Papers re medical arrangements in the Mesopotamia campaign

Publication/Creation

1916-1919

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"C" Form (Quadruplicate). Army Form C. 2123 A

RAMC 364/5/1 MESSAGES AND SIGNALS. No. of Message.....

Charges to Pay | Office Stamp.

MESOPOTAMIA 1916.17

1. March 16. Signals ordering Trehearne and Fell to MESOPOTAMIA
2. Correspondence with Sir Francis Trehearne.
   10th March 17. from Trehearne at G.H.Q. BAWI to Fell at 13th C.C.S.
   23 March 17 from Trehearne at BAGHDAD to Fell at 13th C.C.S.
   Attached sketch of Medical Situation
3. Note by Fell on evacuation of Sick and wounded to the BASE
4. Note by Fell on evacuation from BASRA by sea to KARACHI and BOMBAY
   18 May 17. Letter from matron of hospital in Basrah to Mrs Fell.
5. 20 May 17 Letter from Trehearne en route for UK. on SS. Khyber to Fell in MESOPOTAMIA.
6. 25 June 17 Letter from Trehearne to Mrs Fell on his arrival in UK.
7. 2 July 1918. ~~Three~~ Letters from Fell on "duty leave in India to his sister
8. July 1918 Orders from TROOPERS for Fell's reversion to Home Establishment

FELUJA + EUPHRATES AREA

MASSAWA

Scale 1 inch = 4 miles

RAMC 364/5/2

BAGHDAD AREA

Regulars

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"C" Form (Quadruplicate). Army Form C. 2123 A

RAMC 364/5/1

MESSAGES AND SIGNALS.

No. of Message.....

Charges to Pay £ s. d.

Office Stamp.

278

G 30.III.16.110

Service Instructions

Handed in at the War Office at 2.52 m. Received here at ..... m.

TO GHQ France

Sender's Number.	Day of Month.	In reply to Number.	AAA

Y 5971 QMG 2A Your D G 171 of today aaa Please arrange by Surgeon General Treharne and Lt Col R. A. M. C. to be sent to Egypt to conduct public opportunity for conveyance to Basra and Cable IGC Egypt date of departure aaa Instructions to be issued from here aaa Please advise GHQ France and IGC Egypt when this has been done aaa

FROM

PLACE Simrail

TIME

HENRY GOOD & SON LTD., LONDON, E.C.
(130476). Wt. 2852—593. 40,000 Pads. 8/14.

N.B.—This Form must accompany any Inquiry respecting this Telegram.

POST OFFICE TELEGRAPHS.

RAMC 364 1511

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Office Stamp.

ULVERSTON * 1 APR 16

Office of Origin and Service Instructions.

Car 1.14 pm

Charges to pay — s. d.

Handed in at 3.0 P.M., Received here at 3.82 P.M.

TO Col Fell R.A.M.C. Flan How Ulverston N. Lancs

M 1132 1 aaa wire from A.G. G.H.Q. to 3rd army begins aaa issue orders for surgeon general Treherne and Col: Fell R.A.M.C. to report to base commdg Marseilles on 7th

N.B.—This Form must accompany any inquiry respecting this Telegram.

RAMC 364/5/1

POST OFFICE TELEGRAPHS.

Office Stamp.

ULVERSTON * 1 APR 16

EYRE & SPOTTISWOODE, Ltd., Lond.

If the Receiver of an Inland Telegram doubts its accuracy, he may have it repeated on payment of half the amount originally paid for its transmission, any fraction of 1d. less than ½d. being reckoned as ½d.; and if it be found that there was any inaccuracy, the amount paid for repetition will be refunded. Special conditions are applicable to the repetition of Foreign Telegrams.

Office of Origin and Service Instructions.

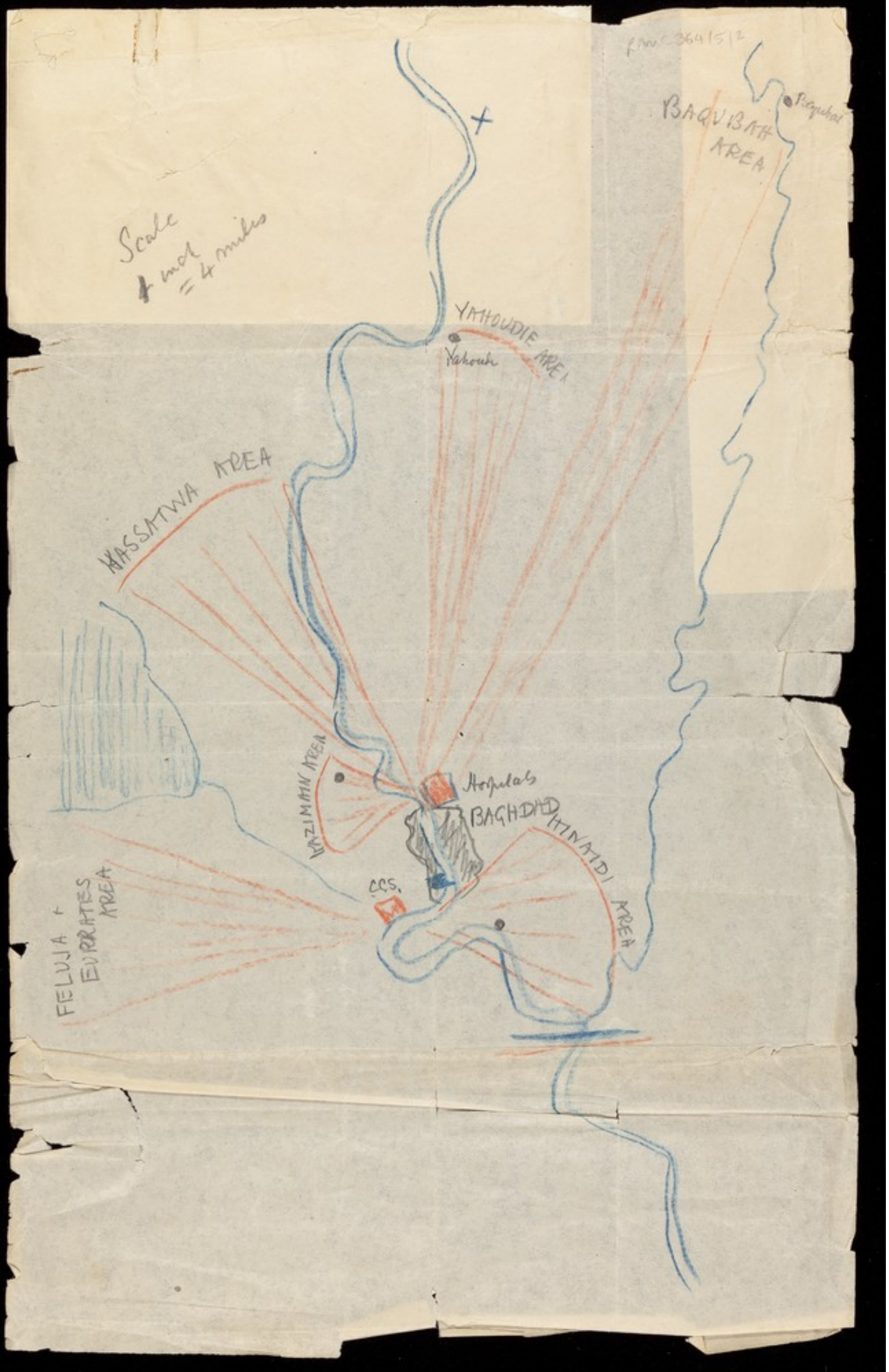
Charges to pay — £. d.

Handed in at — .M., Received here at 3-52 P.M.

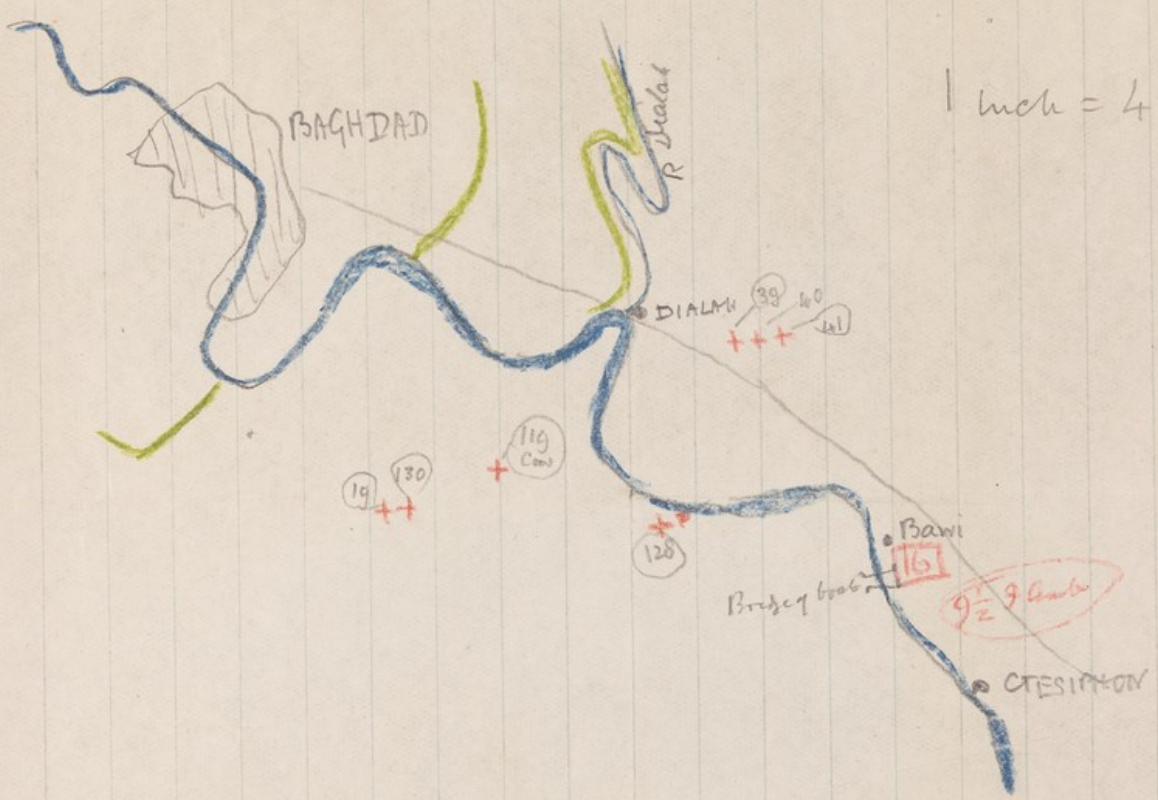
TO Col: Fell (2)

April aaa for conveyance to Basra aaa they should cable date of departure to I.G.L. Egypt who has been instructed to send them on

D.M.S. 3rd Army


RAMC 364/5/2
BAQUBAH AREA
Baquba
Scale
1 inch
= 4 miles
YAHOUDIE AREA
Yahoudi
KASSAMWA AREA
KAZIMAIN AREA
Hospitals
BAGHDAD
MADAIN AREA
CCS.
FELUJA + EUPHRATES AREA

RAMC 364/5/2


1 inch = 4 miles
BAGHDAD
R. Jalat
DIALA
39
40
41
119
Camel
19
130
128
Bawi
116
Bridge boat
9½ Yards
CTESIPHON

Yours ever
F A Hehewes

Baghdad
23 Mar

My dear Fell,

I have just received your letter of the 7th & am glad to get the information you give - it is most useful. Our rapid advance made evacuation most difficult but as far as I know everything went off without a hitch. Sir A. Lawley was in there parts & he had nothing to find fault with. So I suppose all is well! By being so far advanced all our schemes of organisation have been considerably disturbed, and as usual I do not see eye to eye with the army Commander. Being a Guardsman, I suppose he regards me as still a regimental medical officer.

and all initiative is taken out of my hands. If he had been in command when first we arrived in this country I wonder how the medical arrangements would have fared. It make very little difference now. He says to Ready "Ready how are your clearing stations? Where are you putting them now? What arrangements are you making for the evacuation of Keary's Column? &c. While I am referred to on matters of sanitation or the nature of the sickness. But I do not care - I have now drawn up what I require & how I propose dealing with the system of evacuation. He can agree or not as he likes - if he does not I use my second string. He does not agree to anyone being sent down the river in June & July - which means the hospitals at Amara & Basra may close! He does not consider the C.C.S. should receive sick even during the present period, but be held available for clearing the ambulances during active operations. If he insists, of course, I shall have a large body of medical officers & personnel available for duty elsewhere, for a care-taker can look after 4 C.C.S. empty during the hot weather. But of course he cannot insist so I go on my own way. I think you ought to take the first opportunity of inspecting the "advanced base" Baghdad. I am longing to see you & get your opinion & advice. I enclose a very rough sketch of my evacuation - to give details would be too long. but the 4 Stationary hospitals receive sick from the northern area & the C.C.S. from the southern

The 2 Stationary Hospitals at Amara & the 2 at Nasiriyeh Kaad will eventually come up here also the 4 C.C.S. Nasiriyeh will become a station like Ahwaz soon, & perhaps that Stationary Hospital will have to

come up but I do not want
it at present. I calculate
4000 beds including the C.C.S.
& 3000 in Convalescent depots.
in tents. But I am all against
touching the General Hospitals
at Amara & Basra - all of which
will be required if we have
much sickness. Come up &
I will explain - I do want
Dad. you with me here for your
assistance - I miss it badly -
Hugh Hamilton has been of the
greatest possible help. He is
full of common sense & is
untiring in his work. It has
been the very devil clearing out
the wounded Turks & cleaning &
taking over all the large buildings.
The centre of gravity now is
Baghdad. Autumn Alexis' letter
- it is quite cheering hearing from
him. Stair is a rotter - but Herring
keeps him square. Sloan is shrewd
but not quite to be trusted. Wall is
an ass. Also Gilpin Beit &c
131 Cas F.A. I have removed for being
inefficient & too slow. The new
organization of D. Amb is not quite
my idea - the D.G. has put his finger
in and upset all my ideas - but I
am sick of it & so have let it go.

Bawi . 10 Mar

My dear Fell

Your letter of 26 Feb just received & a mail goes out this evening. I have heaps & heaps to write to you about, but have no time to write it all just now. We had a biggish fight yesterday with between 600 & 700 wounded & they have not all come in yet – the distance is so great. I am keeping 20 CCS. at R. Saad for the present, in order to keep up the principle that all sick & wounded must pass through a CCS and I am gradually advancing 15–16 & 19. It is awful not having 16 for Brodrick only – it complicates things so. – for 15 & 16 must move together. As it turns out on acct of the Mesopotamia sinking ships, 16 is here now without 15, Hence it will have 5 lakhs in Indians. The forts were Imam Mahdi (15 & 16) then 19 came straight on to Azizyah – Now 16 has arrived at

Bavi While 15th has been doing nothing since
the 3rd March. It would still be there
but I wired, privily, to know when it left
McInnes pretended he had received
no instructions. Orgt he sent on 19 & 16
as instructions were on the same wire.
I cannot tell quite what arrangements
will be necessary in Baghdad, but
my idea is to get the 23 & 70 Stat IP
from Amara there - though possibly
Sh Saad will be a work out altogether.

Enclosed is a rough sketch of the
reduced dispositions. The divisions on the
left bank have now crossed the Shatt Rivers
those on the right bank have just turned
the Turks out of their trenches. We have
47 cars on the right bank to evacuate into
128 F.A. From this place the Kamala
Basanta - Maunders Lord Jersey, Fryar
London Abbey, Elawat (all the rest out of
action) being wounded to 16 C.C.S. near
our new bridge of boats.

