Ufiome there was a big native village and a large German mission which had been converted into a hospital. One incident occurred at Ufiome which I shall always remember, that was, the execution of two local natives found guilty of murder. These natives were stripped and lashed to two upright poles placed in front of newly-dug open graves. The firing party consisted of 16 Sepoys under the command of an officer. About 600 natives gathered round the scene of the execution to witness the spectacle. The sentence of death was read out and was duly translated by a native interpreter to the crowd of natives. The order to fire was given by the officer in charge, three volleys rang out, and I then went forward and certified the deaths. The bodies were then buried and the proceedings terminated. I stayed at Ufiome some five weeks in medical charge of the post. My hospital was a very fine, commodious place, and pleasantly situated on rising ground. The German missionaries who previously occupied the place had planted big coffee plantations at the back of the house, about 10 acres altogether. Nearer the mission was a well-kept lawn, bordered by very fine English roses. Altogether, the view from the back verandah was most delightful—the rose garden and coffee plantation in the near vicinity, whilst farther away one could see miles and miles of rolling plains where abounded innumerable big game. In the far distance a low line of mountains completed the view. At Ufiome I had a narrow escape of being bitten by a poisonous snake. I used to sleep in a small 80-lb. tent, which had been erected at the back of the house. Very early one morning I was startled by a shriek from my black servant, who pointed under my bed. To my horror, I saw a huge black mamba snake coiled up under the bed. The bite of this snake I recollected was absolutely fatal, death occurring in a few moments. I quaked but did not move, and waited till my servant despatched it with a stick, for which I was truly grateful.

One outstanding feature of the campaign in

German East Africa will go down to history as one of the most remarkable military feats of the present war, was General Van Deventer's 200-mile trek "into the Blue," through an unknown country in pursuit of the German army. This remarkable march was accomplished in record time, under most trying and seemingly impossible conditions, but the gallant South Africans were equal to it.

The intense tropical heat combined with the sudden drenching rainstorms which often continued for days, the lack of sufficient food, and the ravages of malaria, were sufficient to deter even the most daring leader. Some regiments of South African Infantry were almost decimated by sickness, chiefly caused by acute and chronic malaria and severe types of dysentery. The difficulties of transport for the rations and munitions were almost impossible to cope with. There were no roads, only native tracks through the long grass, so that ox convoys sank axle-deep into the sand, often converted into veritable quagmires by the heavy rainstorms. Another difficulty was the absence of bridges. This was remedied by temporary affairs hurriedly made and often as quickly washed away by the flooded rivers. All these troubles made it an extremely difficult task to get the necessary supplies up to the troops in the field. Besides all this, huge losses in oxen occurred from the bite of tsetse fly and from depravations by attacks from lions, who carried off oxen with impunity. Sometimes all the rations the men could get were just a cupful of flour, which had to last two days. Fortunately, the inadequate supplies were able to be supplemented by buck, wilder beasts, and guinea fowl, which the troops shot with their service rifles. In spite of all these difficulties, the Germans were pursued with unrelenting vigour, and the arduous march was brought to a victorious termination which greatly shortened the war, thus bringing about the ultimate defeat of the Hun, with the subsequent conquest of his territory. The enemy made unsuccessful stands, notably at Lolkissale, and later at Kondoa Irangi and Dodoma, but owing to being out-manoeuvred by the South Africans, they were compelled to retreat, leaving General Van Deventer complete master of the situation.

Early in November I received orders to report to S.M.O., Mombasa, preparatory to embarkation for home. I left Ufiome with many regrets, but felt glad to be going home. Some weeks later I arrived at Mombasa, having completed the return journey without adventure by Ford ambulance car and train. I reported *en route* to my old stationary hospital at Myubuni, and said good-bye to all my old pals. After a fort-

