THE WAR IN SOUTH AFRICA.

[From our Special War Correspondent.]

SURGICAL NOTES FROM THE MILITARY HOSPITALS IN SOUTH AFRICA.

BULLET INJURIES OF NERVE TRUNKS AND OF THE SPINAL CORD.

In my last letter I mentioned that I had seen in the hospitals at Wynberg, Cape Colony, a number of interesting cases of bullet wounds in which nerve trunks had been injured, and in this letter I propose to discuss these and also certain cases of injury of the spinal cord.

In most of the cases in which nerve trunks were injured by bullet wounds of the limbs the track of the bullet healed readily, but when the patients were seen at Wynberg they were found with the limb partly or wholly paralysed over the area corresponding to the distribution of one or more of the nerve trunks. Even when the symptoms appeared to indicate complete division of the nerve, this was afterwards found not to be the case. In some no doubt the division was complete, and from the direction of the wound a large extent of the nerve must have been utterly destroyed. But presumably in some the nerve trunk was merely grazed. Such an injury, however, when inflicted by a bullet travelling at a very high velocity, not only damages the nerve seriously, but leads secondarily to changes of degeneration that ensue with great rapidity. The pain usually is very severe in the limb, and in proportion to the gravity of the wound as regards life these cases are distressing. Yet they seemed hopeful, and the symptoms varied with such rapidity that in not a few instances operations proposed were postponed on account of improvement. There were few injuries in the hospital that will better repay careful watching at home. The majority of these men will be invalided back to England, the rule now in force being that no man unlikely to be fit for duty within two months is to be retained in hospital unless too ill to admit of removal.

Injury of Musculo-spiral Nerve.

A man in No. 2 Hospital, shot through the back of the arm at the level of the mid-point of the musculo-spiral groove, had a marked zone of hyperæsthesia, anæsthesia over the area supplied by the musculo-spiral, and paralysis of extensors. The man was wounded about December 10th, 1899, but I am unable now to refer to the exact date. The humerus was uninjured. The symptoms were held to be due to partial—possibly total—division of the nerve below the level at which the nerve supply for the triceps comes off, for this muscle could act. The question of operative interference was raised, but it was decided to wait and watch the development of the case. A week later the condition had materially altered for the better. Some power of extending the fingers returned, almost suddenly, according to the man's account. The extensors of the forearm could be felt to contract, but there was still marked wrist drop. Supination was performed by the action of the biceps alone. The hyperæsthesia, which had been a marked feature, was notably diminished. Pain, which had been severe in the palm of the hand (a phenomenon difficult of explanation, but which seemed genuine, and which I have noted in another case of the same sort), was improved. Altogether the improvement was so decided that the question of operation was further postponed. The wound in this instance was at a right angle to the course of the nerve, and, as the bone appeared uninjured, the actual damage to the trunk could hardly have been deep.

Lesions of Distant Tissues in Perforating Wounds of Limbs.

I have cited this case at some length as it is a fairly typical example of a rather common injury. So far as present experience goes (and it must be admitted that the experience is so short that one must speak very guardedly), the main points of these cases appear to be three.

1. The first is that the hyperæsthesia is very marked, comes on early, and alters rapidly.

2. The second is that profound nerve symptoms may occur without the nerve being severed.

These may be due to bruising or grazing of the nerve trunk, but it would seem that they may even be present where the nerve is not touched at all. The small bore projectile, travelling at high velocity, drills a perfectly clean passage through the tissues, often through bone, but the effects are widely felt by the tissues. Ecchymosis, for instance, often appears far from the bullet track in places where it is doubtful if the extravasated blood can possibly have extended. Distant parts seem violently stretched by the passage of the bullet as the fascia of the thigh is often stretched in sprains of the ankle. The bullet might therefore entail what the Germans call a violent *Erschutterung* of the nerve trunk by passing in its immediate vicinity without directly injuring the cord.

Thus in one case I saw the ulnar nerve carefully exposed in the lower part of the axilla in the hope of relieving symptoms of a similar nature to those described above. The cicatricial track of the missile was seen, but it did not affect the ulnar or any other of the nerve trunks, nor was the ulnar nerve other than perfectly normal in appearance.

In another case a large nerve trunk was involved in the cicatricial track of a Mauser bullet which had perforated the ilium, and, judging by its direction, had injured the nerve a little below the sciatic notch. It may be observed incidentally that the almost undeviating track of these bullets, whatever the tissues they meet with, renders the task of the surgeon to some extent easier. The patient suffered extremely from pain along the course and distribution of the sciatic nerve. The hyperæsthetic area was extensive and most marked. In this case, as in some others, the tenderness of the tibia was marked. There was foot drop. The diagnosis made was bruising of the sciatic nerve and involvement in cicatricial tissue. This diagnosis was borne out to the letter. Some two inches below the exit of the nerve trunk it was found caught in cicatricial tissue as tough and dry as that following a burn. This cicatricial tissue compressed the nerve and grooved it as a fibrous ring compresses a strangulated hernia. All this tough material was dissected off and the nerve set free. The immediate after-results as regards the pain were satisfactory, but the foot drop persisted, and the greatly wasted flexor muscles of the thigh acted only in the feeblest manner. The further progress of this case I hope to detail later.

3. The third noteworthy point in connection with these nerve cases is the astonishing power of recovery and the extent to which the diagnosis of the precise amount of injury may be mistaken.

Bullet Wounds of the Spinal Cord.

In some degree, injuries of the spinal cord present the same features as those of minor nerve trunks. None of the cases in hospital seem more hopeless, and none are, on that very account, more distressing than gunshot wounds involving the cord. The most remarkable feature of these cases is the astonishing rapidity of the degenerative changes. In a day or two in many instances deep sloughing sores have formed over the sacrum, and others where there is not the slightest pressure. Cystitis sets in early, and in three or four weeks perhaps the patient has run through all the changes that in civil hospitals we see, in traumatic cases, accomplished only in months. An intensely acute sharply-limited zone of hyperæsthesia is a usual symptom. The level of this varies almost from day to day. If there is any grave lesion of the cord from a bullet or from the driving of fragments of bone into the vertebral canal, the wound may be set down as mortal as far as can be judged at present. If the bullet has travelled down the long axis of the spine the amount of destruction is enormous. Even when the wound is transverse, affecting but a small extent of the cord, the area of damage may be very great, as the following case will show: A private was wounded at Magersfontein, the bullet (a Mauser judging by the wounds) entering the back about the level of the sixth dorsal spine, about 4 inches to the side of the middle line, and passing out transversely at a corresponding point on the other side. Complete paraplegia and loss of sensation ensued. Sores rapidly formed over the sacrum and elsewhere, and the man died some three weeks after the injury; all the usual trophic changes have succeeded one another with great rapidity. The

bullet wounds healed kindly. As the Mauser bullets seldom or never deflect it is possible to judge very closely of the structures likely to be injured. At times, it may be remarked, the most difficult, but still straightforward, problems of surgical anatomy confront the surgeon. In this case it seemed impossible that the bullet could have done more than skirt the back of the vertebral canal, and the symptoms were therefore attributed either to hæmorrhage compressing the cord, a graze of the cord, or injury from fragments of bone. The condition of the patient rendered the idea of operation hopeless. At the *post-mortem* examination the laminæ of the dorsal vertebra were found fractured. A mass of finely comminuted bone, the size of a large pea, was driven into it, but did not perforate the dura mater. Some of the fragments of bone were exceedingly sharp, and seemed to pin the meninges to the cord. The membranes were adherent over an area the size of a shilling, and extremely congested over an area the size of a five-shilling piece. As soon as the loose pieces of bone were removed the compressed cord rose up and, save for the area of congestion, looked normal. On slitting up the membranes, however, some three inches of the cord below the site of compression was found reduced to a complete pulp, entirely disintegrated and diffluent. No other injury was found.

