sion, allow me to recapitulate. I have urged that many of the phenomena of syphilis usually counted as tertiary really occur, as a rule, in its early periods, and that there is no structure in the body which may not be attacked in the secondary stage. As instances of this fact, I have mentioned rupia, periostitis, and diseases of the viscera and of the nervous system. If my argument holds good, we must regard the terms secondary and tertiary as applicable to different periods of time, and not to different phenomena. At the same time, it has been fully admitted that syphilitic processes do display different tendencies in relation to the stage in which they occur. The position assigned to the tertiary symptoms has been that of late relapses of morbid processes, in tissues previously damaged. In this way it has been suggested that syphilis may occupy an important part in predisposing to such maladies as locomotor ataxy, without actually causing them. Lastly, the relation of mercury to the natural evolution of syphilis has been discussed, and I have tried to claim for it the position of an antidote to the virus, asserting that not only can it cause symptoms to disappear, but, if used early enough, will entirely prevent them.

"ON A CONDITION OF THE INNER SURFACE OF THE UTERUS, AFTER THE BIRTH OF THE FŒTUS, OF PRACTICAL IMPORTANCE."

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THE above was the title of a short paper of mine read at the meeting of the British Medical Association at Cardiff last year. It was published on October 10th, 1885. This heading is repeated by Mr. J. Stuart Nairne, of Glasgow, in the JOURNAL of January 16th. And then he says, "I am very glad this condition has attracted the notice of such an eminent physician, but I would have been still better pleased if he had given a little credit to some small observations of my own on the same subject."

In answer to this I would say at once that, to be thought capable of omitting knowingly to give a co-worker due credit, is a source of pain to me. My explanation of my omission is simple but twofold; 1, we are talking of different conditions; 2, I have never seen the remarks made by either Mr. Nairne, or Dr. Napier.

1. I am talking of a condition of the whole internal surface of the uterus, while Drs. Nairne and Napier are speaking of the area of placental insertion (serotina); this they describe after uterine contraction as now "about a couple of inches in length and breadth." In one of my cases, I specially observed that it was outside the area of the placenta before its removal. But, supposing we were describing actually the same condition, then the second part of my answer is, first, that I have to-day consulted the *Glasgow Medical Journal* of 1884, and can find no account of Mr. Nairne's paper, nor any discussion thereon in reference to this question, neither in the report of the Glasgow Southern Medical Society for March, 1884, nor in the April number of the Journal, nor in any other volume thereabouts, neither could I find any report in the Edinburgh journals of these meetings. The only allusion I can find in this remote south is one by Mr. Nairne on Dr. K. N. Macdonald's case in this JOURNAL. This came out in May, and was overlooked by me, doubtless because the heading was "How to Prevent Septicæmia in Cases of Morbidly Adherent Placenta." My paper had been projected long before, and I should have quickly noticed anything bearing on the subject; but, as I say above, the conditions are different, as can be seen by comparing the papers. I therefore must repeat the last paragraph of my short paper. "I am not aware of any one having noticed or pointed out the peculiarity before, though I can hardly think it could have escaped observation; but, in the excitement of the moment, the danger of mistaking the lining of the uterus for adherent placenta is undeniable, and this must be my excuse for occupying your time."

ROYAL EAR HOSPITAL.—It was stated in the report presented by Drs. Pritchard and Matheson at the annual general meeting of the Royal Ear Hospital, Frith Street, Soho, that during 1885 there were 7,796 out-patient attendances, at which 2,463 separate cases received careful treatment. Forty-four patients were admitted into the in-patient wards, all serious cases, and mostly children. This new department was reported to be a very great success, although it had considerably added to the expenditure. The financial condition of the hospital was shown to be far from satisfactory, as there was a considerable falling off in the donations and subscriptions. Funds are urgently needed to prevent a reduction in the number of beds.

ON THE SURGERY OF THE LATE EXPEDITION TO SUAKIN.

Read before the Surgical Section of the Academy of Medicine in Ireland.

By R. F. TOBIN, F.R.C.S.I.,

Assistant Surgeon, St. Vincent's Hospital, Dublin; late Assistant Professor of Surgery, Army Medical School, and Field-Surgeon to the Suakin Expeditionary Force.