Our ports below Bawi are evacuated not
by ces at Qeyqyah — More below. Most
into 20 ces at Sh. Saad. It has been
a strenuous time + not altogether joy.
But the less said about that the better.
Sloan has not been playing the game +
I hope will get snubbed. Vice has a
down on Wimberley, who has done
well. But the evacuation at Sumtan
crossing was delayed + Sloan who
was responsible threw the blame on
Wimberley. He would not have
said anything but Sir E. Lawley was
with him. Lawley has begged that
nothing should occur, but Sloan sent in
an official report, + Sir Egerton has
taken the matter up on behalf of his
R.E.'s. + I can't stop the "hare". I have
reported that the evacuation was unavoidably
delayed for a few hours only + I was
quite satisfied that all was done that
was possible

Harrogate is now rather a "wash out", but so I should not bother much about the place. In order to meet the deficiency of doctors I am introducing a new organisation — of all combined T. Cmbs — and 4 to a division instead of 5. The XIII Div is now staying with us, so will not be touched, but eventually I presume it will go. I am getting 2 Adv Depot Hs S & the posts workshops up here. I agree about the fuss of 20 CCS Wade has turned out a rotter as DDMS Cavalry. Morton Humberly are both doing well. I am glad you have settled the Misses Fawcett trouble. They are now worrying for testers & nurses in the I.G.H. but I have ruled that the decision of the Govt of India to 2 testers per 500 Hosp - for special theatre is to be the limit. Hamilton is working first rate — Graham has not joined CCS 1st A. yet. I feel most grateful to you for having the snow - I have lost all touch with everything behind. My hands are full

f. cont Yours Francis H Mahaffy

Note on the evacuation of sick & wounded to the Base.

Introduction The only transport available for the transfer of sick & wounded from the Tigris front to the hospital ~~at~~ at Amara & Basra was by means of the River Transport Steamers and their barges. It is true that the Sikkim & Comrodel and Ardeer three small store wherries were in use - but the two latter were quite unreliable and only capable of towing a barge under favourable conditions and the numbers which the Sikkim carried so small as to be almost negligable when compared with the total.

Transport for these store wherries was found by No 20. C.C.S and by the Madras ambulance unit for which the Government had provided the Comrodel - At a later date when a Flotilla came to Amara the No 20 C.C.S in its proper position - the Sikkim was handed over to the Madras unit.

The River steamers were little adapted for such transport and with very few exceptions the barges gave poor accommodation. Both steamers & barges were short of latrine accommodation - galley accommodation & drinking water for healthy troops & much less for sick cases, enriching largely of dysentery & enteric cases. In addition the awnings provided were at the beginning of the hot weather insufficiently protective from the sun.

Owing to the shortage of steamers & barges they were extremely overcrowded with troops & the ~~ordinary~~ barge in use to their maximum capacity for the transport of men - animals & stores on the steamer journey.

On arrival at river head ~~ship~~ & were ~~off~~ loaded - they were at that notice handed over to the medical service.

~~Ships~~ to hire cleared at river head for the conversion of a steamer & barges into a sick convoy unit ~~which~~ ~~[illegible]~~ permitted of only the most "sketchy" cleaning. The personnel available was ~~scarcely~~ sometimes insufficient to properly care for the large convoys of sick ~~&~~ wounded cases of sickness which it was necessary to evacuate for the first during the early part of the summer, and the equipment and comforts for them were inadequate.

The convoy parties in charge of these steamers were not permanently told off as such - but were detachments from Field Ambulances in the first area - or general hospitals at Amara & at the Base. The units which provided these convoy parties were the others working under the circumstances at high pressure and could ill spare their men - ~~&~~

~~which had arisen~~ It was decided to form a ~~sick~~ River Sick Convoy Unit - which should provide personnel - equipment for the needs medical comforts & stores ~~for the~~ charge of sick & wounded convoy from River. The headquarters of the unit with a small depot of personnel & stores was located ~~at~~ from June to September 1916 ~~at~~ at Sheikh Saad. Here steamers when supplied of supplies were taken over by the unit cleaned - equipped and provided with ~~the~~ British or Indian personnel to suit the needs of the particular class of sick convoy which was being sent down river. The number of steamers taken up for sick was limited to the best class of vessel only - and ~~only~~ such were only chartered for the best type of barges. The supply of fresh bread meat - V eggs fruits vegetables ~~at~~ Amara to the sick convoy boats was systematized. ~~Arrangements~~ No arrivals of sick could were ~~[illegible]~~ at that time

at Shaikh Saad. Convoys as a rule took about a day & a half to reach Amara and two days on to Basra on the average. ~~Also cases came in from Amara by steamer~~ ~~into hospital at Amara~~ ~~by picture from Amara~~ ~~Basra~~. All slighter cases and all serious cases likely to suffer on the journey down to Basra were kept into hospital at Amara - and cases from Amara for transfer to Basra for India were placed on board in their place.

On the whole this system worked fairly satisfactorily considering the shortage of personnel - stores & equipment. Work was The pressure on the river evacuation was ~~heaviest~~ much that ~~it~~ until practically the ~~end of August~~ middle of September. it was impossible to keep the overcrowding of ~~Field Medical~~ Casualty Clearing Station Units to a minimum Cases could not really be retained. The large increase in the sick rate ~~over the rate of sick~~ which had occurred with the first outburst of hot weather - when the troops - deprived after the fall of Kut - living for weeks on reduced and unsatisfactory rations - and exposed without adequate cover to a scorching sun. ~~Kept~~ took up this pressure ~~position~~ position ~~was~~ strained to the resources of Field Medical Units to breaking point.

The actual numbers of sick sent down river from the divisions of the Corps. ~~Amounted to less than 50% of their normal strength~~ to Basra during the months ending November 1916.

Admissions were.

	B.O's.	B.O.R's.	I.O.R's & Followers.
June	229.	2401.	3749.
July	294.	3752.	3273.
Aug.	131.	1917.	5770.
Sept	149.	1736.	3841.
October.	101.	1653.	5578.
November.	123.	1288.	2311

During August. September & October the large majority of Indians sent down from the front to the Base were suffering from Dysentery.

The conditions under which the sick were brought from the front began to show a very marked improvement in respect of comfort about the middle of August. Supplies equipment & personnel for the R.S.C. having become easier to obtain. But the arrival of the two "50" class paddles and the construction of the new types of barge marked the greatest change. The good head room. wide deck spaces improved lavatories. cooking & water arrangements of these boats were far ahead of anything on the river. Each steamer was now provided with a permanent convoy party and carried medical comforts & dressings & medical stores and equipment for the care of barges. sisters nursed or purely British & Indian - up to 500. Permanent

deck space was allotted for the carry pursuant on the steamer
a dispensary was erected on the deck - and it was decided as soon
as operations commenced to add two nursing Sisters on each
steamer for duty with the convoy party.

~~During the latter part of the summer of 1916 the~~

Evacuation of Sick from Nasiriyah. During the early part
of the summer the Euphrates had been in high flood and
paddle steamers & steam launches had been able to cross the
Hamar Lake. Sick were brought down by them either direct
to Basra or were landed at Kurnah. If the steamer
happened to turn there - and accommodated at No 57 Indian
Stationary Hospital until a steamer could be arranged to
bring them down to Basra. On account of the hot weather
climate - this was always a very trying passage
business for the sick.
At the end of July when it was no longer possible to get
steamers through the lake. arrangements had necessarily to
be made to transport them per Junction Camp to Shibaish
by bellums. Nine of these bellums were fitted out by
the 15th Division. Each bellum was about 60 feet long
by 12 feet wide - provided with a flat shelter roof supported
on a steel framework. with a wood & shelter latrine on the
starboard quarter & 2-15 gallon petrols & a pressure filter provided
water for each bellum.

The bellums travelled in convoy. one bellum being used for administrative purposes. i.e carried the M.O. & rations (five days.) etc. The bellums halted at 10.30 a.m daily for a meal and tied up again at 5 p.m for the night & a second meal. The distance from Tunkan Camp to Chibaish is about 30 miles. and the time taken over the journey varied from 2 to 3 days according to the wind. At Chibaish the Hospital Store Wheeler Commandet was as a rule in waiting for the convoy. If this could not be arranged the bellums sailed to Kurnah & reshipped their sick there.

The whole proceeding was a case of [illegible] making the best of necessity. Control of the convoy by the medical officer was most difficult & the tasks putting the bellums sometimes met unruly.

By the end of November the [illegible] of the Nasiriyeh railway was [illegible] about completed for which ambulance trains had been arranged with the Government of India.

Evacuation from Ahwaz. The health of the troops at Ahwaz was on the whole good & evacuation requirements small. When necessary cases were transferred to Basra by the Persian Oil Company's Steamboats or any paddler which happened to be going up the Karun.

Note on evacuation from Basra to Bombay & Karachi by sea.

In the month of June 1916. the rapid rise in the sick rate made it very evident that the existing hospital accommodation at Basra was totally inadequate to meet the rush of sick troops from up river in addition to dealing with the very heavy local admission rate at Basra.

The pressure on hospitals became so great that fixed evacuation became necessary - there being neither the space on the piers nor the beds on the medical personnel to deal with the in-flow of cases requiring treatment with any degree of dispersion

Transports for the lighter cases - especially Indians - were taken up for the transfer of sick to India - the number of hospital ships using the port being unable to cope with the stream of invalids.

owing to the shortage of the medical personnel ashore - little trained personnel could be spared for the sick on transport - which was the more regrettable as for a time a certain proportion of cases which under normal conditions should have been sent by hospital ship - were of necessity placed on board these transports.

The total number of sick embarked for India during the
month of June was

Officers - 347. B.O.R. 3389. I.O.R. & Fds. 6912.

Total of this number Officers - 243. B.O.R. 2178 - I.O.R.
& Fds. 2274. were sent by hospital ship. The
remainder went to India by returning Transports.

Those who were in Basra at this period will never
forget what this embarkation meant to the already full
hospitals and embarkation staff. The shortage of
personnel - the shortage of conveniences - the shortage of
stretchers - the heavy patients carrying parties exhausted
exhausted by the heat - form a vivid recollection.

The hospital ships which came into Basra or to which
sick were transferred at the Bar during the month of
June were. the Sicilia. Syria. Vita. Varsova. Varela
Loyalty. Devanha. and Takada. These during the following
months were increased by the Ellora - assaye - and Dongola
and the Madras which had been to East Africa was
again on the Basra - Bombay run - making a total
of twelve ships. In August the Morvada - Oxfordshire.
Empress - & Egypt were added and an order was issued
to the effect that no sick were to be transferred to
India except by hospital ship from Force "D".

Complaints as to the class of case transferred by Transport to India and as to the shortage of personnel and stores provided for the care & comfort of the sick on the journey had been made by invaliding parties to the home government - which were partly justified by facts and partly of a sentimental & hysterical nature - entirely unjustified. After the first week in August no sick were sent to India by returning transport.

Comment was also made on the procedure of transhipping at the bar of Shatt-al-arab to the deeper draught ships which were unable to come up the Shatt-al-arab. This was especially emphasised by the case of the Persia on the 8th week of July - which was ferrying patients to the Dongola at the bar on a very hot day, & where a number of cases of heatstroke occurred before reaching the ship. A number of cases of heatstroke occurred while the ships lay alongside at the bar - The master of the Dongola was slow & several of her orderlies were struck down - but there is nothing to show that anything could have been done to avoid this occurrence.

The actual numbers sent to India by hospital ship & by hired transport during the months June - November 1916. inclusive was as follows.

RAMC 364/5/3

	Transport til Indien af Hospitalsskib.	Transport til Indien af Hospitalsskib.	Total
Juli.			
Officers	243	104.	347
BoR.	2178	1211	3389
IOR + Folks.	2274	4638	6912
July.			
Officers.	310	70	380
BoR.	3780	1367	5147
IOR + Folks.	2625	4239	6864
August			
Officers.	183.	2	185
BoR.	3312	200	3512
IOR + Folks.	5983	1284	7267
September.			
Officers	195.		195.
BoR.	2754		2754
IoR + Folks.	7583.		7583.
October.			
Officers.	160		160
BoR.	1559		1559
IoR + Folks.	5317.		5317
November.			
Officers	112.		112
BoR	754		754
IOR + Folks	4467.		4467.

Hospital ships themselves continued under the administration of the Army in India and not under the Navy of Force "J." & all instructions to Army Headquarters in India relating to changes in the number of sailings required and so forth were issued by the I.G.C.

As soon as the pressure on hospital accommodation at the Base was relieved - and as the weather became cooler during the Simla season - there was a marked diminution in the British invaliding rate. The Indian rate kept high well on into the late autumn owing to the large number of fever cases of enteric which it was necessary to send to India.

S.S. Khyber

20 May. 1917

My dear Fell

We are gradually approaching Suez. - all of us in a somewhat moist & sticky condition. We transhipped at Aden from the "Salsette": Bombay & Aden is a "danger zone" on account of a raider. About 2 months ago. H.M.S. "Odin" from Aden hailed a suspicious looking vessel - ordered her to stop & on her refusing: threatened & fired. After a chase towards Perim, the ship stopped - the crew got into boats & then blew up their ship. It was an English vessel with a Chinese crew. Which had been captured by some Germans & the cargo was principally mines! A few German officers were on board. & they had been busy sowing mines at various places. Consequently, the entrances to Colombo, Bombay, Karachi & Aden are mine-swept daily. & a large number of mines have been fished up. So far, I believe, only one casualty has occurred. An oil ship from Abadan came into Aden & struck one of the mines. She managed to run aground & saved most of the oil, but the damage done to the ship is now being repaired. The raiders, however, that captured the English ship & sunk the mines is still at large. When in the "danger zone" the only lights allowed are one or two shaded ones in the central passages of the ship - so nothing can be done from sunset until bed time. Even a glowing cigar end is

forbidden. From Aden to Aug. we are supposed
to be out of the danger zone & there are no
precautions, but we steer a deep water
course & avoid possible mines. From
Egpt to Marseilles passengers are invited to
volunteer for look-out work. None are allow
to move without a belt. There are a few
ladies on board though only three whose
concerns render the voyage absolutely imperative
are allowed to travel. None on board I am
afraid must have very easy consciences. Fancy
Sir Evelyn C.M.G. supposed to be suffering from tro
deadly disease is looking after one with Permanganate
hairs! I think she must have cured the
Gentlemen of his disease already. That it gives
lady has such appropriately red hair that it gives
one quite a shock, even in the dark!
Col. Corbett (Major Mitchell (of Narrinyah) are on
board on 3 mos leave. The nicest men seem to
travelling 2nd Saloon. In the 1st Saloon we have such
be 2nd Saloon. One travelling in pickles,
a set of bounders. A third in Adamson's cheap
another in jams, & a third in Adamson's cheap
bully beef. They all look most prosperous
& of a suitable age for steady work in the
trenches. Strong & healthy. In fact a little
Spirit drill would be of much benefit to
them, for it might reduce their fat & get
rid of a good deal of their awful impudence
& Pickles one one occasion was nearly put in
irons by the Captain for refusing to stop bubbling
during the very first daily boat drill.
I hope all is well with you. Do let me
know how things are prospering.

Yours

J. Ward

The Ships doctor is Colonel Grant I.M.S. (attached to the Indian Medical Service) (Nos. Karachi - afterwards Calcutta)

Please return!

