case we ran short of food when he was up a nullah after burrhel. I would have liked to get a fox with my rifle, as they go after lambs and kids, but birds with the gun did not appeal to me.

We crossed the Indus by a wobbly bridge before Likche; here the baggage had all to be unloaded and carried across in single bundles; the yaks’ heavy weight weighed the bridge well down as they crossed.

We lay on a delightful bank of turf for half an hour while yaks and ponies were loaded up. Beyond Likche the road was a mass of boulders, and going was very slow. Tremendous granite cliffs towered above us, but we could not look up often, as each step had to be taken with care; the path was broken almost the whole way to Yiamia. Those cliffs were a rich burnt sienna turning to gold in the sunshine, but when the rock has been broken by falling boulders, it is a real Aberdeen granite colour; it is only brown and scaly on the surface from the action of the weather. The quartz between the granite glistens with mica, and is very dazzling in the sun.

We started our meal cheerily, sitting by a small backwater of the Indus in warm sunshine, but soon had to hurry, as once more a piercing wind came up the gorge. A specially fine yak passed us, a grand tawny colour, with hair hanging beyond its hocks, and a tail as long as any pet pony’s. They carry very heavy loads, and come on at a good pace.

A herd of burrhel were playing about and grazing on the far side of the river as we passed, about thirteen of them, and although Garry went right down to the bank, they only moved a few steps on; there were no full grown rams amongst them.

The shikari pitched our camp by the banks of the river beyond Yiamia quite near another bridge. We gave the servants three pigeon and a chikor and had pigeon for our own dinner, and so to bed by 8 o’clock, with the roar of the river to put us to sleep.

(To be continued.)

Echoes of the Past.

THE ARMY MEDICAL SERVICES AT HOME AND ABROAD,
1803-1808.

By Lieutenant-Colonel G. A. Kempthorne, D.S.O.,
Royal Army Medical Corps (R.P.).

THE ARMY AT HOME.

The Peace of Amiens was signed in March, 1802. In less than a year we were making preparations to renew the war against Napoleon. By the spring of 1804 the armed forces in Great Britain and Ireland amounted to 510,000. Large camps sprang up in Essex, Kent and Sussex. Two general hospitals already existed, the York Hospital, Chelsea, and the Hospital of the Hanoverian troops at Ealing. Others were now opened in hired buildings at Plymouth, Gosport, Deal, Yarmouth, Chatham, Dunmow,
and Edinburgh, and numerous depots of hospital and purveyors, stores were formed. The perennial controversy as to the respective merits of staff and regimental hospitals was renewed. The latter continued to operate, and there was lack of co-operation, if not open hostility, between Thomas Keate, Surgeon General, who controlled the one, and Francis Knight, the Inspector-General, who inspected the other.

The chief medical officer of a general hospital, styled the P.M.O., was appointed, presumably on his merits, but without regard to seniority of rank or service, resulting in much dissatisfaction among the regular officers. The kind of staff provided may be seen from that of the General Hospital, Gosport.

<table>
<thead>
<tr>
<th>Military Superintendent</th>
<th>15s.</th>
<th>Resident Mate</th>
<th>7s. 6d.</th>
<th>Steward</th>
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<tr>
<td>Staff Surgeon as P.M.O.</td>
<td>20s.</td>
<td>Hospital Mates</td>
<td>6s. 6d.</td>
<td>Surgery Man</td>
<td>1s. 1½d.</td>
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<tr>
<td>Physician</td>
<td>20s.</td>
<td>Purveyor's Clerk</td>
<td>3s.</td>
<td>Wardmaster</td>
<td>1s. 1½d.</td>
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<tr>
<td>Staff Surgeon</td>
<td>15s.</td>
<td>Matron</td>
<td>2s. 6d.</td>
<td>Porter</td>
<td>1s.</td>
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<tr>
<td>Apothecary</td>
<td>10s.</td>
<td>Head Nurse</td>
<td>1s.</td>
<td>6 Orderlies</td>
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<tr>
<td>Deputy Purveyor</td>
<td>10s.</td>
<td>2 Nurses</td>
<td>1s.</td>
<td>(if soldiers, 3d.)</td>
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In 1807 the general hospitals with the exception of the York Hospital and the so-called Depot Hospital were closed down. The last had been moved from Chatham to the Isle of Wight. The foreign hospital at Ealing was also retained.