No case could have seemed more promising for operation. With the utmost ease the comminuted bone compressing the cord could have been removed, and the operator would doubtless have congratulated himself on a probable success. Operation, however, would not, it was evident, have done the slightest good, even though it had been performed immediately after the receipt of the injury. The wound was mortal from the first. The condition of the cord was almost certainly due to the immediate consequences of the injury, and not to any secondary degenerative changes. These might have been possibly stayed by operative interference, but the ultimate issue would have been the same, and probably life would not have been in the least degree prolonged or rendered less painful.

The case is a fairly typical one. When the cord is actually traversed (and *a portion* injured in its long axis) or grazed, the prognosis is of the gravest nature. In some instances, where the bullets have passed close to the cord, symptoms similar to actual lesion show at once; but after a while—a few days, perhaps—some sensation returns, or some little power of movement is noticed. Such cases are difficult of explanation. Extravasation of blood into the canal may be the cause, but it is more than doubtful whether this common explanation is often the true one. Similar symptoms as already mentioned occur when the bullets travel near nerve trunks, in which dissecting operations have revealed no naked-eye changes.

To attribute the symptoms in these cases in which the cord or the large nerve trunks are not actually implicated, to "nerve shock," is really rather to beg the question. Terms of this nature do not really either advance knowledge or assist in treatment. However great the velocity of the bullet as it traverses the tissues, and however clearly it may appear to perforate the structures, there is yet good evidence that remote structures may be violently stretched or lacerated. Extravasations are often seen at points remote from the line of the bullet wound which are not to be explained by the tracking of the blood extravasated about the injury. The "nerve shock" is more probably, as in the case of the nerve trunks, essentially due to a direct "commotion" or "*Erschutterung*." Possibly it may be said that "shock" is quite as good and scientific a term as those given. I will yield the point at once, if it be allowed that the symptoms are actually produced by mechanical injury. The term "shock" is so often employed to explain conditions in which it is assumed that the changes are physiological rather than anatomical that I desire to avoid it. It is perhaps still too theoretical to assume that the passage of the projectile through the tissues in the close neighbourhood of important structures, such as spinal cord or large nerve trunks, produces vibratory effects sufficient to account for their disorganisation; but certainly such an hypothesis furnishes a fairly satisfactory explanation of the effects actually observed.

A case bearing out the above remarks, now in the hospital at Maritzburg, may be briefly cited. The bullet (a Mauser) entered 2 inches below the acromion process of the left shoulder at the posterior border of the deltoid. There was no exit wound. There was from the first complete paralysis of movement of both lower limbs. The probable direction of the bullet was towards the dorso-lumbar spine, but the condition of the man precluded skiagraphy. There had been no hæmoptysis, and the resonance on the left side was natural, so that in all probability there was no wound of the pleural cavity or lung. The wound was received at Colenso on December 15th, 1899. The condition on January 10th was as follows: There was no power of movement whatever in either leg. The reflexes were absent. The abdominal muscles moved normally in respiration. As regards sensation: Over the skin area supplied by the anterior crural trunk sensation was impaired, but not absent. Over that supplied by the small sciatic it was normal. Over that supplied by the great sciatic it was much impaired, and in places hyperæsthetic. Sensation over the distribution of the genito-crural nerve was normal. There was extreme tenderness of the left testis, but the gland itself was normal. Sensation over the abdomen was natural. There was a sharply-limited band of hyperæsthesia at the level of the ensiform cartilage. Above and below this the sensation was normal. The skin over the sacrum was red, and a sore was threatened, but there were no sores elsewhere. Control of bladder was almost complete, but some cystitis had begun. There was constipation. There was no evidence of fracture of the spine.

It is, of course, possible that in this instance one or more of the vertebræ had been broken up to some extent, but it seems impossible that the cord was directly injured by the bullet. Yet the symptoms were bilateral. There was no indication of progressive myelitis. The man's condition generally was bad, and the case seemed likely to drift slowly to a fatal issue.

In one or two other cases, in which the bullet had passed close to the cord, the symptoms of actual lesion were present for a time, but then rapidly altered for the better, and there was a fair prospect of recovery. CLINTON T. DENT.

SOME IMPRESSIONS OF MILITARY SURGERY IN SOUTH AFRICA.

By G. H. MAKINS, F.R.C.S.,
Consulting Surgeon with the Forces.

II.—CLINICAL SIGNS AND COURSE OF THE WOUNDS.

THE actual infliction of the wound gives rise to little pain—usually a sharp burning sensation—and is followed by remarkably little shock; severe shock is, in fact, uncommon, even when vital organs are struck. Omitting the cases in which a large vascular trunk is struck in a limb or in the body, external hæmorrhage is slight, and even when a large trunk is implicated, it more often gives rise to intermediate or secondary hæmorrhage than to severe primary bleeding. In fact, such evidence as can be obtained points to but few deaths taking place on the field from primary bleeding. Although, however, external hæmorrhage is slight, interstitial bleeding into the limbs or into the cavities of the trunk during the first few hours after the injury is common, and may be severe or fatal. As will be remarked later, traumatic aneurysms are comparatively frequent. Again, the scoring or contusion of nerve trunks gives rise to more or less complete paralysis or to severe neuralgic pain during and after the healing of the wound.

The tendency to run an aseptic course is very marked, and deep suppuration or diffuse cellulitis is distinctly rare. This depends on the smallness of the wound, the aseptic nature of the bullet, and the fact that foreign bodies, such as pieces of clothing, are comparatively rarely introduced.

The asepticity of the bullet is, I think, clearly demonstrated, and is probably due to the fact that the bullet, in travelling through the barrel of the rifle, obtains a completely fresh surface, and with such enters the body. As to the frequency with which portions of clothing are carried into the wound, it should be remarked that this varies considerably with the nature of the material traversed. The opening in the khaki jacket, for instance, from the hardness of the material, is usually a clean slit; but, if the bullet has to traverse a flannel shirt, loss of substance and transference of this to the wound is more common, while in the case of the highland kilt, where

several layers of cloth have to be traversed, portions are comparatively frequently found in the wounds.

The slight tendency to suppuration exhibited by the tracks is, however, I think due to some inherent character of the tissue, probably explained by the condensation and surface destruction of the tissue resulting from the force and velocity of the bullet, since the tracks neither bleed freely at first, nor do they furnish any material amount of serous discharge during the process of healing. They remain, indeed, dry throughout, and their slight tendency to suppuration is well instanced by the fact that if for any reason a deep part of a track becomes infected and suppurates, the inflammatory process shows no tendency to spread by the original wound, but comes to the surface locally.