DURING the late military operations at Suakin, it was my good fortune to occupy the position of Field-Surgeon; and, although I have nothing very new or important to communicate, it may be that it will interest you to hear from an eye-witness the surgical history of that brief campaign. The appointment, styled Field-Surgeon, is one new in our army, it is one that has not yet been recognised by the supreme authorities, and the duties of which are not defined in the army medical regulations. (The subject is treated of in Mr. Longmore's work on *Gun-shot Injuries*, pp. 438, 439.) Let me, therefore, say a few words about it. Perhaps I shall best convey to you the nature of the appointment, by pointing out the conditions that call for its existence. If I do so by uttering a truism in connection with an acknowledged fact, I hope I shall offend no one. That skill in the practice of operative surgery, especially of antiseptic surgery, can only be obtained by practice, is a truism. That in times of peace the ordinary duties of an army medical officer give few opportunities for such practice, is an acknowledged fact. When, therefore, on the breaking out of war, medical officers sent out from various stations are called upon to take charge of wounded, it seems right to put at their disposal, for the purpose of consultation, etc., some one whose hand, to use a familiar phrase, is "in" at surgery. Men skilled in surgery will be glad of such an assistant; men whose training has been limited to operating on the dead body, will be steadied and encouraged by the presence of such a one in their first operations on the living. Men, on the other hand, who from any cause are reluctant to operate, will ask him to undertake for them whatever operations fall to their lot.

The operating tent at Suakin was a large double pole tent, of a pattern in use in India. To the poles were hung irrigators, and to the walls all round were stitched calico bags, filled with ready-made Lister's dressings of various sizes, salicylic, boracic, and iodoform wool, lint, bandages, and other surgical appliances. The floor of the tent was kept sprinkled with carbolic acid solution.

There were carried into the base hospital at Suakin, 129 wounded non-commissioned officers and men. The officers were, as a rule, taken direct to the hospital-ships; and, as I did not see much of them, I do not include them in my statistics or remarks. The official returns classify the 129 wounds as follows.

Regions of the Body Wounded.	Admissions with Wounds.		
	Total Wounded.	Projectile or Weapon by which Wounds were Inflicted.	
		Rifle-Shot.	Sword or Spear.
Wounds of the Head	6	2	4
" " Face	6	4	2
" " Neck	5	3	2
" " Chest	11	8	3
" " Abdomen	3	2	1
" " Back and spine	13	9	4
" " Urinary organs	2	2	—
" " Upper extremity	32	20	12
" " Lower extremity	51	43	8
Total	129	93	36

N.B.—The Royal Marines are included in this return.

Of the 129 who were wounded, 124 recovered. The five deaths occurred as follows: one from a perforating wound of lung and liver, one from a similar wound of abdomen, with perforation of the intestines; three from wounds of the lower extremities. Two of these latter wounds were fractures of the femur in the neighbourhood of the hip-joint, a class of wound which has never, under the most favourable conditions, furnished a less mortality than 70 per cent., and one of the two was complicated with other injuries that

rendered it necessarily fatal. I shall have occasion to refer to both these cases later on, as they presented points of special interest. The third patient, who died from a wound of the lower extremities, had received a long superficial spear wound on the inner aspect of the thigh. He was brought into hospital about six hours after the receipt of the injury. After the wound had been well irrigated with a 5 per cent. solution of carbolic acid, it was closed, except at its most dependent point. Although the wound seemed to do well, the patient died on the third day, with symptoms of acute septicæmia. No doubt the spear which wounded him had been smeared with some putrid matter, absorption of which had taken place before he reached hospital.

Let me ask you to criticise these statistics narrowly. I ask you to do so in the interest of our profession, and in the interest of the British soldier. To turn out cured in England a soldier wounded on the plains beyond Suakin is, I need scarcely remind you, a very complex undertaking, of which the immediate treatment of the wound is but a part. It is an undertaking requiring much forethought on the part of the administrative authorities, and skilful carrying out of their arrangements by every branch of the executive. It is, moreover, a highly expensive undertaking. The British tax-payer, however, appears not to mind expense, as long as he gets value for his money. It is to satisfy him on this point, and to encourage him to further

liberal outlay on the army medical department and its equipment, that I have brought these statistics before you. Taking into account the nature of the climate, the difficulties of conveyance by land and sea, the septic conditions implied by flies that made black by their presence every spot where they could obtain food, I think you will agree with me that to save 97 per cent. of wounded, was a satisfactory performance. It is right also to point out that, excepting the case of septic spear-wound just referred to, no patient died who had not received a wound of an almost mortal character, while some apparently hopeless cases made excellent recoveries.