From Sir Frances Treherne

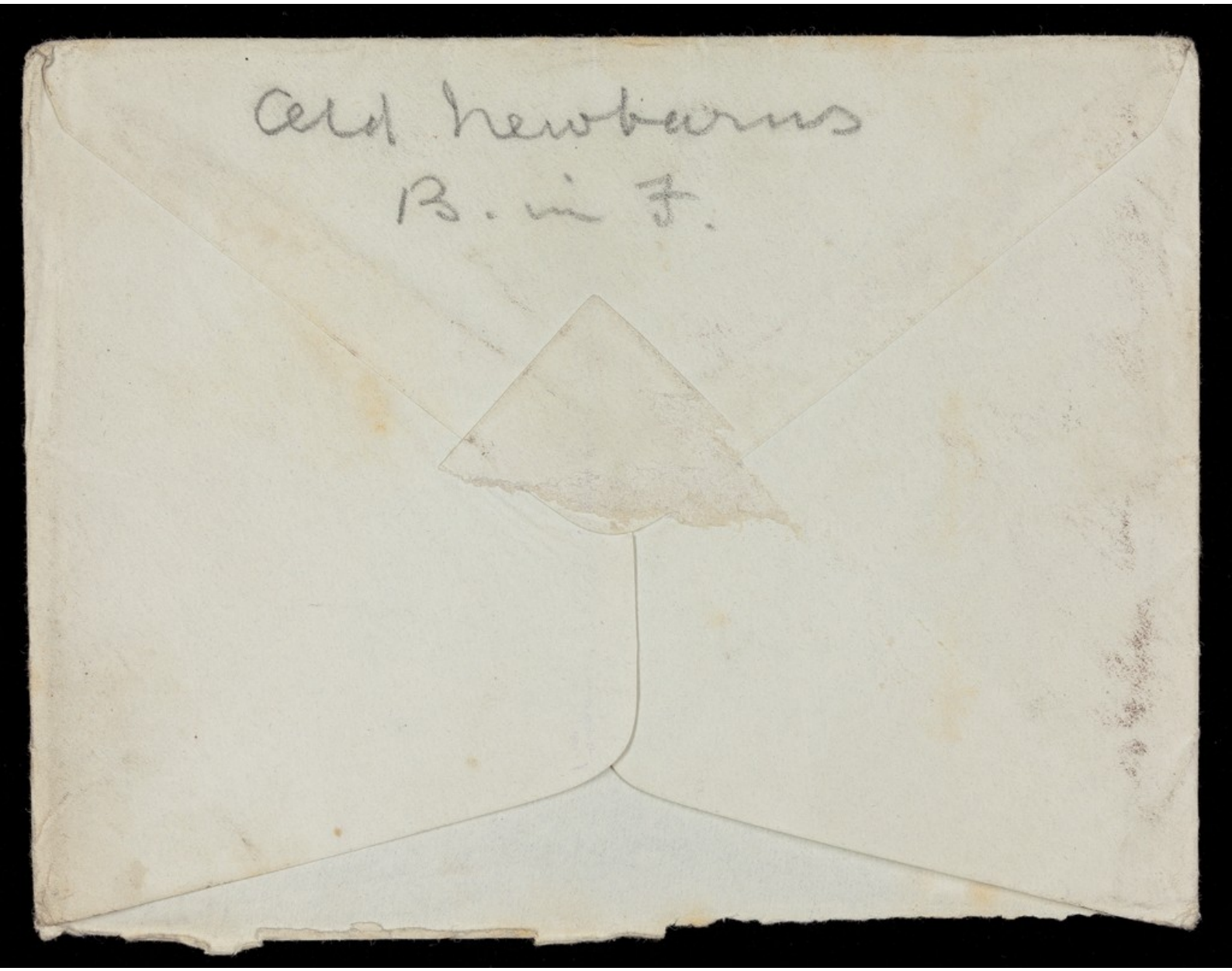
25 June 1917.

Mrs M. H. G. Fell

Flan Hoo

Ulverston

Lancashire


Old Newbarns
B. in F.

Ashtead, Surrey

June 25.

1917

My dear Mrs Fell,

I have arrived in this country after a rather eventful journey. It does not add to the discomforts of travelling to dodge submarines. They have relieved me of my duties in Mesopotamia because, as they say, my health is not good. But I have not discovered that fact myself yet!! As a matter of real truth, a certain officer required a lay up & a good billet & the easiest way to accomplish this was by giving him my post. So I score horribly all the way round. and I have got out of that not too pleasant a land in the East, and I am delighted. The joy of my departure is somewhat marred by the feeling that I have deserted your good husband & left him behind.

You know how devoted I am to him & what a high opinion I hold of his capabilities. In the kindness of his heart he went out with me and I feel that I have not played the game with him. He went out as my D.A.D.M.S. & if he had remained as such he would of course have come back with me, but directly I arrived in the country, I found he was the only man I could thoroughly rely upon in the whole force. It was essential that he should hold the next billet & mostly namely, the D.D.M.S on the line of Communications. The whole success of the expedition from the medical point of view depended upon the working of the L of C. Unfortunately his occupying this position separated him from me & deprived me of the benefit I have always received by his opinion. The medical

arrangements have been an unqualified success, and I have no hesitation in saying that this success has largely been due to the sound good work of your husband - He had the control of the L of C, while I worked at the front. With a communication 500 miles long and with very active work at the front, it would have been impossible for me to control the whole of the work without a man in whom I had complete confidence - who was capable of working the enormous & important duties at the base. On my journey down the line I inspected all he had done & I was immensely struck by the thoroughness of his work. They have rewarded my [illegible] with your husband always finding one the "K." but before leaving made a point of impressing upon the Army Commander how richly I felt deserved reward. He is certain to get the C.B. in the next gazette, but he deserves more. I should like

to see him specially promoted Surgeon General for service in the field. They ought to have put him in my place & made him D.M.S of the Force.

There is another point that rather distresses me. Fell is so honest, straightforward, so quick & decided in all his actions, so full of common sense and so hardworking. ~~that I~~. He is so different in character to my successor that I am afraid he might find things difficult. I hope not & he says he will not. I am writing to you in confidence for I should like you personally to know how much I have valued your husbands services. Last summer he did not altogether have good health, though he made little of it, but when I left the country he was looking particularly fit. He was very cheery in the midst of all his hard work.

I am forwarding to you a small

"Souvenir" to mark our happy & successful work together. I am sending it to you and ask you to keep it for him, for by sending it out to him it would only add to the amount of his kit & would rather be in his way. I send it with my best wishes for his success which I feel is really assured.

They have not yet decided at the War Office how to employ me or rather, they will not tell me, so I have come away and am not too anxious for them to think too much about me. Tomorrow my wife & I run up to the Queen's Hotel, Harrogate. I think the bracing air there will drive the remnants of malaria out of my system, & it might do both of us good.

With Kind Remembrances from my wife & myself

I remain

Yours very sincerely

Francis N Shehane

2. 7. 18 Murree.

My dear Christina.

I am very to hear you have been ill at Millwood & hope you are all right again. I have now been in India for nearly a month and am starting back again to Basra from Bombay in about ten days. It has really been very enjoyable - and though called "duty" has been for me a complete holiday. We went to Simla first and then on here. This seems to be thought generally a dull hill station - but as I only want to sit about in a quiet sunny spot & read novels - it just suits. The woods & views are beautiful. The whole place is crowded - because there are heaps of ladies stranded in the country who can't get home - as well as those whose husbands are here. We are staying in the only place where rooms could be taken for us - a sort of family hotel - & I must say the children all look extraordinarily fit & well.

I hired out a car last week & we had a four day rush through Kashmir. It really is well worth doing - but at that pace doesn't give much time for anything and there are such lots of things to do in the way of fishing & shooting in most perfect scenery.

I bought Mary some furs & odds & ends - but the harpies did us down badly, I expect. Anyhow I felt that if an unofficial wife had attached herself to us - she would have saved us large quantities of rupees.

They have been very good to us here and I hope we shall

been able to give them some tips which may prove useful.
When I get back to Mesopot- I'm going to make another
effort to get a shift westwards - but these things are
not easy to manage.
The most exciting rumours are going about to-day that
there is another revolution in Russia & that the Grand Duke
Nicholas has been made Emperor. Hope it is true - as
the thing of all others we want is the reunion of Russia into
a solid state again. I can't believe it is to their interest
in any way to work against us & any thing they do
must draw off Boche Troops. Austria seems in a bad
way. How triumphant T.P. will be that the organisation
have at last shown themselves capable of fighting.
Well give my love to Posey & John Wright if you see
them. I hear old Robinson has a bad foot and has had
to go into hospital.
I'm sorry you have to go through the discomfort of being
rationed. I would have sent sugar and tea but
it is not allowed.
Well I hope you will soon be all right -

Your affec brother

Hubert Gell.

Temperature Readings

Date	Baghdad		Basrah	
	max	min	max	min
July 19th	104·0	69·0	103·0	79·4
" 20th	105·4	71·8	103·2	76·2
" 21st	107·6	70·8	106·3	77·0
" 22nd	109·0	74·0	105·2	77·8
" 23rd	109·9	68·0	106·0	75·4
" 24th	111·8	72·8	108·2	76·6
" 25th	110·0	71·6	111·8	78·4
" 26th	115·0	78·4	117·4	82·2
" 27th	119·0	81·6	119·8	79·4
" 28th	122·0	84·0	121·6	85·2
" 29th	121·0	80·4	121·2	84·0
" 30th	117·5	80·4	120·0	84·6
" 31st	120·0	75·4	114·8	86·0
Aug 1st	118·5	77·4	114·0	87·0
" 2nd	116·2	76·4	114·2	87·0
" 3rd	117·6	82·9	121·6	86·0
" 4th	118·0	76·4	118·5	83·2
" 5th	115·8	74·2	114·8	74·0
" 6th	120·0	75·8	117·0	85·0
" 7th	122·8	81·6	120·0	83·0
" 8th	121·0	84·5	122·0	87·5
" 9th	120·5	88·2	121·0	82·0
" 10th	119·4	79·2	119·2	81·0
" 11th	117·5	76·4	112·2	79·8
" 12th	111·5	74·6	111·8	81·0
" 13th	108	76·9	108·2	83·0
" 14th	108·5	75·8	108·8	86·5
" 15th	108·2	74·6	107·8	82·0
" 16th	110·0	74·2	109·0	78·8
" 17th	114·0	72·4	110·0	82·2
" 18th	112·0	75·4	106·0	76·2

The Basrah Times.

THE STRAND.

Telephone No. City 17.

TUESDAY, 8TH MAY, 1917.

	The Sun.	The Moon.
Sets to-day ...	6.32 p.m.	5.29 a.m.
Rises to-morrow ...	4.56 a.m.	9.19 p.m.

THE FIRST DAYS IN BAGHDAD.

BY "EYE-WITNESS."

Nothing could have been more casual than our entry into Baghdad. Four of us were riding ahead of the column through the palm groves talking of some action of a week ago. We were not quite sure whether we were going to bump up against the Turk; he had slipped out of the Tel Muhammad position the night before, and after the way he had fought for every nameless ditch between Sheikh Saad and Shumran it was difficult to believe that he would leave the City of the Caliphs behind without a last ambush. As a matter of fact two squadrons of cavalry had already entered and our troops had reached the right bank soon after dawn and were waiting for boats to cross.

We were talking about the Western Front when the Colonel in command of the vanguard said:

"By Jove! I believe these fellows are bringing us the Keys of the Citadel."

We saw three figures in black approaching along the unmetalled road between the walled gardens. As they drew near they waved their red fezes and called out to us "Good-morning—How are you?" This bold confident and familiar greeting was amusingly unexpected. As we rode on other groups joined them and they all repeated the same greeting. Then they began to cheer.

We had been bivouacing out in a blowing dust. We were dirty, unwashed, unshaven, unfed. My mare, who a few days before had broken tether and dispossessed herself of the best part of her bridle, had on a makeshift headstall of rope. On the whole we did not make up a very imposing cortege for a historic State Entry.

We came along a nameless road to a dilapidated bund. Here stood the ruins of the Eastern Gate. We swung round to the left and found ourselves by the river where the first of the great houses of the Tigris Bank forms the abrupt beginning of the City. A great crowd had collected to cheer the British. They clapped and hurra-ed and the soldier man, who is apt to regard anyone who wears a red fez as a Turk, was a little contemptuous. But it was no fickle demonstration. I rode on ahead into the American Consulate. The Consul was out, but an Armenian dragoman invited me to the luxury of a white tablecloth and a steaming cup of tea—very refreshing after the Tigris water and bully beef seasoned by the wind-driven dust of the last few days. He had been told to have it ready "For the English" he said, and in two minutes he told me enough to explain the attitude of the Baghdadi to the invading army.

The hand of the Turkish Government had lain heavily on the people of the City. The struggle in 'Iraq was for the survival of an antagonistic governing race, and the Christian,

(Continued on column 6.)

ves had discussed the subject and he was very ased to say that although the latter felt very ongly, not merely from standpoint of am ent ected, but from the point of view of the nciple involved. They fully realised at the perial Conference what our war needs were d did not suggest that the question should be ndled till after the war. He had given assurance t it would be one of the earliest questions to be alt with after the war, should he be in the sition to exercise influence.

The first days in Baghdad.

(*Continued from Column 1.*)

w, and Arab population had to pay. Each of se communities far outnumbers the Turk. e huzza-ing on the river bank was genuine ough. Our arrival was a deliverance. In the t ten days the oppression of two years had generated into brigandage. For nearly three eks, ever since our crossing of the Tigris at umran sealed the fate of the City, the Ottoman overnment had been requisitioning private erchandise and sending it off by rail to Samarra. he bazaars were nearly emptied when the last rkish train left Baghdad early in the morning the 11th. Then the Kurds and others came . There were still hidden stores and the wish merchants say that they lost two million nes worth of goods between 2 a.m. and our try at 9. The cost of an hour's delay was ckoned in so many thousand liras.

When we entered, the riff-raff of the City ere carrying off shutters and benches, heavy steads, wood and iron mantling, the seats and lustrades of the public gardens. Everything sily moveable had been removed.

In some quarters where there had been sistance, the shops had been gutted ; the wood-work was smouldering. At one corner a man ... on safe which had defeated violence and in-enuity was lying on the road. I believe there as little spoil left by daybreak, and the tardy rigand must have been disappointed in the cking of Baghdad.

British and Indian troops were soon patrol-ng the bazaar.

A group of our Officers had soon collected in e American Consulate, then the Consul arrived. le had been looking for us. The merchants ere asking for a guard. They had been hiding ll night waiting for the British to come and isperse the mob and police the bazaars. Soon e were cantering along Khalil Pasha Street to he scene I have described. The road was hronged with a jubilant crowd. The roofs and alconies were packed with women in bright resses. Children danced in front of us uttering hrill Arab cries and clapping their hands.

Khalil Pasha Street through which we rode, he only broad thoroughfare in the City, received he name of the local Hindenburg in commemo-ation of the fall of Kut. It is not a beautiful or mposing thoroughfare, and like most Turkish eforms its growth has been intermittent and ubject to caprice. Demolition and construction ad not kept pace. The dismantled walls and illars of crumbling brick still bulge out into he street. The landlords, I am told, have received o compensation. Loss of property was to be aid for in the gratification of patriotic sentiment. But by a stroke of irony the road that was built o memorise our reverse at Kut was completed just in time to afford us a passage through Baghdad.

(To be Continued)

The Basrah Times,

THURSDAY, 10TH MAY, 1917.

	The Sun.	The Moon.
Sets to-day ...	6.34 p.m.	7.22 a.m.
Rises to-morrow ...	4.55 a.m.	11.5 p.m.

3

THE FIRST DAYS IN BAGHDAD.

BY "EYE-WITNESS."

(Continued).

In the cafés the Arabs squat on their pew-like benches, gravely gossiping, or absorbed in meditation or in a game of dominoes or dice. There is very little coffee to drink, very little tobacco to go round. It is a sombre unimpressionable crowd. When we had been in the city an hour they ceased to take any interest in the Army of Occupation.

There is plenty of human interest in Baghdad, but those of us who looked for "lions" in this antique, dirty and dilapidated capital are frankly disillusioned—especially in its material resources.

Officers come in from neighbouring camps every day. Some of them cross the Tigris in the ancient cauldron-like gufas of Babylon, vessels once familiar to Herodotus, Julian, and no doubt Nebuchadnezzar. The one Hotel—the Hotel Tigris now renamed Hotel Maude—is crowded at lunch-time. By the horses in the street you would think a cavalry regiment were billeted there. Meals are a very simple affair. There are no stores, and not enough chickens and eggs to go round; but the proprietor can do wonders with three courses of mutton prepared in different ways. For tea the *Khobez*, or Arab Chapatti, a flat cake of coarse wheat flour spread with the cream of buffalo milk makes a pleasant change—and it is good to see English flowers again. There are roses, stocks, wallflowers and poppies in the garden by the Tigris.