During the process of healing the apertures, and with them the track, gradually contract, the aperture of entry is closed by dry clot, and diminishes in size, the contused margin becoming a small black depressed spot in the centre, while the aperture of exit often closes with an ordinary reddened cicatrix. When fully healed the ends of the contracted track can be felt as two small indurated spots, often so hard as to give the impression of an included foreign body. The extreme density of the resulting cicatrix in the deeper parts of the wound is a factor of much importance, since if it involves tendons or nerves, considerable impairment of movement, or signs of nerve pressure are produced. Again, a track through the muscles of the leg, for instance, will more or less tie the whole thickness of the traversed structures together from the aperture of entry to that of exit, both of which may be seen to be drawn in as dimples when the muscles are put in action. This condition naturally gives rise to much subsequent stiffness and pain on movement, and forms one of the most troublesome after-consequences in simple flesh wounds. The scars left in the situation of the two apertures are not more apparent than those resulting from a large acne pustule.

The above description of uncomplicated flesh wounds shows that the treatment of these injuries is simple in the extreme, It has consisted almost entirely in the application of pads of dry bicyanide gauze and a little wool after the parts surrounding the openings have been washed with an antiseptic lotion, either a solution of carbolic acid or of perchloride of mercury. Fixation, beyond that resulting from the bandaging on of the dressing, has rarely been needed. In the foregoing remarks concerning the aseptic course of the wounds, considerable stress has been laid on the aseptic character of the bullet and the nature of the injury to the soft parts; but I should not neglect to add that the purity of the atmosphere and the apparently innocuous nature of the dust on the high veld, when the camp is a fresh one, must also be credited as important factors in the happy results which have been attained up to the present. It will be noted that no remark has been made as to the treatment of retained bullets, and this for two reasons: first, retained Mauser bullets are uncommon; and, secondly, if not causing trouble, they are best left alone, unless they lie in very superficial positions.

Pietermaritzburg, January 20th.

THE MILITARY HOSPITALS AND HOSPITAL SHIPS IN NATAL.

Suspense.

Here in Natal we have been living for some time past in almost daily expectation of hearing of severe fighting up at the front, and of a fresh influx of wounded. The suspense has been so long, however, and the scanty amount of news so trying, that already some degree of mental reaction is apparent. To-day comes the information, apparently well authenticated, that the relief forces have crossed the Tugela, and the long-expected engagement cannot now be far distant. Nearly all the men wounded at Colenso who have been under treatment in hospital here have been moved away, and the hospitals are fairly empty.

The Hospital Accommodation in Natal.

The opportunity is therefore a good one for reviewing the hospital accommodation in Natal, and considering how far it is adequate to meet an emergency that has long been foreseen.

General Hospital at Mooi River.

No. 4 General Hospital is now established at Mooi river, distant, by rail, some two or three hours from this place. It is, of course, a tent hospital, similar in all respects to Nos. 2 and 3, at Wynberg and Rondebosch, near Capetown. Fully 500 patients can be accommodated.

The Barrack Hospitals at Pietermaritzburg.

The main hospitals in Maritzburg are the barrack buildings at Fort Napier, and are two in number, containing beds for about 600 cases. At the moment of writing 400 of these beds are empty. They are placed on sloping ground, well above the town. The wards are the usual type of barrack hut, with the invariable verandah or "stoep" running along the whole length in the lower aspect. Each ward contains about 25 beds, rather too large a number. Many of the huts are old, and have the usual disadvantages of modern buildings that have been in use for some time. The floors are hardly perfect, and the visitor—accustomed to the glazed bricks, the marble, and the tiles of modern civilian hospitals—would find much to criticise, and perhaps much to be surprised at, as regards the eminently satisfactory progress of wounds and operation cases under treatment in them. The huts burnt down on January 10th have been rapidly rebuilt, and are already nearly complete.

The Church and Legislative Assembly Hospitals.

The garrison church has been cleared, and it is intended to use it—if necessity arises—as a hospital ward. The floor space will allow of 36 to 40 beds. This building is lofty, and being of brick, has the great advantage of being cool, a feature of no little value in the treatment of the sick and wounded in a hot climate. The temperature in the town for some days past has during the day averaged over 80° F. But the fact is that a church does not make a very good hospital. The church is rather dark, and the amount of window quite insufficient. Moreover, in each light only about one-third of the window can be opened. All the patients are unnecessarily congregated in one ward, and however continuously the doors are kept open the air is likely to be stagnant in the corners. Probably the milder cases, especially such as are not confined to bed, will be relegated to the Church Hospital. In the centre of the town the fine and lofty building of the Legislative Assembly has been converted into a hospital for the Volunteers, and is excellently suited for the purpose. The sole objection that can be urged against it is that the number of patients in the main ward is too large. The hospital fittings are excellent. The bedsteads have wire-wove mattresses (those of the Fort and Lower Barrack Hospitals are of sacking), and the whole place has the right stamp of neatness and good order upon it. The colonists of Natal have evidently determined to do the thing thoroughly well, and they have succeeded. This building is fitted with electric light. The church has the same advantage.

On the slope of a hill just outside the town, overlooking the Park, are the tents of the College Hospital, similar to the other tent hospitals. There is ample space, and the number of beds could be almost indefinitely increased, but it is to be feared that there would be difficulty in providing a proportionate increase in the medical and the nursing staff.

The Spirit of the Colonists.

In addition to these hospitals the two ships now at Durban must be reckoned. The *Lismore Castle* furnishes a very remarkable instance of the energy of the people of Natal and of the Durban workmen in particular. In four days and-a-half the vessel was entirely converted from a transport for troops to a floating hospital. The old fittings had to be removed and the entire ship practically rearranged. The swing and fixed cots were made and put in place, dressers set up, and operating theatre constructed between decks, the electric lighting altered, ventilation arrangements modified, and a thousand other minor details considered and completed in this astonishingly short time. Two things were necessary for so successful a piece of work. One was an energetic chief with a power of organisation. This requisite was more than fully supplied by Captain Holland of the Indian Marine. Secondly, the men entrusted with the actual work had to set to their task with

real keenness and with a spirit that is not to be called up by mere offer of increased wages. Fortunately this spirit is just now very conspicuous in Natal. Nothing is more striking to the stranger, thrown for the first time into this colony during the stress of a crisis like the present, than the extraordinary spirit of loyalty and determination shown by the inhabitants. It is shown by the eagerness with which men enlist; it may be shown by the sacrifices of every kind which everyone seems ready to make; and it may be shown by the carpenter or plumber or other workman who does his very best and works continuously his very hardest at anything connected with the welfare or advantage of the troops. Natal, so far, has had to bear the brunt of the campaign, and the people of Natal, so far as a casual visitor is enabled to judge, have "faced the music" in a spirit worthy of a great race. They have not been demonstrative; they do not wave flags or sing borrowed sentiments, but they have put their shoulders to the wheel and, high and low, shown a grim determination to look their misfortunes in the face, to bear trouble and loss with equanimity, and to bide their time with patience—with obstinacy, if the term be preferred—till the issues are resolved. Such a colony must go far, and it is to be hoped that their patriotism will be fully appreciated. From this digression, which is less of a divagation than it may appear, I may return to the hospital ship.