Let me first tell you of the two cases of fractured femur that did not recover. One was a private of the 5th Lancers. There was an alarm in their camp on the night of their arrival, and the bullet from the carbine of a comrade struck the man in question as he was in the

act of getting up. The bullet entered the right buttock at a point six inches behind the anterior superior spine of the ilium, passed through the rectum one inch and a half above the sphincter, and then, fracturing the left femur, passed out on the outer aspect of the thigh. There was much hæmorrhage into the rectum, and collapse, from which the patient never rallied. On examining the wound after death, the following most strange condition was found. I believe it is unique in the history of gunshot fractures. The bone was found to have been fractured two inches below the point where it had been struck. The specimen which I hand round will explain the occurrence better than any words of mine. (See Figure.)

I need only add that there was no communication between the wound and the fracture, which was therefore a simple fracture of the femur from a rifle-bullet. The other case of fracture that terminated fatally was in the same neighbourhood. You know that the treatment of such fractures is one of the most vexed and unsatisfactory questions in surgery. Amputation has never yielded better results than is represented by a mortality of 84 per cent.; while a mortality of 71 per cent. has attended non-interference. The shock of the operation appears to have been the fatal factor under the first plan of treatment; while under the second it has been the prolonged suppuration attending the separation of necrosed fragments. In the case in question, there was a comminuted fracture implicating about two inches of the bone below the lesser trochanter. The wound of entrance was on the outer aspect of the thigh, that of exit on the inner. I enlarged the former wound, removed the central fragments, made smooth in a transverse direction, with a saw, the ends of the upper and lower fragments, and secured them together by means of a strong silver wire passed through holes drilled in the usual way. The shock, however, of even this much interference was too much for the patient. He died twelve hours after the operation.

Notwithstanding its failure in the case just mentioned, this plan of treatment is one that commends itself to me in cases where there is a comminuted gunshot fracture of the femur limited to a few inches of the shaft. Much to urge in its favour occurs to me; but there is this against it, that it is sometimes impossible to ascertain that the fracture is one suitable for such an operation without what I shall presently show to be a dangerous amount of examination; and I would therefore limit it to wounds occasioned by bullets known to inflict fractures of the kind indicated. It would also, I think, yield better results as a secondary than as a primary operation.

The other gunshot-wounds of the extremities, of which there were in all sixty-three, were interesting, chiefly in illustrating the difference between wounds inflicted by the Martini-Henry and the Remington rifles. The shape, hardness, and velocity of a bullet materially influence the kind of wound it produces; and the projectiles in question differ in each of these particulars. The effects of velocity were further accentuated by the fact that, whereas the bullets of the Martini-Henry, that inflicted wounds, were nearly all fired close at hand, those of the Remington came from long distances. While at Netley, I was often struck, on the return of soldiers from the many small wars we have been carrying on during the last six years, by the marvellously little amount of damage occasionally inflicted on joints that had evidently been traversed by bullets. The shape and velocity of the bullet, had it been ascertainable, would no doubt have explained the occurrence.

In papers read by Professor Longmore and Surgeon Kirker, R.N., before the International Medical Congress in 1881, detailing experiments made by them, will be found most interesting information on this subject. The Martini-Henry bullet caused much fissuring of the bones it struck, and a large lacerated wound of exit, through which muscle and fragments of bone protruded. The appearance and condition of these wounds at Suakin fully verified the experiments of Professor Longmore just referred to. In treatment, they presented this difficulty, that, if you attempted to interfere with any fragments at all, you loosened the connection of fragments you would have preferred to have left undisturbed. In fact, a surgeon who had not a great respect for fragments would not save a single bone struck by a Martini-Henry bullet at high velocity. He would lay hold of a partially protruding fragment to see if it were detached, and, examining it, he would so loosen it, that he would consider its removal necessary. In removing it, he would disturb some other fragment to which the first had attachments, and which, in its turn, would come in for examination and removal. So proceeding, a hopeless gap is easily established, and amputation rendered necessary. I speak from experience, gained by mistakes which I have made, and which I am not afraid to acknowledge, if so doing will prevent their repetition. Whoever would apply conservation to bones broken by such weapons as the one to which I am referring, must be content to do so without ascertaining