There is no path along the river front. The chief houses and consulates are built on immensely solid revetments and have their foundations in the water. Most of them have small gardens and steps running down to the river. At intervals there are approaches, in some cases through archways under houses, where the women of the city draw their water in tapering copper vessels with long fluted necks, and the water-carriers fill their skins which they load on their white asses. You can hire a gufa here or a boat. The river is 300 yards wide. When there is a gale blowing against a five knot current, the waves make very heavy weather, but these Arab boys are good navigators and will sail you across in their ramshackle boats with skill and coolness.

At the northern end of the city the civil and military Serais cover a quarter of a mile of river front. They comprise the Infantry barracks, Judicial Court, Council Chamber, and all administrative offices of the Wilayat. There is ample room here for all the troops needed to garrison the city. The quadrangles are very spacious and solidly built. In the *Serdabs*, or underground chambers, ventilated by shafts from the roof, the temperature is 8 or 10 degrees cooler than above. I found an appreciative company of Jats quartered here. The Jemadar shook me by the hand and said "Sahib, we have arrived. It is a very good place." There is no doubt that the Baghdad garrison will be more comfortably quartered in the hot weather than the troops outside.

(Continued on column 6.)

The first days in Baghdad.

(Continued from Column 1.)

No Heading 4

One could spend days exploring the *Serais* and the Citadel. There is a great deal to be learnt from the litter in a capital abandoned by a government who have not had too much time to get away; and we were ransacking these offices twelve hours after the Turks had left. Anyone who has changed houses knows the difficulties of sudden transport. These were complicated in Baghdad by a single line railway a great shortage of ships, and a congested bridge of boats. In every room nearly were things the Turks must have been reluctant to leave behind. In one office we found the Survey maps; another contained the trade returns of the notorious Wonckhaus; a third the portfolios and membership tickets of the Committee of National Defence. A courtyard enclosing an orange garden contained the suite of rooms where Sir William Willcocks used to work. We found the plans and maps which might have made 'Iraq as fruitful as Egypt littering the floor. In the Citadel the stack of arms grew higher as the house to house search continued. Besides the rifles, swords and revolvers we found a great deal of curious ordnance, valueless from a military point of view, dating from the antique brass cannons of the time of Nadir Shah to the guns we left in Kut last year.

My own impression in spite of all detraction is that Baghdad is beautiful. No criss-cross view of the city is adequate. Those who deny its beauty should see the broad sweep of the river front from the north at sunset, when the mosques and blue tiled minarets are echeloned, as it were, and catch the slant rays of the sun. The colour on the left bank in the reflected light of the east melts from orange to the dull glow of Nougat, while in the west the palms silhouetted against a clear iron-grey sky give one the impression of being soft and metallic at the same time.

I have described Baghdad as it has appeared to us in the first two or three days of occupation. My impressions will probably be recast; certainly modified. I should explain that only a few officers of the troops garrisoning the place have had time for leisurely exploration. The greater part of the force is still engaged in hunting down the Turk, East, West and North, and the Staff, besides carrying on the war, have the whole civil and military administration of the city thrown on their shoulders. Immediately I have handed this letter in to the Censor I shall be pushing on to overtake the column in the direction in which operations should be of the most vital interest.

NOTICE.

BOXING.

Provided there are sufficient entries it is proposed to hold a Boxing Competition in 'Ashar Barracks, open to all ranks of I.E.F. "D" at the Base, during the last week in May.

There will be—

(a) Contests.

(b) Open Competitions.

Feather, Light, Middle and Catch or Heavy weights.

(c) Novices Competition.

Feather, Light, Middle and Catch or Heavy weights.

(A Novice is a man who has not WON a competition) a certificate to this effect should be signed by the competitors O.C.

A detailed prospective programme has been forwarded to all O.C. Units from whom further particulars can be obtained.

Entries close on Wednesday the 16th instant and should be addressed to the undersigned.

A. C. HART, Lieut.,
'Ashar Barracks.

KAMC 364/5/18

Telegram
From G.H.Q., Baghdad.
To:- Communications, Basrah.
No. M.S. 756 dated 21st July1918.

Troopers wires July 16th that Colonel M.H.G. Fell, R.A.M.C., D.D.M.S., is to proceed home by first opportunity. Please take action accordingly and report here, repeating D.M.S. date he embarks.

No. 1025 of 23.7.18.
Headquarters, Lines of Communication.
Basrah .____ 23rd July 1918.

To :- D.D.M.S. on L. of C.

Forwarded.
Colonel Fell should proceed to the United Kingdom immediately.

(Sd) C.deM WELLBORNE
Major
D.A.A.G., Lines of Communication.

Copy to:- Embarkation Commandant.

№ 000892 Transferred Home Establishment.

Embarkation Office,
Suez Docks.

24.9. 1918.

To Col. Fell RAMC Chief. Base
ex HT, St Andrews

MOVEMENT ORDER.

You will proceed by the 5.0 p.m. Train Main from Port Tewfik Station to Port Said changing en route at Ismailia.

On arrival at Port Said you will report for further instructions to O.C. British transit Camp (for onward passage)

It is necessary that you report (with your baggage) to the R.T.O., Port Tewfik Station, not later than 4.0 p.m.

Captain,
Embarkation Staff Officer.

A.P.& S.D., Alex /2651/2123/2.18/ 10 Bks. (V.&G)

MOVEMENT ORDER.

Army Form W. 3039.
(In Books of 100).

Train No. B/550 "IN SERVIZIO"

Date 5th Oct 18.

Designation of Despatching Unit or Service.	Officers.	Other Ranks.	Sick and wounded men.	Prisoners of war.	Other prisoners.	Horses. Fit.	Horses. Sick.	Vehicles. 2-wheel	Vehicles. 4-wheel	Miscellaneous No. of packages.	Truck loads.	Truck Numbers.	From	To
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Taranto	1	Colonel Fell												
		R.A.M.C.												

Pay 6.30 pm train authority from G.H.Q Baghdad dy 21st July 18.

Authority of Port Medical Officer

M.I.K.

Signed _____ Officer Authorising Move.
for D.A.G.M.S.(M) Capt

Signed _____ Officer in Charge of Train.

Signed _____ R. T. O. Despatching Station.

RECONSIGNED.

From	To	Signature of R.T.O.
	TARANTO.	
	No.	
	Date	

INSTRUCTIONS FOR USE.

1. This Movement Order is a British Authority to travel and, as such, must be carefully retained by the holder throughout his journey. It must be produced for inspection when required. Before the holder enters a train he must, in addition, be in possession of, or covered by :—

(*a*) An Ordre-de-Transport.

or (*b*) A Railway ticket, purchased at the Booking Office and paid for in cash.

In the latter case, the Movement Order, authorising the journey, must be endorsed :—

"*On purchase of a ticket on payment.*"

and must be presented at the Booking Office for inspection. It must show definitely between what Stations travelling by rail is authorised and be countersigned and stamped by the R.T.O. (if there is one) at the starting Station.

2. The Movement Order will be made out in triplicate by issuing Officers (other than R.T.O.'s). One copy is retained for record, and the other two are sent with the personnel, live stock or material to the R.T.O. at the entraining Station, who, after signing, retains one for his own record and deals with the other as follows :—

(*a*) In the case of Personnel, either unaccompanied, or in charge of consignments of live stock or material, he hands it to the Officer, N.C.O., or man in charge of the party.

or (*b*) In the case of consignments, unaccompanied by Personnel, he hands it back to the despatching Service as a receipt for the consignment forwarded.

3. Separate Movement Orders must be made out for :—

(*a*) Each destination Station.

(*b*) Each consignment of material unaccompanied by Personnel.

(*c*) Personnel, either unaccompanied by, or in charge of, live stock or material.

4. On completion of the authorised journey, all Movement Orders must be handed in to the R.T.O. at the destination Station.

A. 1592. Wt. W3117. M2227. 25m Books. 6.17, O.A. Forms/W.3039/2.

A.F.W. 5005.

EMBARKATION CARD.

Regimental No. _____

Rank Bt Col

Surname Fell Initials M.H.G

Regiment, Corps, or Appointment } R.A.M.C.

Duty on which the bearer is travelling Transfer to Home Establishment from Mesopotamia

(The instructions set forth on the reverve should be carefully noted and complied with.)

A.P.&S.D., Alex./4759/50025A/8·18/5M.(V.& G.)

INSTRUCTIONS.

1. This card should be supplied (in lieu of a nominal roll) to each officer, warrant-officer, N.C O. or man, or civilian embarking under military authority, not forming part of a unit, draft, or party, before leaving his unit for any journey involving a sea passage.

2. The card should be completed before arrival at the port, and should be handed to the officer superintending the embarkation as the bearer goes on board.

3. If more than one sea passage is involved, one card should be supplied in respect of each such passage.

4. Attention is drawn to A.C.I. 700 of 1918, regarding the purpose for which this card is introduced, instructions for disposal, etc.

Med. Recep. Camp

4/5/1918.

Dear Colonel Fell

Here are the Special Emergency Card & and Sugar Permit

They are made out for fourteen days in accordance with instructions of H.Q. Base &c.

Yours Sincerely

E Marshall

ARMY.

x No 060409

SUGAR PERMIT.

This Permit authorizes sugar to be bought by or on behalf of

(Name and Rank) Bt. Colonel M.H.G. FELL, CMG., RAMC. } Fill in one line only.

~~members of~~ Officers' ~~Mess~~ }

in one amount at a rate not exceeding 2 oz. per head per day for a period of fourteen days ending .....

I certify that no rations of sugar are being drawn by the above-mentioned during ~~the~~ above period.

(Signature) Bt Marshall Capt. (Date) 4/9/1918.

Signature of above-mentioned or person purchasing on behalf of mess.	Amount of sugar bought.

A.F.W. 3690.

NOTICE.

After 30th December, 1917, no retailer may sell sugar except to a duly authorized customer; and these Permits are issued under arrangements made by the Army Council with the Food Controller to enable serving officers or men to purchase sugar during leave or when billeted or otherwise unable to draw Army rations of sugar, and to enable sugar to be bought for Officers' Messes in respect of members who elect not to draw rations in kind.

Permits must only be issued to serving officers or men who are in receipt of pay from Army Funds.

The Permit must be given up to the retailer when the purchase is made, and is only valid within the period to which it applies. It is a Permit to buy sugar, and does not carry with it any guarantee that the sugar will be supplied by any particular retailer to whom it may be presented.

In the case of officers or men on leave the period inserted will be the period of leave. In other cases the period must not exceed 14 days.

(76015) 20,000M. 12-17 **E2304** W B & L

M. 41.

SPECIAL EMERGENCY CARD, SOLDIER OR SAILOR.

1. Holder— (Name and Number) Lt Colonel M.H.G PELL CMG., RAMC
2. Unit or Ship DDMS on the L of C Mes Ex Force
3. Proceeding from Mesopotamia to England
4. Beginning of leave or duty
5. End of leave or duty
6. Is holder proceeding at end of leave or duty on Active Service or Service afloat?
7. Signature of Officer issuing B Mynohan Capt.
8. Unit or Ship of Officer issuing OC Med. Rmt. Camp

INSTRUCTIONS TO HOLDER.

1. Each butter and margarine coupon represents one week's civilian ration. The meat coupons entitle you to purchase meat at a shop according to the official Table of Equivalent Weights displayed in the shop. Coupons marked "Other Meat Only" cannot be used to buy butcher's meat or pork. A coupon or half coupon may be used to buy a meat meal anywhere.
2. The card is not transferable. You must produce the card whenever you buy butter, margarine or meat, or a meat meal. The seller will detach coupons.
3. You must spread your coupons over the full period of your leave and of your journey out and back. No fresh card will be issued to you unless the period of your leave or duty is extended. Should this be the case you must take this card with the document authorizing the extension of leave or duty to the Local Food Office, who will issue you an Emergency Card to cover the remainder of your leave or duty. **This card ceases to be valid at the expiration of your leave or duty as indicated by the date entered opposite 5 above.**

PENALTIES FOR MISUSE.—£100 or Six months' imprisonment, or both.

BUTTER. MARGARINE. S. or S.	BUTCHER'S or OTHER MEAT. S. or S	BUTCHER'S or OTHER MEAT. S or S	BUTCHER'S or OTHER MEAT. S or S	BUTCHER'S or OTHER MEAT. S or S	OTHER MEAT ONLY. S or S.	OTHER MEAT ONLY. S. or S.
BUTTER. MARGARINE. S. or S.	BUTCHER'S or OTHER MEAT. S or S	BUTCHER'S or OTHER MEAT S or S.	BUTCHER'S or OTHER MEAT. S. or S.	BUTCHER'S or OTHER MEAT. S or S	OTHER MEAT ONLY. S or S	OTHER MEAT ONLY. S. or S.

(7307) 1,500,000 3/18 W B & L (H)

INSTRUCTIONS TO SELLER

1. Each butter and margarine coupon on this card represents the civilian weekly ration for the time being in force.

2. Each meat coupon has the same value as a coupon on the adult's Meat Card.

3. Coupons marked "Other Meat Only" cannot be used to buy butcher's meat or pork.

4. The seller must detach the proper number of coupons for the amount sold.

5. **This card is valid only during the period of leave or duty, which is indicated by the dates entered opposite 4 and 5 overleaf.**

B
1 **No 048893**

Telegram
From G.H.Q., Baghdad.
To:- Communications, Basrah.
No. M.S. 756 dated 21st July 1918.

Troopers wires July 16th that Colonel M.E.G. Fell, R.A.M.C., D.D.M.S., is to proceed home by first opportunity. Please take action accordingly, and report here, repeating D.M.S. date he embarks.

No. 1025 of 23.7.18.
Headquarters, Lines of Communication.
Basrah. 23rd July 1918.

To :- D.D.M.S. on L. of C.

Forwarded.
Colonel Fell should proceed to the United Kingdom immediately.

(Sd) C.deM WELLBORNE
Major
D.A.A.G., Lines of Communication.

Copy to:- Embarkation Commandant.

SECRET (Not to be officially quoted)

A BRIEF SUMMARY OF JOURNEY BETWEEN SUEZ AND ENGLAND VIA TARANTO

SUEZ — Trains run along quay; there is a good hotel for meals near the quay.

SUEZ TO ALEXANDRIA — Average time twelve hours. Trains good, with lavatories etc. Four officers to a compartment. No food is available on the journey, if required, it must be procured at Suez.

ALEXANDRIA — The Rest Camp is some miles from the town, which is reached by a fairly frequent train service. Senior officers can get permits from A.Q.M.G. (Alexandria H.Q.) to live in hotels in the town, which are numerous and good, though expensive and crowded. The best is the Savoy Palace. Prices generally are very high in Alexandria.

VOYAGE FROM ALEXANDRIA TO TARANTO.

Four berth cabins are provided and are usually fully booked up.

BAGGAGE — A small kit bag is the maximum that can be conveniently placed in each state room.

DECK CHAIRS — Deck chairs are not provided on board and are hard to procure, even at Alexandria, so they should be brought from Indian Transports, they are almost indispensable on a crowded steamer.

MINERALS. DRINKS — Drinks are very limited and officers should bring their own, also minerals.

ATTENDANCE. — The number of stewards on board is very limited. The O.C. Troops usually allotts one batman to each cabin.

BOOKS — There are libraries on the steamer; and a stock of reading matter should be laid in at Alexandria.

VOYAGE — The duration of the voyage depends upon whether a fast or slow convoy be utilized. The former service is maintained by large and comfortable boats, taking about four days. The slow convoys take up to eleven days to do the trip, and are less comfortable. On this voyage the regulations regarding lighting etc. are very strict, and must be implicitly obeyed All passengers must make themselves with them.