Since the Duke of York’s accession to the command of the Army there had been a definite improvement in the public attitude towards the private soldier and regard for his welfare. Though the maintenance of the men’s health, when not in hospital, was as yet barely recognized as part of the surgeons’ duty, some credit at least must be attributed to their efforts. Sir James McGrigor described how when he was surgeon of the Connaught Rangers, Beresford, newly transferred to the command of the regiment, took him to task for the large number of sick, declaring that half of them were malingerers. McGrigor, greatly aggrieved, retorted that the filthy state of the barracks was more than sufficient to account for the crowded hospital. Challenged to make good his accusation, the doctor was ordered to follow the C.O. through the lines. “When, after two hours of this unpleasant duty, the Colonel had gone through the whole, I begged him that he would accompany me and see the only place over which I had jurisdiction, the hospital. He passed in silence through the different wards, but this I could not permit. I called upon him to say if he found fault with the conduct of things there. He confessed he could not. He did more; for he desired the officers commanding companies to go in, as he had done, and view the comfort men could be placed in, and mark the contrast.”

Robert Jackson’s work “On the Formation, Discipline and Economy of Armies,” first published in 1804, and dealing with military hygiene in its widest aspect, owes its importance to the fact that it was read and appreciated by the senior combatant officers of his day.

There remained ample scope for improvement. The bulk of the regular
troops at home were now housed in barracks instead of being billeted in public-houses, but the amenities provided were few. Unflushed privies were everywhere associated with shallow wells for drinking-water; all cooking was done in coppers. Forty years later, out of nineteen barracks in the North British Command only three had ablution rooms. But the main reason for the excessive mortality of the home Army as compared with that of the civilian population was the crowded state of the barrack rooms, where the living space, already too small, was further contracted by the tiers of wooden beds in which the men slept four to a tier, and by the curtains hung by the married men to ensure a little privacy for their families. Under such circumstances tuberculosis spread and the louse-born diseases were disseminated. Writing of the York District about 1806, McGrigor said, "From the very commencement of the war, typhus was more or less prevalent in every corps. It prevailed likewise in civil life. At the beginning so great were its ravages that half the sickness of every regiment consisted of low fever and ulcers of the legs. The report got wind that if the sores were not readily cured the man would get his discharge, and hence there was a general manufacture of ulcerated legs." McGrigor introduced a new conception of the work of Deputy Inspector by interesting himself in the professional work of his officers. The improvement in the health of the troops which he succeeded in effecting he ascribed largely to the adoption of the cold water treatment of fever recommended by Dr. Currie of Liverpool and Robert Jackson, and Dr. Baynton's treatment of ulcers by adhesive strapping.

The officers of the Army Medical Department, as distinguished from the regimental surgeons, do not appear in the Army List before 1812. A Blue Book of 1807 shows the Department to consist of Sir Lucas Pepys, Physician General, Thomas Keate, Surgeon General, and Francis Knight, Inspector of Regimental Hospitals, 8 Inspectors of Hospitals, 1 of whom, James Borland, was deputy to Knight, 17 Deputy Inspectors, 17 Physicians, 60 Staff Surgeons, 8 Purveyors, 14 Deputy Purveyors, 16 Apothecaries, and 126 Hospital Mates. The Army in Ireland, 20,000 strong, had its own establishment. The Ordnance Medical Department providing for the artillery and engineers, formed in 1801, had at its head Sir John Macnamara Hayes.

**Events Abroad.**

*The Second Mahratta War, 1803-1805.*

Since Eyre Coote's defeat of the French at Wandewash in the year 1760, the Honourable East India Company had been involved in a series of wars with various Indian princes. In May, 1798, the capture of Seringapatam had brought the long drawn out contest with the ruler of Mysore to a conclusion, and Colonel Arthur Wellesley, who had been a divisional

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1 For details vide Fifth Report of Commission of Military Inquiry.
commander in the campaign, was entrusted by his brother, the Governor General, with the final pacification of the territory.

Since 1755, when the 39th (1st Dorsets) arrived in India, the Company's European regiments had been supplemented by further reinforcements of the King's troops. In April, 1800, there were three cavalry regiments and seventeen infantry battalions distributed throughout the Peninsula, a total of 15,000 men. The surgeons present with their regiments at this time numbered fifty-one.

The Medical Department of the Madras Presidency, with which we are now mainly concerned, was controlled by a Board consisting of the Physician and the Surgeon General. Of the Company's surgeons, about a third were in regimental employ, the remainder being distributed in various garrison charges. The last were sought after as being the most lucrative, but it seems to have been within the scope of the regimental surgeons to make considerable profits on hospital dieting and the contract for country medicines. The medical officers of the King's Service were all regimental. They were their own purveyors, except as regards European medicines, which were issued in kind, and accounted for to the Company's District Superintending Surgeon. We have Wellesley's testimony to the excellent order of the British regimental hospitals in the Presidency in the last year of the century, and particularly of his own hospital, that of the 33rd, where the surgeon, Mr. Trevor, was engaged continually from 7 to 11 a.m. and from 3 to 5.30 p.m.