the condition of the bone he would conserve. He must take it for granted that he is dealing with a number of long fissured fragments held together by periosteum; he must gently push back into their places such of them as protrude, and arrange as best he can for the drainage and "asepticity" of the wound, and the securing of the injured parts in a position of immobility. Excuse me if I appear to you to speak dogmatically. It is the first time, as far as I know, that anyone who has verified, by observations made on active service, the important experiments of Professor Longmore already referred to, has spoken on this subject. My observations convince me that experiments on the dead body afford a perfectly reliable means of ascertaining the effect of projectiles on living tissues. And as there is no doubt that each weapon inflicts its own peculiar wound, a wound having often not only special characters, but also requiring a special treatment and a special prognosis, it seems highly desirable that further experiments should be carried out, till the characters of the wounds produced by every weapon of warfare have been accurately and fully ascertained.

The wounds produced by the Remington rifle were altogether different from those of the Martini-Henry. As in no case did death or necessity for removal of a limb follow such wounds, I can only describe their external appearances. Their leading feature was the slight disturbance, both of soft and of hard parts, caused by the bullet. Its track was, as a rule, so closed up by the coming together of parts which it had separated without destroying, that union was easy and rapid. Let me, in illustration, refer to two cases of gunshot-wound of the elbow. Private J., Shropshire regiment, was wounded on March 13th. A Martini-Henry bullet completely shattered the lower two inches and a half of the humerus, and drove many of the fragments through a large lacerated wound of exit situated over the internal condyle. In its course, it divided the ulnar nerve. The joint was resected, and the ends of the divided nerve stitched together. The wound healed; but so extensive had been the injury both to the bone and the soft parts, that an useless limb, which was subsequently amputated, resulted.

Private C. B., of the Berkshire Regiment, was wounded on April 2nd, in the zereba at Tamaai. The bullet, a Remington, entered between the olecranon and internal condyle, and, passing through the olecranon, lodged underneath the skin on the external aspect of the arm. There was almost no loss or displacement of tissue in the wound, which appeared to have closed round the bullet as it passed. The arm was secured in a straight position, to keep the olecranon in its place, and a Lister's dressing applied. The wound healed kindly, with full movement of the joint, and without evil results of any kind.

These two cases give a very good idea of how different are the wounds produced by the two weapons of which I have been speaking.

Wounds of the head furnished some of our most serious cases, and all made good recoveries. I will refer to two of them.

Private F., Berkshire Regiment, was wounded on March 11th, during a night attack on the camp of the Ordnance Department. He received three sabre-wounds of the head, and five spear-wounds on other parts of the body. One of the former was situated on the right side of the head where the hair meets the forehead, and was caused by two sword-cuts, which were so placed as to include between them a piece of the frontal bone, three by two inches, which lay loose on the wound, and a corresponding portion of the underlying brain, which was deeply incised, and bulged upwards in the wound. The detached piece of bone was removed; the prominent brain-tumour was interfered with as little as possible, and all his wounds were dressed antiseptically. He made a good recovery, without impairment of any of his senses.

Corporal J. B., 1st Coldstreams, was struck on March 24th by a bullet, which entered at the internal canthus of the left eye and came out $1\frac{1}{2}$ inches above the right ear, in a line with its anterior boundary. The wound of exit was a lacerated one, through which brain-substance and fragments of bone protruded. The right eyelid was closed and much distended, not, however, with the injured eye-ball, as was first supposed, but with brain-substance; the eye-ball must have dropped out at the time of the injury. To ensure drainage, the orbicularis muscle was cut across at the external canthus, and the wound of exit was enlarged with the same object. This patient also made a good recovery; and when I saw him at Netley on my return, he was up and about, and in full possession of his faculties.