The Hospital Ships.

In the *Lismore Castle* the ventilation seemed adequate if not quite as free as could be wished. But the ship was moored to the wharf in the channel, as far up the bay as it could possibly be got. The rise and fall of the tide, sweeping strongly along the narrow channel, carried, I was assured, all the drainage well out to sea—a satisfactory condition of affairs from the sanitary point of view, though rather unexpected. Access, however, to ships moored beyond the bar in the outer anchorage is difficult, and the sea at times runs uncomfortably high. The *Lismore Castle* accommodates 250 patients. Here, again, there were too many beds in one ward, the forward one having 56 cots. It was satisfactory to find that some of the trained nurses who had been thrown out of work by having to leave Johannesburg had found employment in the ship. Dr. Brodie (of Johannesburg) was in chief medical charge with a staff of civil surgeons.

The *Lismore Castle* seems now to occupy a rather indefinite position. The beds are no longer to be reckoned as part of the general hospital here. The reason for this change, which has been made within the last few hours, I have not yet been able to ascertain. Possibly the ship is to be used for the transport of sick, a duty for which it is not nearly so well adapted as the *Nubia*. The latter ship has a reputation for steadiness in a sea, which her breadth of beam would seem to indicate. I hope it is no libel on the shipping companies to hint that however carefully their vessels are designed some roll more than others, and that a ship that rolls badly is never well suited to be a hospital ship. This consideration does not seem always to have been kept in view.

Orders were given to fit the P. and O. steamship *Nubia* as a hospital ship on December 26th. When I visited the ship on January 5th the work was all but complete. Allowing for the season of the year the rapidity of this work was as creditable as in the case of the *Lismore Castle*. Through the courtesy of Captain Henning, R.N.R., and of Captain Holland, who was in charge during the alterations, I was enabled to make a very thorough inspection. It could hardly have been possible to select a ship more admirably adapted for the purpose than the *Nubia*, and it may reasonably be questioned whether there is a better hospital ship out here. Probably no ships have been fitted up at less cost, but real efficiency has not on that account been sacrificed. The ingenuity of the naval man is apparent at every turn. Thus I noticed that glass storage cells of an accumulated battery had been utilised as receptacles for the inevitable perchloride of mercury solution in the wards. The non-professional visitor, seeking makeshift contrivances of the sort, might have drawn unfavourable comparisons, being impressed by the elaboration of costly detail in the sumptuous ships fitted out in England; but the medical man would ask for no better place to treat sick and wounded than the *Nubia*. The ventilation is admirable, and depends but little on special contrivances, such as electric fans, though in every ward two fans were fixed, which could at will be used as electric punkahs. The whole of the air in any ward, too, could be renovated whenever desired by an exhaust arrangement. By opening the watertight doors a passage right fore and aft can be secured.

The *Nubia* could accommodate about 470 patients, 300 of these being convalescent and provided with hammocks. The number of cots in the wards varied from 32 to 20. There were 136 cots, 60 of these being swinging; ten of these, screened off by hanging curtains, were for officers, who could also be accommodated in the ordinary state-rooms.

Provision had been made for septic cases, which could be practically isolated in certain of the state-rooms provided with their own bathrooms. Finally, the *Nubia* has the advantage of abundant deck space, a luxury rather apt to be curtailed in the most modern liners.

Colonel Hodder, R.A.M.C., is in medical command, with a staff of civil surgeons. The nursing staff consisted of 7 sisters—far too small a number, seeing that 1 or 2 would be required for night duty.

To the list of available hospital beds already enumerated should be added 50 in Gray's Hospital, the civil hospital in Maritzburg.

Summary of Base Hospital Accommodation in Natal.

All told, therefore, the number of hospital beds available now in Natal is rather under 3,000, not at all too large a number, for it is to be feared that if Ladysmith is relieved a large number of sick will be brought, and it seems almost hopeless to suppose that the relief can be effected without the hospital resources being fully taxed to find place for the wounded.

At present convalescent patients are sent down to Durban, and lodged in the hospital ships until moved into Capetown, or back to the front. A large number of these cases require the very slightest medical treatment, and the available beds are therefore occupied, to the exclusion of any fresh cases that may come down. Great relief would be given by the establishment of a tent convalescent hospital at Durban, and few more suitable places could be found than the high ground behind the town known as the Berea.

MEDICAL NOTES FROM CAPETOWN.

[From our Special Correspondent.]

January 24th, 1900.

The Base Hospitals in Cape Colony.

There has been a temporary lull in the arrival of wounded from Lord Methuen's column, but the hospitals are very full all the same, and, even with the Portland Hospital, the accommodation will be in no way in excess of the certain demands that will be made, even allowing for the fact that invalids and convalescents are being steadily sent off to England. Advantage has been taken of these latter drafts to transfer some of the patients from the Capetown Station Hospital to the General Hospital at Wynberg. The Station Hospital was becoming inconveniently crowded. It and two non-dieted station hospitals, at Green Point and Maitland respectively, have to provide for all the medical needs of the base, which are considerable. Owing to political exigencies it is impossible to denude Capetown of troops, whilst the heavy staff employed in Army Service and other administrative duties have to be provided for.

Sick from the Transports.

But the greatest demand upon the station hospital comes from the transports arriving from home. Every vessel lands a somewhat ominous number of sick, many of whom are not likely to convalesce in time for this war, and if the ratio is kept up by the Seventh and Eighth Divisions, some external additional accommodation will be required. The vast majority of the cases landed from the transports are venereal. For this of course no one can be blamed except the faddists who have only too successfully cried down the Contagious Diseases Acts. The reasons why a large number of cases of this class should appear on an outward voyage, and be in full swing on arrival at the port of destination, are obvious. Yet in some cases there appears to have been some lack of due precautions taken at home. I have seen quite a number of cases landed here with secondary symptoms, at a stage show-

ing that the probable consequences of the primary sore can hardly have been sufficiently considered. Then, again, in the case of reserve men and the militia, some cases of men suffering from chronic neglected gonorrhœa, not gleet but profuse purulent discharge, reported to have lasted for weeks or months, have been landed here and sent to the hospital, without doubt to be returned without going near the fighting line. Very wisely an order has been issued that all men not likely to be fully fit for duty within two months are to be invalided home. Now it is hardly probable that a case of secondary syphilis in an early stage or a case of chronic neglected gonorrhœa, such as I have mentioned, can be fit for campaigning in that time. Net result: the expense of bringing a man out, maintaining him at Capetown, and sending him back again. Of tertiary manifestations not many are in hospital, but one class of case causing very much trouble are those with indolent enlargement of the inguinal glands, which appear to be very obstinate, dragging on for weeks, in spite of potassium iodide internally and all varieties of local treatment. A notable fact is the number of cases of pneumonia landed from the transports, mostly at a stage showing that the disease appeared in the warmer latitudes. These as a rule do fairly well when once landed, but one of the transports just arrived had seven deaths from this cause during the voyage. A large number of cases of influenza appear to occur on the transports. They are mostly in the convalescing stage when landed, but very weak, and take a long time to build up for service fitness. Of scarlet fever only one case has been landed for weeks. No spread of this affection really has occurred.