In 1802, thanks to Napoleon's intrigues, another Mahratta War became inevitable. Preparations were accordingly made for the despatch of two armies, one under Wellesley in the South, and another under General Gerald Lake in the North. The latter was concentrated round Lucknow. Wellesley's troops were drawn from the Madras and Bombay armies, and he set about his preparations with the thoroughness of detail associated with all his undertakings. Calculating for a strength of 3,000 Europeans and 15,000 natives, impedimenta were rigorously cut down, while retaining all essentials and a reasonable standard of comfort for the troops. Public followers, hitherto reckoned at four per fighting man, did not exceed a quarter, and private attendants were greatly reduced. The P.M.O. was Alexander Anderson, Superintending Surgeon of Mysore, described by Wellesley as the ablest man of his profession in the country. The regimental medical establishments proceeded intact. The Indian corps had their usual allotment of one assistant surgeon. Each British hospital had besides its surgeons an apothecary and a full menial staff. Doolies for British were provided at the rate of twelve per cent. Under the General's instructions they were not, as was usual, detailed to units, but pooled under the direction of the senior surgeon. He also insisted on the provision of a general hospital complete for the Madras contingent, including a staff of

1 The allowance for the war of 1792 was 10 for a subaltern and 40 for a major.
six surgeons, two compounders, and a stock of clothing, medicine, and servants. In previous Indian wars these had been supplied by depleting the regimental establishments. Writing to the Commander-in-Chief he said he supposed it impossible to alter existing arrangements for the carriage of native sick, though it was probably the greatest abuse in the Service. This referred to contracts made by commanding officers with the H.E.I.C. He kept a close eye on it, however, and, in one case at least, where he was dissatisfied with the provision made, he inflicted a fine and published the Colonel’s name in general orders. Three months medical supplies for Europeans were carried in the bullock train, and the same amount was in reserve, particularly bark, Madeira wine, mercurial ointment, and calomel, not forgetting nitrous acid. The last was for fumigation. At Hurrhyhur, the place of concentration, both British and Indian hospitals were ordered to be constructed.

Wellesley’s views on the disposal of casualties on the march were expressed in a despatch to Colonel Stevenson, who, with the Hyderabad Contingent and H.M. 94th, was watching the northern passes of the Nizam’s Territory, May 2, 1803. “You must immediately establish a hospital. Look for some secure place for this, and leave all the sick of the Scots Brigade that require carriage, otherwise the first action will be ruinous to you.” The order was disliked both by the surgeons and their C.O.’s who were accustomed always to carry their sick forward with them.

In April, Wellesley left Hurrhyhur, and, on the 20th, was at Poona. The force consisted of the 19th Light Dragoons, then a Company’s Regiment, 3 regiments of Native Cavalry, H.M. 74th (H.L.I.), 78th (Seaforth), 6 battalions of Madras sepoys, 14 guns, and Pioneers. Surgeon James Gilmour, Madras Army, was his Senior Medical Officer. War was declared on August 6, and on the 11th Ahmednagar was taken by assault at the expense of 30 killed and 141 wounded. Here the casualties were left, and an advanced base was established. In the meantime Colonel Stevenson was operating between Aurangabad and Jafarabad. Moving through wasted country, and with considerable difficulty in transport and supply, Wellesley reached Aurangabad on August 29. The Godavery river was crossed in wicker boats covered with bullock hide which were made by the troops. The rains rendered the black cotton soil difficult for wheeled traffic. On September 1, he was at Unterwarry, where an Indian battalion with one surgeon from each brigade was left in charge of the sick, convalescent, and weakly. On September 21, the two British columns were within twelve miles of each other, north of Jalsa, and a plan was concerted for a simultaneous attack on Scindias camp. But the enemy’s position was miscalculated, and, on the 23rd, Wellesley with 7,000 men came on their main body, 38,000 strong drawn up near the village of Assaye. Leaving