To refer to wounds of other organs would, I fear, carry me beyond the limits of time fixed for the reading of a paper. I will therefore conclude with a few general remarks.

The anæsthetic most commonly used was ether. Although given most freely, it never produced any dangerous symptoms, whereas chloroform, though used in but a few cases, had very nearly to be credited with a fatal result. Ether, although it would take up

more room, should, I think, be the recognised anæsthetic of the services.

When amputation was considered necessary, it was usually done by prolonging the incision made for the examination of the wound till uninjured bone was reached, and, using this as a lateral incision, a skin-flap, a long anterior one when possible, was cut by incision: the second flap was also generally cut by incision, and was made to fit to whatever shape circumstances had caused the first one to assume.

To ensure drainage, the drainage-tubes were, as a rule, stitched to the edges of the wound. This is a very necessary precaution where wounded men pass from one medical officer to another, and where, therefore, tubes that have been inserted may escape notice.

Another useful detail to attend to is the giving to the patient a duplicate of whatever dressing may have been originally applied, wrapped, of course, in a close envelope to prevent its being soiled. On active service, it is impossible to say when, where, or under what circumstances the second dressing of a wound may take place, and a precaution such as I have suggested ensures a continuance of one treatment. I cannot refer to-night to the antiseptics used, but it may be well to state that ten yards of gauze and one pound of antiseptic wool was the average expenditure per wounded man.

This concludes, gentlemen, what I have to say to-night of the surgery of the Suakin expedition. The etiquette of the service has prevented me referring, in the course of my remarks, to the work done by particular medical officers. There was, however, associated with us one, of whom as he was not in the service, I may speak, and without the mention of whose name my paper would not be complete. He is one whom the world recognises as one of the pioneers of surgery—one who left a high position, and came out to us to make himself useful, and who succeeded in doing so most perfectly, whether he was advancing with the bearer-companies to pick up wounded, assisting us with his advice in consultation, or giving at an operation the help that means doing the operation without holding the knife. He did so, moreover, with a suppression of self that asserted itself in spite of him, and won the admiration of all. A hundred grateful and pleasant reminiscences crowd on me as I conclude this paper with the name of Professor Ogston of Aberdeen.

NOTES ON SOME SURGICAL CASES IN THE RECENT SUAKIN CAMPAIGN.

By HAROLD HENDLEY, M.R.C.S., Surgeon I.M.S.,
Surgeon in Charge of a large Field-Hospital for Followers of all Nationalities.

CASE 1. Bayonet-wound: Death from Compression of Lungs by Air in Pleura.—The first in interest from its result is a case of bayonet-wound in a Somali camel-driver, aged 23, admitted to hospital April 4th, for a bayonet-wound received during a quarrel. The patient walked from his camp, near which he received the wound, to the hospital, a distance of 200 yards, without any symptoms of discomfort. Examined by the apothecary on duty, he was detained in hospital more from the situation of the wound, than from its apparent danger to life. In the left arm, over the body of the biceps, two small wounds, two inches apart in a horizontal direction, were found connected by a passage between the skin and muscle, through which a gunshot-probe could be passed with little difficulty. Corresponding to the inner of these wounds, when the arm was brought to the side, was a small wound in the mid-axillary line just below the seventh rib, apparently superficial. There were no symptoms of penetration, no cough, hæmoptysis, emphysema, or difficulty of breathing. There was a slight scalp-wound; and this, with the others, was dressed with wet lint and bandage. After remaining in hospital about an hour, the patient absconded, returning to his own tent. On arriving there, he began to experience some difficulty in breathing; and, being again seen about three hours from the time of the accident, he was found dying of asphyxia.

Post Mortem Examination, sixteen hours after death.—The wounds described were little altered, except for slight emphysema around the chest-wound, which, when probed, seemed to be quite superficial. On opening the thorax, a large quantity of inoffensive air escaped from the left pleural cavity. Both lungs had collapsed, and occupied on each side one-fifth of their usual space. Four ounces of venous blood were found in the left of the chest. The lower lobe of the left lung was found to be connected with the chest by old adhesions, which surrounded a small roughly triangular wound having a slightly thickened, rounded, congested edge, through which a large gunshot-probe could be introduced with ease for two inches. The left bronchus was stained with blood; the heart was contracted;