Convalescents from the Eastern Districts.

Another cause of pressure upon the Station Hospital here has been the sending of a number of convalescents from Port Elizabeth to Capetown, for the benefit of the more bracing climate of the Cape Peninsula, as it has been found impossible to get a complete return to health in the summer climate of the Eastern districts. As the war goes on, it becomes more and more evident that the Cape Peninsula should be the sole sick base. The enervating climate of the Eastern Ports is very detrimental at this time of year, and the difficulty in procuring fresh vegetables, milk, fruit, and the like, up country, militate very strongly against the utilisation of inland towns for this purpose. This is especially so on the Western line.

Medical Cases.

Of the medical cases at the Station Hospital the most serious appear to be pneumonia and dysenteric diarrhœa. Cases of typhoid fever have not been particularly numerous either in the Station or general hospitals.

The Situation and Staff of the Capetown Station Hospital.

This hospital is badly situated on a flat stretch of beach close to the city and wedged in between the sea and the railway line. The fact that the railway has to be crossed renders it somewhat difficult of access. Moreover the foreshore is not of the cleanest, and the Town Council in its wisdom has constructed the city sewage outfall in the immediate neighbourhood. And—a great disadvantage where tent accommodation has to be largely resorted to—it lies in the teeth of the prevalent south-east winds, which churn up clouds of dust, often compel the keeping down of tent flaps all day, and at times wreck the tents. The building itself is an old double storey one, but fairly well constructed and ventilated. It has two wings and an administrative block in the centre. Each wing contains two wards of twenty beds each—one upstairs, one down. There are besides smaller wards for ophthalmic cases, infectious diseases, and for immunity and observation purposes, making up a total normal accommodation of somewhat over a hundred beds. But this has been supplemented by the utilisation of sundry corridors and small rooms, and by the erection of fourteen marquees and bell tents in the yards and on the ground between the hospital and the sea, so that at present about 250 patients are in the hospital.

The institution is extremely well managed and the patients on the whole very comfortable, although, as I mentioned before, the "Cape doctor" at times almost renders the marquees untenable. The medical officer in charge is Major Tube, R.A.M.C., a most courteous and attentive officer, who appears to have secured the goodwill of his subordinates in a remarkable manner. The sanitation is as good as it can possibly be considering the situation of the hospital. The staff consists at present, besides the commissioned officer, of 4 civil surgeons, locally engaged. One of these is entirely occupied with outside work. A civil surgeon from England joined a couple of days ago, but has now been ordered to Natal, so that for weeks the wards and marquees have been under the care of 3 medical officers—not at all too many considering the continuous to-and-fro transfers that are taking place. Captain Connor, R.A.M.C., an officer properly belonging to medical store work, is quartered on the place, and, although he does not take charge of any beds, relieves the staff of certain miscellaneous duties, and takes his share as orderly medical officer. The newly-arrived civil surgeon mentioned above is Dr. Martin, a former house-surgeon to Mr. Dent, at St. George's. The remainder of the last batch of 16 civil surgeons have been posted to the general hospitals.

This hospital has no accommodation for officers, but one or two are occasionally taken in. The dietary is excellent. This applies to all the hospitals, and it is only fair to mention that absolutely no restrictions are placed upon any of the staffs in the way of ordering extras. There need be no anxiety whatever at home as regards both officers and men being fed to the fullest extent which the medical officers consider suitable. I have carefully inquired into this, and am satisfied upon the point. The dietary in all the hospitals is indeed far more liberal than it would be at the average civil hospital in the colony. *Apropos* of diet, it is to be hoped that military rules will obtain at the portion of the Claremont Sanatorium which is being used as a hospital for convalescent officers, under the charge of the Superintendent, who has been engaged for that purpose as a civil surgeon. His creed, and that of the institution under normal conditions, is strict non-alcoholic, non-nicotine vegetarianism. The relaxation of this regimen is due to the fact of the sanatorium being for the nonce a military hospital, not to the military hospital being at the sanatorium.

Nursing.

The nursing at all the hospitals continues to be excellently performed by the R.A.M.C., assisted by a few of the Cape Medical Staff Corps, with, of course, at the general hospitals, the co-operation of the army nursing sisters. All are, of course, very much overworked at times when large consignments of wounded arrive. This also applies to the medical staff, and although both medical and nursing staffs are ample for normal conditions, they certainly are somewhat insufficient for the pressure caused by the arrival of train after train of wounded within a few hours. It would be going too far, however, to expect the authorities to keep the *personnel* fully up to high-pressure gauge, involving, as it would, enforced idleness for long periods. There has been a good deal of grumbling about the supposed mistake of the authorities in not largely employing Colonial female nurses at the base hospitals, and releasing R.A.M.C. people for the front. Speaking purely as a civilian and a Colonial practitioner, I cannot go altogether with this. It is a great mistake to suppose that the ordinary civil nurse is fit for military work. At the station base hospitals, owing to the large preponderance of venereal cases, it would obviously be impossible to employ them, whilst even at the general hospitals there are great difficulties in the way. Women submit far less kindly to discipline than men, and the Colonial nurses—albeit many of them are most excellent women—have in most cases never been under even the same discipline as that to which their British sisters have to submit. The Colonial period of probation has hitherto been only two years, and only a limited number of women are registered even under that probation. Moreover, in the Transvaal there is no official regulation of nurses at all, and a large number of the Johannesburg "nurses" have never had any proper training in their lives. Moreover, it is a matter of common repute (and in saying this I make no reflection on the general body) that to put the case mildly, only too many of the nurses from the Golden City are not so staid as the requirements of military discipline demand. To avoid friction between Colonial nurses on the one hand and the R.A.M.C., and still more Army Nursing Sisters, on the other, would be a difficult task. I know that the

latter ladies hold this view, and, after many years of experience as a hospital administrator in the Colony, I can endorse it. Of course a few suitable Colonial nurses could be selected, but the task of selection would be very difficult. By far the better method would be to raise more bearer companies from Colonial men, and leave the R.A.M.C. more at liberty for hospital work. Numbers of good class young men, many of them St. John pupils, are available for the purpose, and in a couple of weeks could be fitted for bearer work, which requires far less training than ward duties. I have noticed some complaint somewhere as to lack of co-operation between the general hospitals. I have carefully gone into this, and do not think the complaint well founded. Of course, as each general hospital is a self-contained unit, a little unit *esprit de corps*—call it "jealousy" if you like—may come out in conversation at times. But I am convinced that this never operates to the detriment of the service. The Principal Medical Officer and the Principal Medical Officer of the Lines keep so constant a personal supervision over the general hospitals that I am certain no overlapping or clashing exists.

HEALTH OF THE TROOPS.