Passengers should also examine their lifebelts carefully and learn to put them on properly as there is one pattern that, if incorrectly worn, may dislocate the neck if the wearer jumps from a ship into the water.

TARANTO. — The Rest Camp is outside the town of Taranto, which is out of bounds but can be visited by permission. A launch runs from the camp twice daily, and there is also a motor bus service, both free for the use of Troops, the timings of these can be ascertained from the Camp Authorities. Fresh passes must be procured daily, and the issue of passes is strictly limited. Bell tents accommodating two or three officers are provided and are floored, they are furnished with iron beds with mattresses. The messing is run by the E.F.Canteens, the cost being about Sh 2-6d (five lira) per day. The camp is very often crowded and meals are served in two relays. There is a restaurant in the town (The [illegible]

the Naval Club, and also a Y.M.C.A.Hut. Sea bathing in the harbour. Money can be changed here but no advances of pay made. Leave officers are frequently kept at Taranto a considerable period as they are not usually permitted to travel by Troop or civil train but must wait until a full leave train is made up.
Officers below the rank of full Colonel, or officers not having special authority from the War Office, when proceeding to and from the United Kingdom via Taranto, will not travel by mail trains unless explicitly ordered to do so by Mediterranean Lines of Communication, but will travel in British controlled troop (and leave) trains.

TARANTO TO CHANNEL PORT REST CAMPS

Military trains take up to eight days, including one or more halts at Rest Camps. These halts are from twelve to twenty-four hours. The camps are good and the messing run by the Commandants. VASENZA (485 miles from Taranto) Bell tents are provided, E.F.Canteens, also restaurant arrangements with Hotel Corona. The usual halt is twelve hours.
ST GERMAIN (Lyon) (928 miles) Bell tents provided. Bathing arrangements are being completed E.F.Canteens and Officers restaurant. The Town of Lyon is out of bounds also local hotel. Usual halt is twentyfour hours.
CHERBOURG (1446 miles) Bell tents are provided. Field and Staff Officers can get permission from the A.M.L.O. Cherbourg, to stay at the Hotel l'Etoile, which has a bath room; fair food and moderate charges. The is an E.F.Canteen, Officers Restaurant, Field Cashier, Ordnance Depot (Where officers clothing can be procured) .

INFORMATION FOR OFFICERS TRAVELLING BY TROOP TRAIN FROM TARANTO TO CHERBOURG

Important.

It is absolutely imperative to look after baggage personally at Suez, Alexandria, Taranto, French Ports etc. Much inconvenience would be avoided if this rule were strictly followed. Always see that all baggage is properly transferred from steamer to train etc.

BAGGAGE.

Four officers are usually accommodated in each compartment so economy must be exercised in the amount of baggage taken in the carriage but at the same time it is necessary to take everything that will be required on the journey and at Rest Camps en route. Heavy baggage is carried in the van and when there is a large number travelling, the luggage van cannot be opened for individual passengers. The same train usually goes right through from Taranto to Cherbourg so there is no shifting. As lying down accommodation is not provided complete bedding equipment should not be taken into the carriage , only a rug, small pillow and air cushion. A blanket is provided at the starting point. Stores and cooking utensils will necessarily take up a good deal of the available space(see below)
The total amount of baggage carried must not exceed 1½ cwts

LAVATORY AND ACCOMMODATION.

The Trains are very badly equipped in this respect and are frequently without any conveniences whatever. Very few trains have corridor carriages. There are usually two "Haltes Repas" daily. In the morning and in the evening, when trains stop for one or two hours. At these places good wash-houses, with shower baths, latrines etc are available.

Hot water can be procured here and a good stock laid in for use until the next stop. The Haltes Repas are reached at very irregular times as the trains are frequently hours late and the duration of the stop varies according to circumstances. Passengers must take their own towels and soap; a basin will be found useful.

N.B. At Castellamare Halte Repas, sea bathing can be obtained.

MESSING

Rations are issued daily and consist of bread, bully beef, cheese, jam and tea. There are drawn by batmen, of whom two are allotted by the O.C.Train to each compartment, and who will also make tea, wash up etc. Tea and sugar are issued in bulk, degshie is brought round at each Halte Repas. As mentioned before the hours of the Haltes Repas are irregular so officers must always provide supplementary stores and be prepared to do their own cooking etc. In Italy, Railway Buffets are not to be recommended and in France they are out of bounds except at Modane. Stores should be obtained at the canteen at Taranto and at the bigger stations, but they can be procured at most places along the line; it is said that they can be secured cheaper at Rome than at Paris. Between Rome and Taranto food supplies are not rationed so food supplies should be laid in at these points. As regards the stores to be taken tinned meats, tongues, sausages, sardines fruit, chocolate, pepper, salt and sugar, if procurable, are recommended. Mineral waters should always be taken as water in both France and Italy is dangerous for drinking purposes; The wine of the country is cheap and far preferable to water. Small tins of milk will be found very useful as the halts for tea are not always at convenient hours. Tins of Cafe au Lait already sweetened and requiring only hot water will also help to make the traveller independent of these irregularities. Officers must be prepared to do their own cooking. A "Tommies Cooker" will be found invaluable and should be obtained at Taranto or Alexandria as only inferior imitations can be purchased en route. A Thermos flask would also answer the purpose. A luncheon basket is by far the most convenient way of carrying knives, plates. cups etc. as well as a kettle or saucepan with closely fitting lid to prevent escape of water, for boiling or cooking It is also essential to have soda and dish cloths for washing up. These can be secured from the E.F.Canteens at Taranto. Planks from the canteen or lids of boxes are procurable from the canteen at Taranto and make useful tables and leg rests.

MISCELLANEOUS INFORMATION.

MONEY

Officers should provide themselves with only a sufficient amount of Italian and French money to see them through these countries. Facilities for money changing exist at Taranto, Modane, Cherbourg and other Channel Ports.

LITERATURE

Stocks of books and papers should be laid in at the bigger stations. Railway Stores are very depleted generally but Taranto, Rome and Paris have good supplies.

HOTELS

At least £1 per day is charged for board and lodging at even the cheapest hotels ; the best hotels are considerably more expensive. Tips on the Continent are usually included in the Hotel bill and therefore should not be given independantly.

TELEGRAMS — Owing to delays in the transmission of telegrams it is always advisable to repeat from Paris telegrams that have been sent to the United Kingdom from Taranto and anywhere en route.

DRESS — All officers will wear uniform at all times when on board ship. Officers proceeding through France and Italy on public ground will also wear uniform, but will wear plain clothes when not travelling on public grounds.

IMPORTANT NOTE FOR O.C.TROOPS

The O.C.Troops should be careful to appoint a good Quartermaster as all stores have to be accounted for and over issues or deficiencies are chargeable against the O.C.Troops.

MEDICAL — There is a medical wagon on each train which should be taken charge of by the S.M.O. on the train, who will detail the M.O. for duty each day.

ADDITIONAL INFORMATION FOR OFFICERS PROCEEDING BY CIVIL TRAINS

ROUTES & TIMINGS — The routes taken vary; the most usual is from Taranto, Rome Genoa, Turin, Modane to Paris(Gare du Lyon) thence across Paris to stations for Havre or Cherbourg. In addition to the mail train from Taranto there is also a passenger train to Rome via Naples. For timings it is necessary to apply to the Railway Staff at Taranto, as definite information cannot be given in this pamphlet; there are also R.T.O's at Rome, Modane all Paris Termini etc. The journey takes about 5 days

ACCOMMODATION. — The Trains are extremely crowded and it is necessary to be at the station an hour before hand. The R.T.O. or the local agency of the International Sleeping Car Company at Rome and Paris will furnish assistance in reserving accommodation.

BAGGAGE — No batman can be carried on these trains and officers must look personally after their own luggage and also attend to customs formalities at Modane, where however the R.T.O. can render assistance. At Modane money can be changed. As regards baggage only hand luggage can be taken into the compartment; the rest must be registered and paid for. Lying down accommodation is not available

FOOD — Restaurant Cars are still running on Mail trains and all information regarding these must be obtained locally; failing these, meals can be got at the bigger stations, or luncheon and dinner baskets procured, but as the running of the trains is extremely irregular supplementary stores are absolutely necessary. The advice given re stores in the section relating to Military Trains will also hold good here

WASHING ARRANGEMENTS — The sanitary arrangements even on the mail train are very deficient and soap, towel must be taken; hot water can be secured from the larger stations.

N.B. Passengers will find the services of R.T.O's useful to help them to procure bread and other rationed foodstuffs.

MESOPOTAMIA

(1916—1919)

TELEPHONE 1613 MAYFAIR.

40, WELBECK STREET,
CAVENDISH SQUARE, W.1

MESOPOTAMIA

(1916—1919).

BY

W. H. WILLCOX,

C.B., C.M.G., M.D., F.R.C.P.(Lond.)

Physician to St. Mary's Hospital;

Consulting Physician, Mesopotamia Expeditionary Force.

Colonel A.M.S. (1916—1919).

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—
1919.

MESOPOTAMIA

(1916-1919).

ON returning home on January 25th, 1916, after six months spent in the Dardanelles, I received the invitation from the War Office to proceed to Mesopotamia as Consulting Physician to the Expeditionary Force.

The experience gained in the Dardanelles was of inestimable value, for one saw there cases of Dysentery, Enteric Group Disease, Jaundice, Relapsing Fever, and the common medical diseases of campaigns in abundance, and also a certain number of cases of deficiency diseases (Scurvy and Beri Beri). The knowledge gained was invaluable as a preparation for my future medical work in Mesopotamia. In addition, the six months in the Dardanelles, spent mostly under canvas at Mudros, under conditions which often called for philosophic resignation, and could not be described as "picnicking" were an excellent training for the campaigning which formed a necessary part of one's work in the long journeys often necessary in Mesopotamia.

Little attention was paid to the Mesopotamian Expedition until early in 1916, when rumours filtered home that the conditions of the sick and wounded in that region left much to be desired, and anxiety was felt as to the medical and general arrangements being such that proper care for the sick and wounded soldiers in that trying climate could be ensured.

The history of the campaign prior to 1916 deserves mention, as it explains to some extent the temporary defects in the arrangements, not only medical, but general, which occurred.

Our troops landed at the mouth of the Shatt-al-Arab, at Fao, on November 6th, 1914, under General Delamain, and on November 14th, 1914, General Sir Arthur Barrett landed at Saniyah, about 30 miles up stream, on the right bank, and took over command.

About this time the Turks tried to block our progress up the Tigris by sinking three large steamers across the channel of the stream (*vide photograph*). This device proved of no avail, for the current caused the vessels to swing round while sinking, and ample room was left for large ships to pass between the sunken steamers.

Within a month Basrah and Kurna were captured, and a firm footing was obtained in lower Mesopotamia.

General Sir John Nixon took command of the force (known as I.E.F.D.) on April 9th, 1915, and there followed a series of most brilliant successes.

Victories over Turkish forces generally superior in numbers to our own were gained at Shaibah—at Ahwaz, which was the key to the invaluable "oil fields"—at Amara on the Tigris, and at Nasiriyah, which gave command of the lower Euphrates region.

Major-General Townshend pushed his force rapidly up the Tigris, and on September 28th, 1915, defeated a large Turkish force at Kut-el-Amarah and captured the town.

General Townshend advanced up the left bank of the Tigris, and at Ctesiphon, which is only about 20 miles from Baghdad, he again defeated a Turkish force much superior in numbers to his own.

Owing to heavy casualties and to the arrival of strong enemy reinforcements, our force could not proceed further, and it was necessary to fall back on Kut, which was put in a state of strong defence, and on December 11th, 1915, was invested by the Turks.

The operations from now up to April 29th, 1916, were directed towards the relief of Kut, which fell after a brilliant defence of 143 days. General Townshend destroyed all military stores before surrender, and was only reluctantly compelled to take this step on account of the starvation from which his troops were suffering.

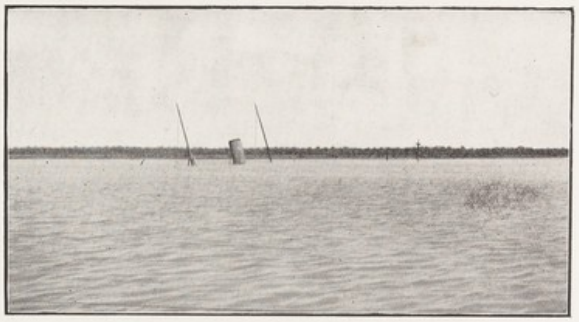
When one journeys up the Tigris to Baghdad, which is 500 miles by river, and also travels over the regions as far as Nasiriyah and Ahwaz, over which in the early days our small force was operating so successfully, it appears simply marvellous how so small a force could have accomplished such great things.

At that time the facilities in the way of transport were meagre, and such things as ice and soda water, which are so necessary in a climate like that of Mesopotamia, were unobtainable.

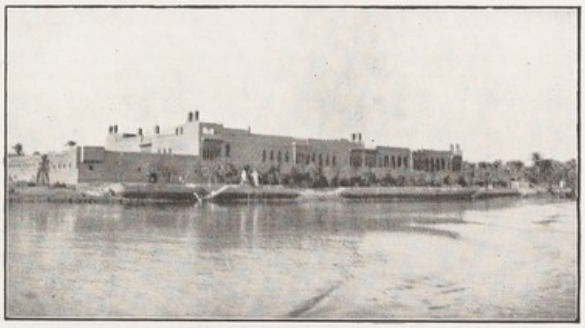
The explanation is that the troops were some of the best of our old army, hardened veterans, well seasoned by service in India to a tropical climate.

They were finely led and buoyed up by a succession of victories; they overcame not only the Turks and Arabs, but, what is even greater, the dangers inseparable from a country of fierce climate and redolent in disease.

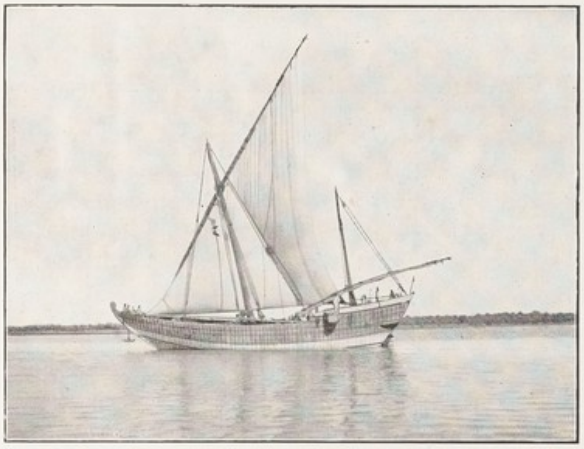
Up to January, 1917, the Tigris front lay below Kut, a distance of 300 miles by river from the base at Barah.



Steamer Sunk by Turks to Block River Channel.



Beit Nama, Officers' Hospital.



Native Craft on Tigris.

The Docks, Basrah, 1919. A Steamer Loading Up.

The Turks had become heavily reinforced, and they were assisted by a number of trained German troops.

Our force was of necessity considerably increased, and the great difficulties of transport of the necessary supplies in a country like Mesopotamia, with no roads or railways, can readily be imagined. The troops were entirely dependent upon the river for supplies, since local resources were at that time few, and river steamers had to be sent out from home and from other countries (India, Burmah, Egypt, etc.), the local river transport being quite insufficient.

It is not to be wondered at that great difficulties were encountered during 1915 and 1916, and hardships were inevitable where men and supplies had to be transported such great distances under climatic conditions as trying as anywhere in the world.

The history of the Mesopotamian campaign, together with the difficulties of river transport, and the exceptionally trying climate with its fierce heat and dangers from disease, explain to a great extent the so-called "Mesopotamian scandals," which were investigated so fully by the Mesopotamia Commission in 1916 and 1917.

I left Southampton March 15th, 1916, and arrived *via* Malta at Alexandria, from where by train Suez was reached on March 29th. Seven days waiting for a boat were well spent here, for one had the opportunity of seeing many patients on their way home from Mesopotamia, and much was learnt from them as to the work which would have to be undertaken there and the diseases to be combatted.