night's stay at Mombasa, orders came through for me to embark on the Royal Mail Steamship *Arragon* for passage to Durban. I had previously been on the *Arragon* at Lemnos, when she was the Headquarters staff ship for Gallipoli. Some 1,500 convalescent South Africans were put on board, and about 150 officers for passage to Durban. I was kept pretty busy on this voyage; my morning sick parade was usually nearly 150 men, and my little hospital on board was quickly filled with patients suffering from wounds, malaria, and dysentery. The voyage to Durban took five days; we passed Tanga *en route* and called at Daresalaam, where we shipped some more patients. As we neared Durban, there was great excitement on board, for practically all the invalids were men going home to South Africa to their families and relatives. Quite a crowd of people welcomed us at the quayside at Durban. As we steamed in along the quay all on board raised a great cheer, which was immediately taken up by the friends and relatives on shore. Soon we disembarked; a fleet of cars conveyed the wounded and sick to hospital. I made my way ashore and reported to the medical authorities. From them I learnt that the English mail boat was not due for some days. I immediately asked for leave to visit my brother (who is a major in the S.A.M.C.) at Johannesburg, which was granted, so I set off that night, and arrived at Johannesburg some 24 hours later. My brief holiday there was very enjoyable. On returning to Durban I embarked on a Union Castle liner for England. The voyage down to the Cape was pretty rough. We called in at East London and Port Elizabeth *en route*. At Cape Town the boat stayed some days, so that one was able to get ashore and see the place. At this time the holiday season was in full swing. At Muisenberg, the famous seaside resort, surf bathing was the great attraction. I much enjoyed a motor ride out to Hout Bay—one saw some of the finest scenery of the world *en route*. My stay in Cape Town was all too short. Soon after embarking, we left Cape Town and made tracks for Blighty. We arrived in England some three weeks later, after a very enjoyable voyage. Here everyone disembarked, and I made all speed for London and home. I managed to obtain a fortnight's leave, which was very acceptable after my long absence from England.

After two months' home service, orders came for me to proceed to France. The voyage over was uneventful, except for a rather narrow squeak of colliding with another ship in the early hours of the morning near the coast of France. Fortunately our ship escaped serious injury, and we were able to reach our destination.

On arrival at the base in France I was dished out along with other medical officers with a tin helmet and gas mask, and later received orders for duty at the front. The train journey was a long and tedious one; we travelled all night with frequent halts and joltings *en route*. The night was bitterly cold, and we slept in a huddled-up condition in our great coats on top of our luggage. After about three days' journey, the latter part of which was done in an ambulance car, we arrived at our final destination, and I was immediately posted to a field ambulance operating in the forward area. I arrived in time to be able to participate in the big push of April 9th, and, along with other medical officers, I was allocated to an advanced dressing station. Quite early in the morning on the day of the great push, wounded began to pour into our dressing station, and soon we were all busily engaged pumping in anti-tetanic serum and dressing the wounded. Our strenuous work continued right through the day, and on into the night, and no one had an idle moment for some 48 hours; by that time most of our wounded had been dealt with and evacuated by motor lorries and ambulance cars. Quite a large number of Bosche wounded were treated by us; one wounded Bosche officer, who spoke English perfectly, informed me that his men had had no food for five days, and were thoroughly worn out. They all looked half starved and ate ravenously the food provided. I noticed several Bosche prisoners were wearing Iron Cross ribbons; one had an additional ribbon tacked on to his Iron Cross ribbon. This, I understood, was equivalent to the bar to our own decorations. The evacuation of wounded was most expeditiously carried out, and one could not help but marvel at the superb organization which made this possible under such trying and difficult conditions, both as regards the shell-pitted roads and the appalling climatic conditions prevalent at this time of the year.

After a short time with the field ambulance, I was transferred to an infantry regiment for duty as regimental medical officer. The duties of an R.M.O. are not very strenuous, except when the unit is in the trenches, or during a push. His chief duties are to see the morning sick and to advise the C.O. of his unit on medical and sanitary matters. To assist him in his work he is supplied with 32 regimental stretcher-bearers, a medical orderly, and certain sanitary men. Life in the trenches would be very monotonous, but for the constant excitement in the way of shell fire, gas attacks, etc., incidental to it. To stand in a trench often knee-deep in mud on a cold wintry day with shells whistling around one, is not conducive to unalloyed happiness. Imagine a