1 Wellington’s Dispatches, the authority for all administrative details in this campaign.
his stores and transport at Nalni, five miles from the point of attack, he advanced on the opposing host. The course of the battle, which lasted from 3 to 6 p.m., was critical, but in the end the British regiments saved the situation, a complete victory being won with the loss of 31 officers and 392 men killed and 59 officers and 1,110 men wounded. The number
The army spent the night exhausted on the field. Stevenson's force arrived but could not take up the pursuit as all his surgeons and kahars were needed for the wounded. Even so, it was a week before they were all dealt with. A hospital was formed at Ajanta in a serai, twelve miles from the battlefield; the wounded were classified as walking cases, those requiring doolies, and those capable of riding on elephants, horses, or bullocks. On the 30th the following order was issued. The 1/10th and 2/12th to furnish each a dresser for the Field Hospital. The staff surgeon to furnish servants and European medicines so far as his stores permit, and is authorized to purchase 10 dozen of Madeira wine; 20 pioneers are to be detailed under the staff surgeon; each unit to supply one tent for every 10 men in the Field Hospital. Wellesley, who was still at Ajanta on October 8, attended personally to the patients' comfort. Each of the wounded officers of the 78th received a dozen of Madeira from his private stock. Soon after the battle he asked for six more assistant surgeons to be sent up. He stated in his letter that a large proportion of the wounds had been caused by cannon balls, which would cause permanent incapacity, and that doolies should be arranged to take the invalids to Bombay, whence the Europeans should go to England and the Indians to the Coromandel coast.

On November 29, Wellesley and Stevenson again beat the enemy at Argaum, where our losses were 46 killed and 308 wounded. On December 15 the fortress of Garwilgharh was assaulted with 125 casualties, which brought the war in the Deccan to a conclusion.

Wellesley was well served by his senior medical officer throughout. In those days mentions in dispatches were reserved for officers of the combatant branch. In refusing, however, to nominate a gentleman with influential connections as staff surgeon at Poona, he wrote that he could not disappoint the expectation which Mr. Gilmour had a right to form of promotion, "and in his person violating the principle that those who do their duty to the army ought to enjoy its benefits and advantages." The British Service medical officers at the battle of Assaye were Surgeon John Abercromby and Assistant Surgeon John Murray with the 19th Light Dragoons, and Assistant Surgeon Alexander Young with the 78th. The Medical Staff of the 74th, according to the Army List, were M. Gallaber, J. Andrews and M. Christy.

The General showed his appreciation of the good work of the native doolie-bearers by securing for them a special bounty.

Lake's campaign, though no less important, must be followed more briefly. The army, which was concentrated at Kanauj in August, commenced operations in the traditional way, with tent equipage which included a ball-room. Major Thorn, the historian of the war, estimates the number of followers as ten times that of the troops. The soldiers had a water-carrier and cook-boy to every tent of twelve men and a cook to every
two tents, but this availed them little in some of their terrible marches in the early summer through the desert, when the regulation tents were uninhabitable, and the hot wind and driving sand blistered their hands and faces. During one week in May we are told that they were falling and dying from heat-stroke at the rate of ten to fifteen a day. The King's regiments employed were the 8th, 27th and 29th Light Dragoons, and the 76th (2nd Duke of Wellington's). Of the Indian regiments one, the 7th Rajputs, still remains in the Army List. There was much hard fighting, the engagements including the assault on Aligarh on September 4, the battle of Delhi on September 11, and on October 31 the battle of Laswari. In 1804, Lake turned his attention to Holkar, and fighting continued till late in 1805. The attempt on Bhurtpur in February of that year was a most bloody affair costing us 3,000 casualties.

Sickness was heavy during this campaign, the ineffectives numbering at times nearly a quarter of the strength. The chief medical officer was Peter Cochrane of the Bengal Medical Department. After the battle of Laswari, Surgeons W. H. Lyss and Samuel Newman1 of the 29th Light Dragoons were called in front of their regiment to receive the thanks of the Brigadier for "their humane and successful exertions in bringing off the wounded of the brigade at great personal risk."

The medical officers of the 76th, which covered itself with honours in the campaign, were Surgeon Charles Corfield and Assistant Surgeon W. Bean. The latter was wounded at the battle of Deig on November 13, 1804, when the battalion had 162 casualties. Three of the Company's surgeons, Surgeons Hooper, Brugh, and J. Lyons were killed in the war.

(To be continued.)

Current Literature.

MAC ARTHUR, W. P. Cysticercosis as a Cause of Epilepsy in Man.

After a brief survey of the occurrence of the cysticercus stage of Taenia solium in man, the author states that on an average ninety-seven men have been discharged annually from the Army for some years on account of epilepsy developing usually in adult life or after service abroad.

In order that special investigations may be made, all epilepsy cases occurring in soldiers are now sent to one military hospital. Of the last twenty-two of such cases admitted to this hospital, ten have been proved to be suffering from cysticercosis. The author considers that many similar cases have been missed in the past, and states that he has seen six ex-soldiers invalided for epilepsy and who suffered from cysticercosis;

1 Samuel Newman was a man of many parts. He was Assistant Surgeon 1797, Veterinary Surgeon 1800, Cornet 1808, Captain 1811 (vide Johnston's Roll A.M.S.)
2 W. Thorn. Memoir of the War in India conducted by General Lake.