While at Suez an epidemic of Relapsing Fever was occurring, especially in the Camel Corps and troops brought into contact with native labour. The two hospitals there were from the Dardanelles, and one met many old friends. I saw a great many of the Relapsing Fever cases, and suggested the administration of Salvarsan intravenously in ·3 gramme doses, which was most successful in terminating the disease within about 12 hours usually. The interesting fact was discovered that if the Salvarsan were given in the apyrexial period following an attack it usually prevented the occurrence of any relapses.

This line of treatment for Relapsing Fever was subsequently adopted with great success in the outbreaks which occurred in Mesopotamia.

Bombay was arrived at on April 15th, and I spent several days visiting the Military Hospitals there which received the sick from Mesopotamia. One thus learnt a good deal about the diseases prevailing in the troops, and also as regards the special medical needs of the Mesopotamian Force

It was obvious that Enteric Group Disease, Dysentery, Malaria, effects of heat and Deficiency Diseases, such as Scurvy and Beri Beri, were the chief dangers to which the troops were being exposed.

While in India I spent four days in Simla, staying there with Sir Pardey Lukis, who was then acting as D.M.S. of India. I received from him the greatest kindness, help and encouragement, and had the opportunity of discussing fully with him the medical conditions prevailing in Mesopotamia. At this time every effort was being made by Sir Pardey Lukis and the military authorities in India to do all they could to deal with the medical requirements of Mesopotamia. Thus ice machines, topees, spinal pads, and other requirements for heat protection were being collected and sent out. Also Vaccines (T.A.B., Cholera, Plague, etc.) were being prepared in large quantities in India for the force.

Anti-scorbutic articles of diet, *e.g.*, limes, potatoes, onions, etc., were given special attention to in the food supplies from India. For protection against Malaria and Sand Fly Fever large quantities of mosquito and sand fly nets were being forwarded.

Special attention was paid to the requirements of Mesopotamia in the shape of Hospital transport, such as motor launches, motor ambulances, hospital river steamers, etc.

The Red Cross and St. John's Ambulance Society in India were doing splendid work in sending out medical comforts to the troops through the Mesopotamian Branch.

The hospitals in Bombay for troops arriving overseas were excellently equipped, and the D.M.S. of India realised that a great increase in the accommodation for sick and wounded would be required for 1916 and 1917.

Several additional hospitals with all necessary modern equipment were provided, and this forecast was amply justified, for the hospitals in India were, during 1916 and 1917, kept constantly full, but were able to meet satisfactorily the heavy calls made upon them.

Bombay was left on May 4th, 1916, and Basrah reached on May 11th. A delightful trip was made on the excellently-equipped hospital ship "Madras," and Lieut.-Col. Symons, I.M.S., S.M.O., and his medical officers, Major Wright, I.M.S., Captain Cruickshank, I.M.S., and Captain Stott, I.M.S., all of whom had served in Mesopotamia, were full of interesting anecdotes and experiences.

Basrah in the summer of 1916 was very different from the city of to-day.

At that time date gardens extended to the river along a great part of the right bank on which the city lies, and these were intersected with irrigation channels which were filled with the rise of the tide.

Several creeks run from the river two or three miles inland, and formed the main channel of transport for the natives in their boats, called "bellums." As there were few bridges over the creeks the difficulty of getting about in Basrah except by launch or boat can be imagined.

The air was heavily laden with moisture, and insects of all kinds, such as mosquitoes, sand flies, etc., existed in swarms. It was no wonder that one was lucky to escape Malaria and Sand Fly Fever if living in such a place.

Basrah is a picturesque city, typically Eastern in character.

Its narrow streets and covered busy bazaars with recesses on each side in which are deposited the goods for sale, its quaintly built houses and the Arab population, form a most attractive picture.

The sanitation of the native part of the city was before our occupation practically nil, and but for the purifying power of the sun disease would have made unlimited ravages.

The appointment of military governors for Basrah city, and the part on the river bank known as Ashar, enabled a control of the sanitation of the districts occupied by the natives to be obtained, and any infringement of the sanitary laws met with prompt correction and summary corporal punishment. In 1916 it was surprising how clean the streets of Basrah and Ashar were kept, and compared with most Eastern cities there was little to offend the olfactory organs.

The Tigris is a magnificent river, and is navigable for large sea-going vessels for 30 miles beyond Basrah.

Date palms stretch along the banks on each side around Basrah and for many miles below.

The beautiful sunsets are one of the most attractive features of Mesopotamia, and are rarely seen to such advantage.

On each side of the river beyond the date gardens the flat open desert stretches for miles unrelieved by trees or hills.

Camel thorn scrub or wild liquorice are all that will grow on this sun-beaten dried-up soil, but it is marvellous how fertile the desert is if water is supplied by irrigation. The soil is really alluvial mud deposited from the river floods, and if supplied with water will grow the richest crops in rapid succession.

The possibilities of the country with a proper system of irrigation are very great, and under our administration there must be a most prosperous future for Mesopotamia.

Mesopotamia is a country which had an extraordinary fascination for many of us who were fortunate enough to keep fit. The ever-changing river scenes, the interesting Arab population, the sense of freedom of the wide expanse of desert, all had an especial charm. It is true that June, July and August were months in which one's resistance to the intense heat was taxed to the uttermost. However, the risks to which we were all exposed, whether from heat stroke or acute disease, called forth a sense of comradeship and mutual helpfulness which usually stood us in good stead in cases of emergency which one was always prepared for.

Major-General Treherne, K.C.M.G., arrived in Mesopotamia on May 13th, and as D.M.S. of the force at once instituted a scheme of re-organisation of the medical units which was at that time much needed. He drew up a scheme for the medical requirements in view of the subsequent increases of the force so that efficiency could be ensured, and he was ably assisted by Colonel Fell, his D.D.M.S., L. of C.

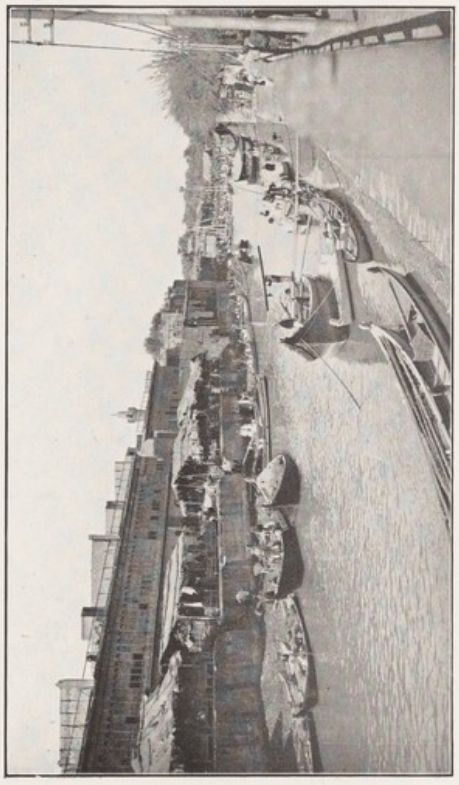
Sir Percy Lake, the Army Commander, took the greatest interest in the medical arrangements, and did all in his power to ensure the supply of everything in the way of hospital units, personnel and equipment that was required. This work of organisation laid the foundations of the future success of the Medical Service in Mesopotamia, for in a few months the medical arrangements throughout the force were such that they would compare favourably with those in any other theatre of the war.

In May, 1916, the Officers' Hospital at Beit Nama (about four miles below Basrah) was established. It became an excellently equipped hospital of 100 beds, and was afterwards most efficiently commanded by an old St. Mary's man, Major Hope Gosse, R.A.M.C. (*vide photograph*), and was one of the best hospitals to the force.

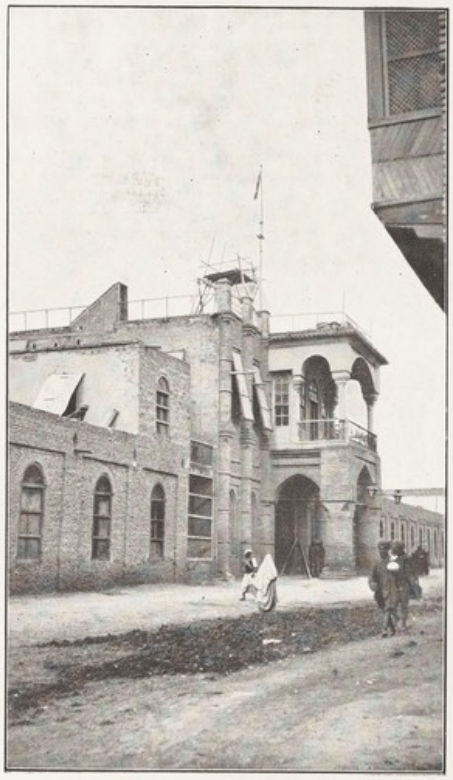
During the summer of 1916 the hospitals in Basrah contained a wealth of most interesting clinical material. Numbers of cases of Enteric, Paratyphoid A (which was the type then present), Amœbic and Bacillary Dysentery, Malaria, Sand Fly Fever, etc., could always be studied.

Cases of Cholera of a sporadic type were constantly occurring, and not infrequently Plague was to be met with. Constant watch, so that diagnosis should be made at the earliest stage, and unremitting supervision by the sanitary departments, prevented these two dread diseases assuming epidemic form. Numbers of cases of Scurvy in Indian troops were arriving from the front, and these were of the greatest clinical interest.

The marked Anæmia, the hyperplastic budding with tendency to bleeding of the gums between the teeth, the palate hæmorrhages, the hæmorrhage into muscles and occasional joint effusions, and brawny œdema of the legs formed a most characteristic clinical picture.



Ashar Creek, Basrah.



Ashar Barracks, Basrah.

A study of the ætiology of these cases established beyond doubt the Vitamine Deficiency theory of the disease, and thus led to a careful review of the rations of the troops from a Vitamine Deficiency standpoint.

New ration scales for the force were introduced in July, 1916, and further improvements were effected in October, 1916, so that a really good ration which was entirely protective against Scurvy or Beri Beri was established.

Difficulties of transport, of course, were great, and necessitated delay in carrying out the food reforms, but by the end of 1916 Vitamine Deficiency disease, which had accounted for over 10,000 cases of illness, was practically stamped out.

1916 was the period of organisation and preparation of the Mesopotamian Expeditionary Force for its future unbroken record of successes and triumph.

In April, 1916, Major-General Sir George MacMunn, K.C.B., who had a distinguished record in the Dardanelles campaign, arrived in Mesopotamia, and he was placed in command of the Lines of Communication as Inspector-General.

General MacMunn was full of energy and keenness, and at once entered whole-heartedly upon his important duties. The River Transport, both for troops, supplies, and sick was rapidly improved, and a large and continuous supply of Land Transport, *e.g.*, motor lorries, cars, and ambulances was obtained. In Mesopotamia everything depended on transport, and without it success was impossible.

Motor transport of all kinds was most valuable, and did magnificent work. The palm must perhaps be given, however, to the little Ford cars and vanettes. These went everywhere, across mountains and through nullahs, and no track was too difficult for them to negotiate.

Many of our successes, which culminated in the capture of the whole of the Turkish troops opposed to us, were rendered possible by the fine work done by the Motor Transport, which carried water and supplies into the desert for troops making circumventing movements far from the river.

The brilliant victories of General Brooking at Ramadi on September 28th, 1917, and at Khan Baghdadi March 31st, 1918, were examples of the great advantage given to troops by their increased mobility afforded by an ample supply of Motor Transport.

One must not forget the animal friend of the British army in all trying conditions—I refer to the mule. In the wet season of Mesopotamia (which fortunately is a short one), when the ground consisted of

the most slippery mud, so that it was difficult to walk without falling down, the mule and his A.T. cart would struggle valiantly and unperturbed along, and carry supplies to the troops, and do everything that was asked of him.

The Indian driver with his mule and A.T. cart were an indispensable part of the Mesopotamian campaign, and all honour is due to them for the work they did, whether carrying supplies, or in emergencies sick nder the most difficult conditions.

In May, 1916, I accompanied the D.M.S. on a visit of inspection to the front area, and we travelled up river to Filayeh, which is on the right bank of the Tigris, about 18 miles below Kut. The journey up river was somewhat of an ordeal, for the paddle steamer was packed with troops and supplies, and the season was that at which mosquitoes were most abundant. At Kurna, which is reputed (erroneously, no doubt) to be the site of the Garden of Eden, these pests were in swarms, and one would be literally attacked by thousands of them at night and in the early morning.

In the daytime the heat was intense, and one had to avoid exposure to the sun as best one could.

At Amara, which at that time acted as Advanced Base, one had an opportunity of visiting the Stationary and General Hospitals there. These were then developing in view of the increased demands likely to be made on them in the near future. Colonel Sir Victor Horsley was staying here then. He had arrived in Mesopotamia in April, 1916, and in his capacity of Consulting Surgeon to the Force had been untiring in his efforts to improve the medical conditions. I met Horsley many times both on the journey up river and on the way down. He was devoted to the work he was doing, and gave himself up to it with the enthusiasm he always displayed. At that time he expressed to me his liking for the heat, which he thought agreed with him, and he was in the best of health.

At Amara were numerous cases of Enteric Group Disease and Dysentery, which had come down from the Front, also an Isolation Camp Hospital, where the convalescent Cholera cases from the Front Area were being segregated.

Proceeding up river we landed at Sheikh Saad. Here were situated the Clearing Hospitals, which received the cases from the Field Ambulances in the Front Area. One saw acute cases of Enteric Group Disease, Dysentery and Scurvy in abundance. An old St. Mary's man, Captain H. L. Barker, I.M.S., was doing splendid work here, and his C.O., Lieut.-Colonel Goodbody, C.M.G., D.S.O., I.M.S., spoke to me in the highest terms of him.

One could not help but admire the splendid and arduous work which was being done at Sheikh Saad by all the Medical Officers there. The heat was intense, and of necessity all the patients were under canvas, so that the difficulties of treating acute cases of illness were very great. Everything possible was being done to ameliorate the trying conditions to which the patients were exposed, and the Medical Officers one and all devoted themselves unsparingly to doing the very best possible for the sick and wounded under their care.

In the Front Area one had the opportunities of visiting the Field Ambulances and the Medical Aid posts in the front lines. At this time the bulk of those in hospital were medical cases, since a condition of trench warfare had become established. The Turks were strongly entrenched in an almost impregnable position at Sannaiyat, on the left bank of the Tigris, their line of trenches extending from the river to a large marsh, so that further progress of our troops was barred.

At this time a severe outbreak of Cholera had occurred amongst our troops in the Front Area, especially on the right bank of the Tigris. The ætiology of this outbreak is interesting, and it explains not only this but a number of other outbreaks of epidemic disease in our troops in Mesopotamia.

Along the right bank of the river the Turks had been steadily driven back, and in consequence our troops had to occupy areas which had formerly been camping grounds for the Turks.

The sanitation of the Turkish army in Mesopotamia might be described as "non est," and the whole area of ground occupied by them would be polluted by infected excreta, and any water channels would be foully contaminated.

It was impossible to avoid risk of infection from dust, flies and polluted water, and as a consequence Cholera broke out in our advancing troops, not to mention Dysentery, Enteric and Paratyphoid, just as later on in 1917 and 1918 most of the epidemics of Dysentery in our advancing troops were traceable to infection from polluted areas occupied by the Turks.

The Cholera cases were isolated in special Isolation Tent Hospitals, and everything possible was done for their treatment.

Facilities were provided for the most modern method of treatment on the lines so ably worked at by Sir Leonard Rogers, I.M.S., an old St. Mary's man, and medical officers with experience in Cholera (usually from the I.M.S.), were put in charge of these hospitals.

The treatment of the cases was rendered difficult owing to the intense heat at that time of the year, and this undoubtedly added greatly to the gravity of the prognosis of the cases which had of necessity to be treated under canvas in the acute stage.