Apart from illness contracted at home or on the voyage the health of the troops at Capetown, Maitland and Green Point has been remarkably good, far better than that of the civil population around. The contrast is particularly notable as regards enteric fever and influenza, both of which affections are fairly rife in the city, while very few have occurred amongst the military. The health of Lord Methuen's column has also been remarkably good, very little medical illness beyond the usual limited number of rheumatic and dysenteric diarrhœa cases being in evidence.

Whilst on this subject I may mention one deficiency upon which all the civil surgeons I have conversed with are emphatic—the very limited range of drugs kept in the hospital dispensaries. I do not mean to say that this is a local defect. The available pharmacopœia is, so far as I can gather, the same as at other stations, but it is limited, and the civil surgeons complain about the consequent hampering of their prescribing. One man told me that there was not a single intestinal antiseptic in his hospital dispensary, not even salol, and that even so common a drug as citrate of potash was not in stock. This is in strong contrast with the surgical equipment, which, as I have said before, is very complete.

APPOINTMENTS.

Lieutenant-Colonel Hodson, in charge of one of the divisions in No. 1 General Hospital, and Major Sylvester, Secretary to Colonel Stevenson, have exchanged appointments, the latter, an enthusiastic surgeon, being anxious for clinical work.

Dr. Hornabrook, a civil surgeon in Natal, has been greatly distinguishing himself at Ladysmith, being hit no fewer than four times during the late assault by the Boers.

Another medical man, Dr. Fryer, lately civil surgeon at the Station Hospital, has relinquished the lancet for the sword, having accepted a subaltern's commission in the South African Light Horse.

Mr. R. E. Drake-Brockman has been appointed medical officer of the newly-raised Railway Pioneer Regiment. A gentleman with a German name, but of doubtful nationality, was appointed at first, but, on representation from the Intelligence Department, was, for reasons entirely unconnected with professional status, superseded.

The greatest care is necessary in making medical appointments both as regards officers and men, as there is too much reason to believe that the Red Cross is sometimes used to cover widely different objects.

A medical store depôt has been established at Capetown in charge of Major Tyacke, R.A.M.C.

SICKNESS AT KIMBERLEY.

Kimberley is suffering great straits during the siege. The death-rate for December for children under 1 year reached the appalling figures of—for whites 671.1 and for coloured 912.1 per 1,000 per annum. The adult rate was 60 for whites and 138 for coloured. The causes of death are mostly in children "marasmus" and gastro-enteric catarrh, and adults scurvy, both of course due to want of milk, vegetables, and proper food generally. The adult rations have been reduced to ¼ lb. of meat daily, of which horse flesh constitutes three-fourths. Curiously enough, under the conditions, enteric cases have done well, only 3 deaths out of 52 cases occurring during the month. These figures are from Dr. Stoney's report. The Red Cross machinery is working extremely well, and comforts of all kinds are being plentifully supplied to Methuen's and French's columns. As yet Colonel Young has not been able to deal personally with Gatacre's column, although much is being done locally for that section of the forces.

ACCOMMODATION FOR CONVALESCENTS AT MADEIRA.

WE have received from Dr. Michael Grabham, F.R.C.P., of Madeira, for the following account of the arrangements made or in contemplation at Madeira for the reception of sick and wounded from South Africa.

Several villas standing in spacious grounds have been offered to the British Government for the reception of the sick and wounded convalescents from South Africa, and Senhor Rocha Machado has munificently placed at the disposal of the War Office his well-known Mount Quinta for the reception of officers during the next six months.

The Mount Quinta is one of the show places of Madeira, standing on a mountain spur over Funchal, about 2,000 feet above the sea, in many acres of ornamentally-planted gardens. The air at this altitude is invigorating, and the temperature, though 10° F. lower than at Funchal, has a small diurnal variation only, and admits of the open-air lounging sort of life which is so characteristic of the winter season in the environs of Funchal below. The equipment of Senhor Machado's villa is entrusted to an adequate staff, who are expected to arrive this week from England.

Accommodation in other regions has also been prepared, but our chief reliance rests upon the experienced efforts of the hotel proprietors, who are quite equal to the supply of any demand which may suddenly arise, and who will readily avail themselves, if need be, of a selection from the numerous quintas in which these mountain slopes abound in every variety of situation. I have long since communicated in detail to the Principal Medical Officers at the Cape the various points of interest in the climate, accommodation, and food supplies of Madeira, and also the peculiar facilities which here exist for the out-of-door life and passive exercise of convalescents, specifying sufferers from dysentery, enteric fever, loss of blood, and pulmonary disorders as those likely to derive speedy benefit, as well as the actually wounded.

Of late years I have advocated Madeira for many varieties of Bright's disease and albuminuria, and have had excellent recoveries, especially where improvement had been arrested by intercurrent inflammatory attacks due to chill and temperature changes.

The summer months in Madeira are spent in the pine-clad hills, from 2,000 to 3,000 feet above sea level, in one or two districts where English people have from time to time built commodious houses in spacious grounds, and it would be hard to give any adequate description of the matchless beauty of these mountain regions. Two years ago I spent a part of the summer at a much higher altitude (over 5,000 feet) engaged in magnetic and atmospheric electrical observations in a climate of marvellous dryness, and reflected upon the varieties of climate which are to be found in the small space occupied by Madeira.

The sunshine in Funchal during January registered about 6¼ hours a day. The island is now singularly healthy. Certain improvements have been made in the water supply to the town, and the municipality are engaged in bringing down spring water from a great altitude for general distribution. For this and other sanitary purposes it has been my privilege to persuade the Government at Lisbon to devote annually a large sum of money.

Madeira is about 1,300 miles distant from Southampton, and, travelling by a fast steamer, is now reached in a little more than three days; the steamers, moreover, have grown in my time from 500 tons to 13,000 tons.

I will only add that Field Marshal Lord Roberts received with much interest my information as to the availability of this island for the sick and wounded, and took personal charge

of my letters to the Cape. Truly it would be difficult to devise circumstances more potent to accelerate convalescence.

THE MEDICAL ASPECTS OF THE WAR.

By a South African Campaigner.

XIII.

Care of Our Wounded.

Whatever may be the defects in our artillery transport arrangements and other purely military details which we leave for military experts to decide, and in reference to which the public who so freely criticise must bear in mind the unusual conditions to be faced and the erroneous estimates which Colonial as well as Imperial authorities made at the outset of the Boer forces, there can be no question as to the admirable work done by both the ambulance and hospital corps. The answer given by the Under-Secretary of State for War to the question addressed to him by Dr. Farquharson on February 8th was published in the British Medical Journal of February 10th, but it appears that Mr. Wyndham did not read the whole of the telegram sent by Sir Redvers Buller. The remaining portion was published in the *Daily News*, February 9th, and as it is of such an interesting character it may here be reproduced:

"We have been fighting here for a week, 33 miles from the railway, and 500 to 1,200 feet above our wheeled transport, and it was only on the 24th that every wounded man was not admitted to the hospital the day he was wounded." Then follow figures showing that on the 20th January 2 men were admitted to the field hospital; on the 21st, 155; on the 22nd, 299; on the 23rd, 73; on the 24th, none; on the 25th, 558; on the 26th, 4; and on the 27th, 1, the total being 1,038. At the same time the transfer of wounded men from the field hospital to the base hospital at Mooi River was going on. It began on the 21st January, when 2 patients were transferred. Next day there were none, but on the 23rd there were 117; on the 24th, 162; on the 25th, 67; on the 26th, 75; on the 27th, 172; on the 28th, 177; on the 29th, 115; total, 861. Then comes a passage showing how tenderly the injured men are cared for: "A hundred and seventy-six cases in hospital here. These are the dangerously wounded, and as (? when) they are fit to move they will be carried by hand on stretchers the whole way to Frere, as I fear the ambulances are too rough."