Here I may allude to the use of Cholera vaccine as a prophylactic.

This was sent out in large quantities to Mesopotamia in May, 1916, and its use was made universal by Army Order.

Cholera vaccine appeared to give an immunity for the period from 14 days after its administration to about 6 months. The mortality in cases who had received prophylactic inoculation was about 20 per cent. less than in the uninoculated. It is at present difficult to state what figures express the protection from attack, *i.e.*, the percentage of occurrence of Cholera in the inoculated as compared with the uninoculated, but I have no doubt there is a considerable protection, and exact figures will be forthcoming later.

With regard to prophylactic inoculation for Enteric Group Disease the evidence for the Mesopotamian campaign is most striking.

The prophylactic vaccine consisted of 2 doses, ½ and 1 cc. of a vaccine containing Typhoid 500 millions, Paratyphoid A 375 millions, and Paratyphoid B 375 million organisms per cc. The use of a vaccine half the strength of the War Office vaccine was wisely advised by the Indian Medical Authorities, since owing to the great heat of Mesopotamia reactions from vaccine with full dozes might have been too severe. The use of this vaccine was universal after August, 1916, and it was a very great success. It was in my opinion largely due to this that Enteric Group Disease became of minor importance in Mesopotamia.

The case incidence diminished enormously, and the case mortality became very much less, so that in inoculated patients the disease was usually comparatively a mild one. The immunity from Enteric Group inoculation extended over a much longer period than that of Cholera. Prophylactic dozes, however, were repeated every year.

While in the front area one saw the good work that was being done in the evacuation of sick by river by the hospital boat the "Sikkim" This was a stern wheeler paddle boat of most bizarre appearance, only drawing about three feet of water. She had accommodation for about 200 patients, and throughout the campaign did most valuable service. Major Bradfield, I.M.S., an old St. Mary's man, was in medical charge of the boat, and he did fine work throughout the trying period (1916–17).

The Field Ambulances at the Front were most interesting examples of what can be done under difficult conditions in the field by improvising the few materials available. The petrol tin was used for the construction of latrines, and incinerators and huts were made out of mud and bhoussa. By hard work and exercise of ingenuity medical officers did the utmost possible to mitigate the climatic conditions for the sick and wounded under their care.

The summer of 1916 was severe, and one had to deal with a large number of cases of illness due to the effects of heat.

Humidity of the atmosphere in addition to the actual temperature has an important influence on the occurrence of "Heat Stroke." Exposure to heat is "cumulative," and this is exceedingly well shown by comparison of the curves of atmospheric temperature and "effects of heat" cases. The latter curve follows the former after an interval of about 10 days.

With an atmospheric temperature about 110° F. in the shade cases of "effects of heat" are certain to occur, and the types of these are very interesting.

Hyperpyrexia, *i.e.*, temperature over 105° F., is very likely to occur at high atmospheric temperature due to the incidence of some infection, *e.g.* Malaria, Sand Fly Fever, Enteric Group Disease, from which the patient is suffering, and one must always carefully look for evidence of these infections in cases of Hyperpyrexia.

In Indian patients, who have a racial immunity to heat exposure, the great majority of cases of Hyperpyrexia in hot weather are due to intercurrent infections and not to heat *per se*.

In British troops a considerable proportion of causes of Hyperpyrexia are due to intercurrent infection, but it is quite certain that exposure to heat apart from any infection will induce Hyperpyrexia of the most dangerous type in a healthy subject. The effects of heat were most interesting. The commonest urgent type of heat stroke was *Hyperpyrexia*. After a very short period of premonitory symptoms, headache, mental confusion and irritability, and great weakness, suddenly the temperature would arise to considerably above 105° and the patient become comatose, with recurring convulsions, stertorous breathing, etc. These symptoms may occur at night in people who have gone to bed and death occur without warning. Unless immediate treatment is forthcoming, *e.g.*, sponging with ice cold water, massage with ice, and in some cases venæsection to control the convulsions, a fatal result would be imminent. Owing to the frequency of malarial complication in cases of Hyperpyrexia, it was wisely ordered that 10 grains of Quinine Bi-Hydrochloride should be given intramuscularly or intravenously if the temperature did not fall within one hour after adoption of the hydrotherapeutic measures.

In the hospitals in Mesopotamia special attention was paid to the treatment of Heat Hyperpyrexia cases.

Special cool wards were chosen and a supply of ice cooled water was kept available by taps for each bed.

At my suggestion iron beds were used with no mattress, but with straw mats placed over the springs so that a free current of air was

obtained all round the patient. Major Clarke, R.A.M.C., devised a support for the head of perforated canvas instead of a pillow with the same object. An ample supply of fans for these wards was instituted and also a movable fan for each patient. In this way one had every possible means of reducing a hyperpyrexia temperature by hydrotherapy. Massage with blocks of ice was a valuable aid in severe cases, and also rectal injections of ice cold water.

An important feature of Heat Hyperpyrexia cases was their great tendency to relapse on further exposure to heat.

On this account these cases were evacuated from the country when fit to travel.

One very interesting diagnostic symptom of Heat Hyperpyrexia cases was the patellar reflex.

In cases of true Heat Hyperpyrexia the knee jerk was invariably lost, and it did not reappear until the symptoms both immediate and sequel had cleared up. It was a most valuable sign of the patient's fitness for evacuation. In cases of Hyperpyrexia due to Malaria the knee jerk was not usually lost, and it became normal as soon as consciousness returned. In true Heat Hyperpyrexia the knee jerk would be lost for several days.

The effects of heat are, in my opinion, due to an autointoxication consequent on the changes occurring in the tissues exposed to the high temperature. Thus it was common to have a pyrexia and mental symptoms lasting two or three weeks after the Hyperpyrexia had subsided, and in these cases all investigations such as blood examination, etc., to find organismal infection were negative.

Other types of heat effects commonly seen in Mesopotamia were *Heat Exhaustion*, where the patient would become weak and collapsed, and suffer from a mild pyrexia for three or four days, and then in a short time make a complete recovery.

The Choleraic type of Heat Effect was sometimes met with. Here there would be collapse with continued vomiting and diarrhœa and a mild pyrexia not exceeding 102° F. The treatment of these cases was by intravenous saline and stimulants very much on the line of Cholera therapy.

The Gastric Type.—This was a most insidious form of effects of heat.

The patient would suffer from dyspeptic symptoms, with flushed face and some mental irritability for a few days. The temperature and pulse would be normal but the knee jerks absent. After a few days the

temperature would suddenly rise to 110° or so and a fatal result ensue. Cases of this type required the most careful observation, protection from heat, prevention of constipation and administration of alkalies, otherwise dangerous Hyperpyrexia was likely.

On July 16th, 1916, a very great loss to the Mesopotamian Force and to the medical profession occurred in the sad death of Sir Victor Horsley. He had, in the course of his official duties, been much exposed to the great heat of the summer of 1916, and became ill in consequence. He at first regarded his illness lightly, but was admitted to hospital on July 15th, 1916, and in spite of everything that could be done for him died the next day from Heat Hyperpyrexia.

In the summer of 1916 my colleague, Col. H. G. Melville, I.M.S., Consulting Physician to the Mesopotamian Expeditionary Force, and myself, instituted a course of lectures, followed by discussion on Tropical Diseases at Busrah. The D.M.S., Gen. Sir Francis Treherne, K.C.M.G., gave his fullest support and encouragement. These lectures were a great success, and the discussions which followed and the clinical cases shown were of the greatest interest, and many of the medical officers in Mesopotamia have told me of the help they received from them.

Red Cross Work in Mesopotamia.—I should like to allude here to the very great help received by the Medical Service in Mesopotamia from the Red Cross Society. It will be gathered from what has already been written that in Mesopotamia constantly emergency situations were arising, and to deal with these 'emergency' requests were necessary. In these situations the Red Cross was frequently appealed to, and I have never known them fail us.

Lieut.-Col. Moens, C.B.E., C.I.E., was Commissioner of the Red Cross and St. John Ambulance Association from 1916-1919, and did his utmost to place at the disposal of the Medical Service all the well organised supplies of the Red Cross Society. Whether in Mesopotamia or later in Persia help was urgently needed; the Red Cross Society always did what was asked of them, and their help was simply invaluable. By co-operation with the Medical Service the Red Cross were able to supply those medical comforts and necessaries which would not have been available in the emergencies by official channels.

In Baghdad, from 1917-1919, Lt.-Col. Stanley, C.B.E., acted as Deputy Commissioner of the Red Cross Society and gave the utmost possible assistance to the Medical Service.

I can personally testify to the invaluable help afforded by the Red Cross Society throughout the whole period of my service in Mesopotamia, and I was closely associated with them during the whole of the time.

Nursing Sisters.—A few nurses were sent over to Mesopotamia in the early part of 1916, and they did invaluable work at Basrah. In July, 1916, special attention was paid to the development of the nursing service, and all the British general and stationary hospitals were provided with a full complement of nurses.

Miss Beatrice Jones was appointed Matron-in-chief, and one cannot speak too highly of the good work that was done by herself and her department.

The comfort of the patients and the orderly arrangement of wards went without saying when the assistance of the nursing sisters was obtained. In 1917 nursing sisters were posted to the Indian general and stationary hospitals, and I cannot speak too highly of the real benefits to the patients and the medical administration generally which thereby accrued.

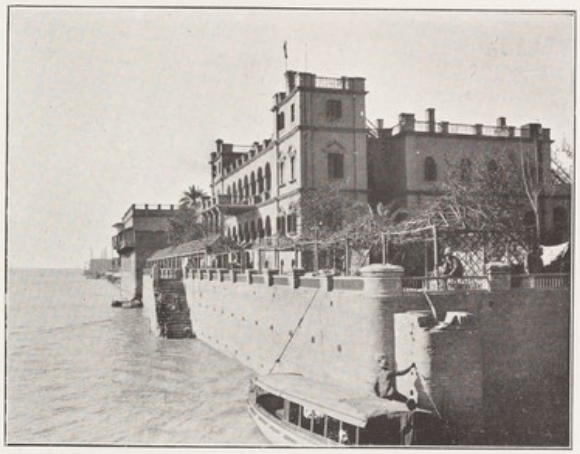
The nursing service did most valuable work in Mesopotamia, and their devotion and unsparing solicitude for the patients was beyond praise.

Amongst the senior matrons of the hospitals in Mesopotamia I should like to mention Miss Hodgens and Miss Mary Walker (formerly of St. Mary's Hospital), who did splendid work for a period of over two years under trying conditions.

On August 25th, 1916, Lieutenant-General Sir F. S. Maude, K.C.B., took command of the Forces in Mesopotamia, and at once set about the necessary developments for a successful advance. Every detail of organisation received his close attention, and as a result of his masterly generalship the Turks were defeated and Baghdad was occupied on March 11th, 1917. This date from a medical point of view signalised the advent of local supplies of food which protected the army from dietetic deficiency diseases. General Dickson, C.M.G., C.B.E., was appointed Director of Local Resources, and he did his utmost with singular success to ensure the supply to the troops of a ration fully adequate as regards anti-scorbutic elements. The low sickness rate amongst the army in Mesopotamia, in spite of the intense heat, from 1917 onwards was undoubtedly contributed to in no small measure by the improvements in the rations of the troops consequent on the obtaining of an abundance of local supplies of fresh foods by local purchase.

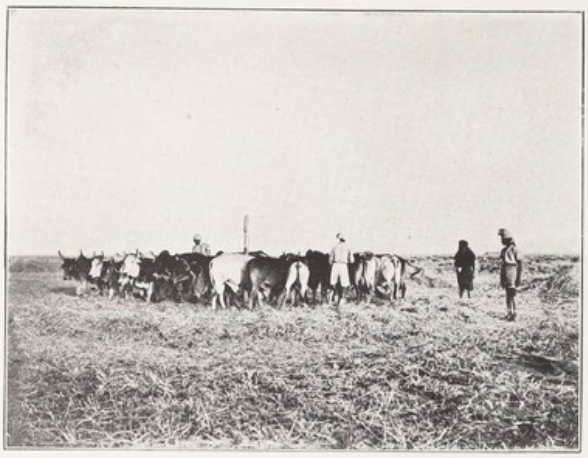
The spring of 1917 was a busy time for medical officers in Baghdad, for accommodation had to be provided for the Stationary and General Hospitals, Convalescent camps, etc., which were to receive the sick and wounded from the front area.

Baghdad was 500 miles from Basrah by river, and the climate became worse as one proceeded down stream.



General Headquarters, Baghdad, 1917.

British Residency, Baghdad, and Residence of Sir John Hewett on left.



Oxen Treading Out Corn for the Army.

Arab Women Winnowing Corn for the Army.

Gen. Maude wisely decided that as far as possible all sick should be kept in Baghdad, and only those cases be evacuated down stream which would need evacuation from the country owing to the long period before they would be likely to be fit for service.

In Baghdad the existing hospitals were thoroughly renovated and added to. Thus No. 23 British Stationary Hospital occupied the old Turkish Hospital. The Jewish Hospital was converted into an Isolation Hospital. The Turkish Infantry Barracks were converted into No. 31 British Stationary Hospital, and the Turkish Cavalry Barracks were converted into the No. 61 Indian Stationary Hospital. Three large adjoining houses on the right bank of the river made an excellent Officers' Hospital.

Major-General Blenkinsop, C.B., C.M.G., arrived in Mesopotamia in April, 1917, as D.M.S. of the Force, and took special interest in the development, efficient construction and equipment of these newly-opened hospitals. A standard not inferior to that obtaining in France and England was aimed at. Electric light and fans were supplied to all the hospitals, and everything was done from the constructional point of view to afford the patients the greatest amount of comfort.

The medical officers and nursing staff loyally co-operated, and the hospitals in Baghdad became quite models of what a hospital in a tropical country should be. The standard of efficiency as regards medical treatment, nursing and the comfort of the patients was of a high order.

In the Baghdad hospitals could always be seen a collection of cases of tropical diseases of unique interest. Facilities for scientific investigation of the cases were well provided. Each hospital had its Bacteriological Laboratory and X-Ray Department, and for special investigations a large central laboratory, under the charge of Major Mackie, I.M.S., was instituted.

It was impossible to deal clinically with the acute cases met with in Mesopotamia without special provision for scientific investigation, since practically every case was a problem in itself, and needed a blood examination or some other form of investigation before the diagnosis could be definitely established.

After the occupation of Baghdad the Arab population was largely employed in doing work for the army, both in providing supplies and in carrying out various construction work; for example, railways, buildings, roads, etc., and in this way the troops were of necessity brought into close contact with the local inhabitants. It must be remembered that in Mesopotamia Typhus, Smallpox, Relapsing Fever are endemic, in addition to a host of other diseases. The troops were therefore constantly exposed to risk of infection from diseases affecting the Arab population, and constant watch had to be maintained.

The disease responsible for perhaps the highest sickness rate in Mesopotamia was Sand Fly Fever. This is caused by the bite of the minute fly, the Phlebotomus Papatasii, which becomes infected with the poison, causing Sand Fly or Phlebotomus Fever. This fly readily passes through the meshes of an ordinary mosquito net, and a special net, almost as fine as butter muslin, was necessary to protect one from its ravages at night.

Very few in Mesopotamia escaped Sand Fly Fever, since it was impossible to avoid being bitten by this voracious little pest. After an incubation period of about five days the illness commences suddenly with pyrexia 103° or so, intense headache pain at the back of the eyes, conjunctial redness and "pains all over." The fever lasts usually about three or four days, and leaves after it a good deal of general weakness and depression.