With regard to the complaints as to the hospital at Capetown sent home by the *Times* correspondent, an officer, Colonel Featherstonhaugh, who was himself a wounded patient in the Wynberg hospital, and who has recently returned to his home in the Isle of Wight, has written a letter to that journal, in the course of which he says that he desires distinctly to deny that complaints have been freely made by officers and men in the military hospital:

There is no want of organisation or foresight in the arrangements made for the comforts of the patients; the standard of living is very good, convalescent officers are sent to Claremont, and the serious cases are kept at No. 1 Hospital, where every care is bestowed upon them. I cannot speak too highly of the attention of the nursing sisters, who day and night are in attendance.

In my last letter I quoted extracts from the letter of a civil surgeon attached to the base hospital at Capetown, speaking in the highest terms of the comforts provided for both officers and men. By the last mail a further letter has been received from this correspondent from which I may quote the following passages:

Nos. 1 and No. 2 Hospitals are at Wynberg; conjointly they can accommodate about 1,000 to 1,200 patients; the soldiers are well provided with excellent food, drinks (wines, stout, ale, aerated waters), books, papers, etc. The library, I may mention, is under the direct supervision of Mrs. Dick Chamberlain; it is called "Mrs Dick Chamberlain's Hospital Library." Each ward has a box of books with a catalogue, and periodically the wards exchange boxes; thus Tommy is supplied with unlimited novels of the latest date. Charitable workers send instalments of flowers, fruit, and other luxuries.

The operating theatre is large and lofty and well lighted, has a marble tiled floor which slopes to one corner, the walls and ceiling being lined by enamelled tin. It is kept spotlessly clean and white.

Each 2 or 3 huts (a hut is equivalent to a ward; each ward contains about 2 beds) is under the direct control of one surgeon; thus I have three huts. The whole of No. 1 General Hospital is divided into, A, the surgical, and B, the medical division; superintending the surgical division is one R.A.M.C. officer, and similarly the medical side has one R.A.M.C. The R.A.M.C. officer visits the huts of his division daily, but never interferes with the treatment adopted by the surgeon in charge.

Each day an orderly medical officer is appointed; he has to remain in or near the orderly tent during the afternoon and night in case of emergencies. Each civilian surgeon is supposed to commence his work at 9 A.M., and he may not leave camp till 1 P.M. He is again to visit his wards in the evening. No. 1 Hospital is at present occupying the permanent military barracks of Wynberg; No. 2 Hospital is under canvas, and the cases do remarkably well. No. 1 Hospital is nearly full up; half the cases have come from the transports direct from Southampton. Pneumonia and pleurisy are very common; this may be accounted for by the men, while on board ship, being required to go without boots and socks.

As my patients are chronics—as, indeed, are all at present in the hospital—I will not give particulars about them, but later on, when fresh cases arrive from the battlefields, I will endeavour to communicate what is interesting.

Lords Roberts and Kitchener have visited the hospital. "Bobs" appears quiet and reserved. He takes quite an interest in the cases, inquiring most earnestly into the circumstances whereby each patient was injured. "Bobs" is a great favourite with our Tommies.

This correspondent, therefore, clearly thinks that the hospital accommodation for the men is good, and it is possible that some of the complaints and criticisms which have found their way into the press emanate from some of the numerous well-meaning visitors whose offers were referred to in an article in the British Medical Journal of February 3rd. The lady with no nursing experience but with a patriotic desire to nurse the wounded appears to have been rather strongly in evidence; and inasmuch as her services have been declined in favour of her trained sister, it is possible that disappointment may occasionally give rise to somewhat harsh criticism. A story which I heard the other day will illustrate this. One of these ladies having been admitted to a ward asked a patient, an Irish soldier, if she might sponge his face for him. The patient replied, "Yes, my dear lady, you may sponge my face; five other ladies have already washed it this morning, but you may wash it too."

Nursing in the Military Hospitals.

At the same time, the one point which does seem open to question is whether trained nurses have really been employed to a sufficient extent, at any rate at the base hospitals at Capetown. The opinion of the medical correspondent from whom I have already quoted is, at any rate, to the effect that "more qualified nurses are required." Thus he says: "At the best of times one day nurse has at least 40 beds, and at night time one nurse has 9 huts to take charge of—that is, over 180 beds, for each hut has 20, or in some cases more beds." This appears on the face of it rather unsatisfactory; but it must be borne in mind that male orderlies or nurses are employed, not only in hospitals at the front but also in military hospitals at home. Thus my correspondent says that each hut has a male orderly, and I would point out that even at Netley a very large amount of what is usually regarded as nursing work is done by these same orderlies. I confess, from personal experience, that I am by no means enamoured of the male orderly as a nurse. I have had charge of a hospital where none but male orderlies were used, and I have no hesitation in saying that nursing duties are not as a rule so well performed even by trained men of this sort as by trained women nurses. But, these views notwithstanding, it is only fair to remember that we are asked to condemn an old system and not merely a temporary arrangement for a campaign.

R.A.M.C. South African Fund.

Lady Randolph Churchill despatched the other day a cablegram with reference to the work being done on the *Maine*, which will have been read with great interest. In this she said that among the wounded from Colenso and Spion Kop were stretcher bearers and Army Medical Corps men. This confirms what we have already learnt from other correspondents — namely, that the men engaged as stretcher bearers and ambulance work generally on the field of battle are exposed to very considerable danger. Under these circumstances, the appeal made by the R.A.M.C. South African Committee in the British Medical Journal of February 10th has a special interest, and it is earnestly to be hoped that members of the profession will contribute their half-crowns, for in this way a respectable sum might quickly be collected. It is to be hoped, also, that the suggestion to form Ladies' Committees in the cities and county towns of the United Kingdom will be taken up by the wives of medical men. Subscriptions, as will be seen, may be sent to the Editor of the British Medical Journal.

Medical Attachés.

In the last number of the *Lancet* an interesting letter from Sir William Mac Cormac appeared, in which he stated that two German medical attachés, Stabsarzt Dr. Schmidt and Stabsarzt Dr. Krummacher, had just returned to Capetown from the Modder River, where they had been working in the field

under the medical officer to the brigade of Guards. These attachés, it appears, are the first accredited medical attachés which have been sent to the front by a foreign State to observe what may be learned by the campaign. The services and observations of these two gentlemen are thus referred to by the correspondent from whose letter I have already quoted:

I had visiting me to-day two captains of the Army Medical Corps of the German army, who were sent out by the German Government to report on the injuries of modern weapons, the systems employed in our military field and base hospitals, and our ambulance work. It so happened that in the pursuance of their duties they were present at the Magersfontein battle; here, as you are aware, our surgeons were particularly busy, so the two Germans lent their ready aid, and were employed treating both our wounded and those of the enemy who were captured. They have twice visited my wards and made numerous notes about the cases, such as the exact injury, the bullet, the range, etc.

NURSES IN THE HOSPITALS AFTER COLENSO.

MR. FREDERICK TREVES, in a letter which he has addressed to the *London Hospital Gazette* from Frere Camp, writes as follows with regard to the services rendered by four lady nurses—his own two nurses and two army nursing sisters—after the battle of Colenso:

When we reached Frere these two ladies [Mr. Treves's own nurses] found themselves in the distinguished position of being the only two European women in a camp of 30,000 men. They were treated with the very greatest possible kindness and attention by Tommy, who is the most chivalrous of men.....The nurses were at it all Friday night and all Saturday. They had no sleep, and the splendid work they did is beyond any praise. How they managed to keep about I don't know.....I should have said that two Netley Sisters—one an old "London" nurse—joined us just before we left Frere, and better nurses and more devoted women I never met. They worked night and day, and their work was of the very best. Poor Tommy may not think much of the "Orspittle" at Chieveley, but I know he will never forget the four women who stood by him after Tugela, and tried to make him comfortable. They never rested. They give him all they had—their water bottles, their handkerchiefs, and even their mattresses to lie on. Their very presence among the dead and dying was something, and they thought of means of giving relief that would not have occurred to us men. I suppose they are the only women who have been really "at the front" in this war.

A SCOTTISH HOSPITAL FOR SOUTH AFRICA.

A Scottish hospital for South Africa is to be provided, funds to be raised by public subscription. The Lord Provost of Edinburgh has already received more than half the sum required (£12,000). The doctors and nurses will be Scottish, but the hospital will not be confined to the treatment of Scottish soldiers.

THE MEDICAL SERVICE ON THE FIELD OF BATTLE.

The *Daily Mail* of February 5th, in an interesting special article by Julian Ralph on "The War as it is To-day," depicting "scenes and sounds of modern battles," alludes to the medical aspects in the following terms: "The bravery of our stretcher-bearers is as much beyond question as it is beyond praise. When all of us lesser and immediate historians of the moment have told of the valour of all the generals, colonels, majors, captains, and "Tommies" of the army, we shall still have, in common justice, to describe how the chaplains, doctors, and stretcher-bearers go in and out of the most hellish fire, not once or twice, but all through every battle."

THE YEOMANRY HOSPITAL.

The staff of the Imperial Yeomanry Hospital was inspected at Devonshire Honse on February 9th by His Royal Highness the Prince of Wales. Lieutenant-Colonel Sloggett, R.A.M.C., the Medical Officer in Command, Mr. A. D. Fripp, the Senior Civil Surgeon, and the ambulance men and supernumeraries, left Southampton in the SS. *Norman* on February 10th. The remainder of the medical staff left on February 12th by the *Majestic*.

MR. BALFOUR ON SCIENTIFIC LABORATORIES.

A DINNER given by the Council of King's College in aid of the funds for new scientific laboratories was held on Wednesday, February 14th, at the Hall of Lincoln's Inn, under the chairmanship of the Right Hon. ARTHUR JAMES BALFOUR, M.P. After the usual loyal toasts had been duly honoured, Lord GLENESK proposed "The Naval and Military Forces of the Empire," and in the course of his remarks referred in terms of the highest praise to the medical men serving in South Africa and to the nurses with the troops. The toast was replied to by Lieutenant-General KENT and Sir JOHN COCKBURN, K.C.M.G.

Mr. BALFOUR, in proposing the toast of "King's College," said: I rise to propose what is called the toast of the evening. I rise, in other words, to recall your attention to the central interest which has brought us all together this evening to this hall to enjoy the splendid hospitality of King's College. but I feel that I do so under circumstances of very peculiar difficulty. The toast of the evening, if it is estimated by the nearness in point of interest to the hearts of each one of us, is not and cannot be the toast that I am about to propose. It is the toast to which you have just listened. At such a time it is difficult for us to withdraw attention from the topics so eloquently dealt with by the proposer of the last toast, by the gallant general who responded on behalf of "The Army," and by the eloquent and admirable exponent of Colonial feeling whom you have just listened to, I doubt not with the emotions which stirred my own heart whilst he was speaking.

TECHNICAL EDUCATION.

I must ask you for a moment to turn your thoughts from these great military and imperial interests to interests far removed from them indeed, but perhaps in a sense not less intimately and permanently connected with our greatness and our prosperity as a nation. For the toast, reduced to its narrowest limits, which I have to propose to you is the advancement of scientific research in this great metropolis of ours, in the University which we have recently remodelled, and more especially in that College where I hope and trust your liberality will enable the interests of science to be pursued in the future with an even greater success than they have been pursued in the past. We have all probably been concerned either in making speeches or in listening to speeches in recent years on the subject of technical education; a very loose phrase, sometimes used or misused to mean education in manipulation or dexterity of hand treatment, sometimes—and I think more probably—used to mean that application of the principles of science to industrial life which we are more and more beginning to recognise as an increasing need of the age in which we live. Now it has been found easy, and I hope it always will be easy, to enlist popular sympathy in anything so obviously useful as the application of scientific method to industrial pursuits. And it will be all the more easy from the fact that we have before us in certain foreign countries striking and admirable instances of the method, and of the success which attends or may attend such application of scientific method to industrial pursuits that everybody can understand. An appeal for that purpose is an appeal which touches the heart of everybody nearly or remotely connected with the industries on which this nation as a whole lives, and on which it must continue to live if it is to live at all.

RESEARCH IN PURE SCIENCE.

I appeal for something not less necessary, but something perhaps more remote from the ordinary everyday popular educational interest, for I appeal on the present occasion not so much for anything in the nature of technical instruction or applied science as for aid to carry out that instruction in science itself, and those researches in pure science which lie at the base of that instruction, which, from the very nature of the case, can only appeal indirectly and remotely to the great mass of mankind. And yet, after all, science is the essential method that we have got to consider. Its applications will come and must come, will come almost of themselves, must come in the course of time, but you cannot have applied science without having science in the first instance; and if you do not cultivate scientific research and scientific education, it will be in vain that you multiply your technical schools, and it will be in vain that you labour to erect a great superstructure where your foundations have been so inadequately laid. I feel it the more incumbent upon me to urge upon you the claims and the glories of science pursued for itself from the very fact that they cannot directly appeal to the general interest of the mass of mankind. We ought not to wonder, we ought not to criticise, and we ought not to be surprised that among the great number of persons deeply interested and astonished at, for example, so interesting and sensational a discovery as wireless telegraphy, should number the inventions which have made that telegraphy possible, which could neither know of nor take an interest in the speculations of a Maxwell or of the experiments of Hertz, which after all are at the base of the whole thing, without which no such discovery as wireless telegraphy would have been possible, but whose discoverers had indeed fame and reputation among those scientific men and people of understanding in their work, but who have not, perhaps, even now that world-wide reputation, that currency in the mouths of men which fall to inventors much less than themselves, and who have built their work (and rightly and properly built their