It will be thus seen that a case of fever in Mesopotamia during the first three days needed a differential diagnosis between Sand Fly Fever, Malaria, Enteric group diseases, Typhus, Smallpox, Relapsing Fever, etc., and later on Influenza, when this epidemic had extended its ravages to Baghdad. It was a routine to make a blood film examination of every case of fever at once, and if the fever was of more than three days duration a blood-culture examination was always made. A leucocyte count was of value in differentiation between Typhus and Enteric Group diseases, the former showing a leucocytisis and the latter a leucopenia. In diarrhœal diseases bacteriological and microscopical examinations were always carried out. It is impossible to exaggerate the enormous help afforded to the clinical treatment of medical cases in Mesopotamia by the valuable work done in the bacteriological laboratories.

The summer of 1917 was the hottest in the memory of local population. From July 10th to the 24th the temperature on three days reached 122° in the shade, and in one day it was 122·8°. In tents, though they were of the double-fly type, the temperature would reach a maximum of 135° F. During this period, as can readily be imagined, a large number of severe cases of heat stroke occurred, and during this fortnight there were many deaths both at Baghdad and Basrah.

After the occupation of Baghdad, General Maude gave the Turks no rest, and they were rapidly pushed northwards both up the Tigris and the Euphrates.

One was able to make long journeys from Baghdad across the desert by motor, though there was always the risk of a scrap with marauding Arabs.

In May, 1917, I had the opportunity of visiting the ruins of Babylon which lie along the Hillah branch of the Euphrates about sixty miles from Baghdad. There one saw the remains of buildings some 3,000

years old, but the bricks and carving on them were in places in a remarkable state of preservation. The mounds of earth contain many objects of interest, such as earthenware vessels, old glass, coins and small figures, etc. The bricks are all stamped in cuneiform writing, with the inscription of Nebuchadnezzar, King of Babylon, and the bitumen and rush matting which served for mortar is wonderfully preserved. In the centre of the ruins is a fine stone-built house, which was occupied before the War by a German archæologist and his staff. This house contained a museum of carefully tabulated specimens, many of them being plaster casts, the originals having been sent to Germany.

About 10 miles from Babylon are the ruins of Birs Nimrod, which is popularly supposed to be the tower of Babel. The upper part of the brickwork of this ruin has been evidently struck by lightning, for it is split down the centre, the bricks along the fissure being fused by the heat of the electric current.

In the autumn of 1917 an epidemic of cholera occurred in Baghdad, and, towards its close, our G.O.C.-in-Chief, General Maude, was stricken down with a most acute and virulent attack. In spite of everything that could be done he passed away after an illness lasting about 46 hours.

The death of General Maude was an irreparable loss to the Mesopotamian Force and to the British Empire. He had endeared himself to every member of the Army in Mesopotamia, and by his untiring energy and example of devotion to duty he had inspired everyone. It was his wonderful personality which was the main-spring of the great success achieved and the high degree of efficiency of every branch of the Army in Mesopotamia. General Maude took the greatest interest in the Medical Service, and always found time regularly to visit the hospitals and to brighten up the sick and wounded by his kind words of sympathy and encouragement. As an example of his thoughtfulness and sympathy he learnt Hindustani, in order to be able to converse with the Indian patients on his visits to the Indian hospitals. It is no exaggeration to say that Gen. Maude was mourned by every member of the Force in Mesopotamia, and his noble character and devotion to duty remained after him as an influence for good and inspiration to those whom he left behind.

The spring of 1918 was of special medical interest owing to the frequency of the occurrence of Typhus, Smallpox and Relapsing Fever cases. The diagnosis of rashes in cases of fever in Mesopotamia was of the greatest interest, and one had to differentiate between the ordinary exanthemata, pro dromal and true rashes of Smallpox, Prickly Heat, Sand Fly bites, Typhus, Enteric and Paratyphoid rashes. Visits to the Isolation Hospital in Baghdad were always teeming with interest, and the keenness of the medical officers there and Captain Nicholson, I.M.S the O.C., added greatly to the pleasure of these visits.

Under the able generalship of the G.O.C.-in-Chief, Lt.-General Sir William Marshall, K.C.B., further military successes rapidly followed in 1918, and the sphere of operations of the troops became greatly extended, so that new medical problems constantly presented themselves.

In 1918 our troops had advanced through northern Persia to Enzeli, the port on the southern shores of the Caspian Sea, and the extension of the sphere of operations in this direction, though it was attended with no military resistance, involved the troops in an enormous amount of philanthropic work.

Northern Persia was devastated with famine, and the native population were dying by thousands from starvation. The Government of Persia (if such existed) was quite unable to deal with the problem, and it was left to our troops to organise the measures of famine relief which were successful in averting a great disaster to the native inhabitants.

In July, 1918, I had an opportunity of seeing the soup kitchens and other famine relief institutions at Hamadan which had been so ably organised by General Byron, C.M.G., who was in command of the area. August to November, 1918, was the period during which an exodus of 70,000 Jehu refugees travelled down from the area round Lake Urmia and Lake Van, near the Caspian Sea, to Bakubah, about 30 miles from Baghdad. These poor people were flying from Turkish atrocities, and as they had no means of transport for themselves and their worldly possessions beyond the domestic animals—oxen, donkeys and a few ponies which they possessed—the difficulties can readily be imagined. Our troops in northern Persia were confronted with the problem of feeding and organising the exodus of this multitude of helpless people over a journey of 500 miles, and nobly they did their work in spite of enormous difficulties. By November, 1918, the refugees were comfortably housed in an enormous camp at Bakubah, near Baghdad, and by now the majority of them have been repatriated to their old homes.

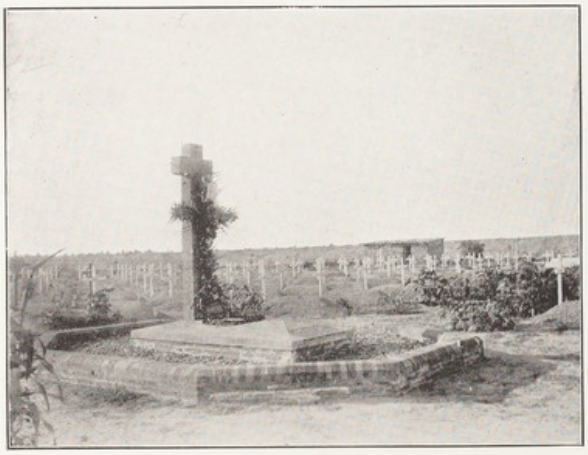
In October and November, 1918, I visited Northern Persia in consequence of a severe epidemic of Influenza amongst our troops, which was associated with a high mortality. This epidemic owed its gravity to the complication of Influenza by Malignant Malaria (as has been alluded to in my Lettsomian lectures, 1919), and treatment on those lines was attended with very good results.

At the end of September, 1918, about 15,000 Armenian refugees arrived in Enzeli, fleeing from Baku, which had been captured by the Turks. These people were in a destitute condition, and Cholera, Smallpox and Dysentery had broken out amongst them. The problem of equipping hospitals and a medical scheme of organisation was entrusted to me by the G.O.C. of the area, and I had a most interesting field of work during my 16 days' stay there.

Ruins of Ctesiphon, near Baghdad.

Ruins of Babylon.

Persian Famine-Stricken Children.



British Cemetery, Baghdad. Grave of Sir Stanley Maude, G.O.C. in C.

In September, 1918, I received orders to proceed to Kerbela, a holy Shiah city near the Euphrates, where an outbreak of Cholera had occurred amongst the pilgrims.

In conjunction with Captain Bray, the Political Officer, and with the co-operation of the Arab townspeople, the cases of Cholera were all found to be located along the course of a branch canal which supplied this portion of the city with water. We made a close inspection of this suspicious source of water supply, and found at the head of it a building in which it was the custom for dead bodies to be washed in the "holy" water of Kerbela before burial. The washings from this building could be seen trickling into the branch canal. Orders were at once given for the blocking of this branch canal and for the draining away of its contents, and this procedure was followed by the immediate cessation of the epidemic.

During the three days I was at Kerbela I met the local Arab doctors and gave them a short address on Cholera, which was duly interpreted, and we had a most interesting discussion. Captain Vint, R.A.M.C., organised a hospital for the Cholera cases, and our first patient was an Arab woman, whom I saw in consultation with her Arab doctor, and both consented to the removal of the patient to our hospital. The willingness of the patient and her friends for her removal to the Cholera Hospital was a very high testimony of confidence, for, as is well known, Mohammedans as a rule have the greatest objection to the removal of their womenfolk.

Our patient made an excellent recovery, and needless to say the hospital became exceedingly popular with the local population. I was much interested at the keenness of the Arab doctors to see the practice of the modern treatment of Cholera (intravenous saline injections), but as they had no knowledge whatever of antiseptic methods I dare not entrust them with the materials for practising this method of treatment themselves. Both the Arab doctors and the local townspeople were extraordinarily appreciative of the help given them in this outbreak of Cholera, and they willingly submitted to the personal inconvenience of the cutting off of a portion of the water supply of the city when it was explained that it would be for their great benefit.

The work of the Political Department in Mesopotamia under Sir Percy Cox, and later Colonel A. T. Wilson, C.M.G., the Civil Commissioner, deserves notice. This department served as the link between the army and the Arab population. In each area a Political Officer acted as the local referee on matters relating to the civil population, and it was wonderful to see the absolute confidence placed in him by the local inhabitants.

The Political Department made arrangements for the medical treatment of the local population, and practically all the medical officers were provided by the Army Medical Service.

Major Carey Evans, M.C., I.M.S., was the Civil Surgeon for Baghdad, and he did splendid work in organising the well-equipped Civil Hospital, which accommodated some 200 patients. He acquired a great reputation for his surgical skill on his Arab patients, and was held in the highest esteem.

Miss Gertrude Bell, C.B.E., who is well known for her travels in Arabia and for her archæological researches, was on the staff of the Political Department. Her familiarity with the language and customs of the Arab population and her personal knowledge of the inhabitants were of the greatest value to the Army during the War.

The Sanitary Department of the Medical Service in Mesopotamia was a most important branch. It was largely owing to the unremitting care in safeguarding the troops from dangers to disease that the health of the Army maintained the very high standard of 1917 and 1918.

Lt.-Col. Graham, I.M.S., was the head of this branch of the service, and it is impossible to speak too highly of the valuable work which he did in organising the sanitary branches of the Medical Service in Mesopotamia.

St. Mary's men in Mesopotamia did much to enhance the reputation of their Alma Mater. Colonel Bond, as C.O. of No. 32 British General Hospital and later as A.D.M.S. of the 17th Division, did most valuable work.

Lt.-Colonel James, I.M.S., acted as A.D.M.S. (sanitary) in 1916 until stricken down by an attack of cholera.

Major Cope, R.A.M.C., as surgical specialist, did most valuable surgical work, and had a great reputation for his surgical skill.

Major Pannett did valuable surgical work at Sheikh Saad in 1916 and 1917, until compelled by illness to leave the country.

I have alluded to the good work done by Major Gosse, R.A.M.C. Capt. Parsons, at Amara, and later at Bakubah, did excellent medical work. Capt. Woodhouse, R.A.M.C., acted as M.O. at the Officers' Hospital, Baghdad, for two years, and I can personally testify to his excellent work, for I was constantly meeting him in consultation. Capt. Percy Bott, R.A.M.C., as M.O. to a Field Ambulance in the Fifteenth Division, and later as C.O. of a convalescent camp, by his inimitable resource in emergencies, quite established a reputation.

Capt. Thomas, R.A.M.C., and Capt. Fisk, R.A.M.C., did excellent work in the Indian hospitals to which they were attached.

Capt. Duncan, I.M.S., did splendid work in an advanced dressing station, and with a field ambulance during the fighting period. It was a great pleasure to meet him in the trenches during the advance on Kut.

In December, 1918, a distinguished member of the St. Mary's Board, Sir John Hewett, K.C.S.I., arrived in Baghdad on an important mission from the Army Council.

It was a very great pleasure to meet him and to appreciate the interest and valuable help he gave to the medical work in Mesopotamia. Sir John Hewett, as representative of the Red Cross Society, gave the most valuable advice and direction in the important and difficult problems connected with the completion of the Red Cross work with the Army in Mesopotamia.

I left Basrah on January 29th, 1919, and shall always look back with pleasure to the interesting work and profitable experience gained by my period of service in Mesopotamia.

MEDICAL AND SURGICAL NOTES FROM MESOPOTAMIA.

BY

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MEDICAL AND SURGICAL NOTES FROM MESOPOTAMIA.

PART I.

The Weather.

I went out to Mesopotamia with a British general hospital and landed in Basra in the beginning of April, 1916, and I am now writing at the end of December, so that my experience is of the dry season and not of the rains. True, after I first arrived there were some thunderstorms, with just enough rain to introduce me to the universal, intolerably slippery mud of the winter, but from April 15th to the end of October one day succeeded another with unfailing blue sky, bright hot sun, and an average maximum temperature of just 100° F. Very rarely a cloud appeared, and now and again there were penetrating dust storms, though usually there was not even a breeze, for the Shamal (north-west wind) almost completely failed. October, November, and December may be looked upon as the autumn. During these months it was hot in the sun and a topee was necessary, but the early mornings and evenings were beautiful, and those who were first introduced to the climate at this time thought it wellnigh perfect. The nights were cool and sometimes very cold, and in December the temperature once dropped to 42° F. On November 5th we had our first shower since April, but there was no heavy rain until December 26th. The monotony of the summer weather was only relieved by the interest taken by some of us in the temperature. I kept records of the maximum and minimum for the whole of my stay, and the main facts of my observations are set out in the following table. My thermometer was of English make, but not registered at Kew, though, on comparing it with others, variation was negligible. I lived in an E.P.I.P. tent with a double roof and with either the sides down or all the doors open. The thermometer was hung about half-way up one of the tent poles, and though the conditions were not such as would be selected for permanent

meteorological records, the temperatures shown are those in which one actually lived and are thus of especial interest.

Record of Temperatures in Mesopotamia during Nine Months of 1916.

Month and Number of Days on which Observations were made.	Highest Maximum.	Lowest Maximum.	Average Maximum.	Lowest Minimum.	Highest Minimum.	Average Minimum.
April ... 18 days ...	100	74	87	60	74	65
May ... 30 ,, ...	118	92	102	67	80	75
June ... 27 ,, ...	118	90	105	70	84	75
July ... 22 ,, ...	122	101	112	74	86	79
August ... 17 ,, ...	118	104	108	70	83	75
September, 29 ,, ...	112	93	103	58	77	66
October, 30 ,, ...	100	83	89	50	66	58
November, 30 ,, ...	89	67	81	46	73	57
December, 24 ,, ...	74	42	66	42	59	46

The range of temperature was often remarkable, and on September 13th was as much as 47°, that is, from a maximum of 108° F. to a minimum of 61° F. It is interesting to compare the temperatures in July with those recorded at home for that month. (The latter are observations made at Newton-on-the-Moor, Northumberland, and published in a local newspaper. I am informed that the summer of 1916 in England was unusually dull and cold.)

Temperatures in July, 1916.

	England (Northumberland).	Mesopotamia (Amara).
Average maximum	66° F.	112° F.
Average minimum	50.5° F.	79° F.
Highest maximum	79° F.	122° F.
Lowest minimum	42° F.	74° F.
Greatest range	29° C.	46° F.
Rainfall	3.72 inches	None

Unfortunately I was not able to compare systematically the wet and dry bulb temperatures, but on what I call a typical "Basra day" in December the record gave 82° F. for the dry bulb and 80° F. for the wet. This amount of saturation alone has been proved to raise the body temperature,[1] and this question of humidity had undoubtedly

a great deal to do with the frequency with which heat exhaustion and heat-stroke occurred.

The continuity of the temperature throughout the twenty-four hours was extraordinary, and as the following records show, at all times of day and night it is very hot.

May 18th.				July 28th.			
A.M.		P.M.		A.M.		P.M.	
6.30 ...	80° F.	1 ...	114° F.	6.45 ...	86° F.	1.30 ...	113° F.
7 ...	82°	1.30 ...	115°	8.15 ...	100°	3.30 ...	110°
7.45 ...	86°	3.30 ...	110°	11.30 ...	114°	4 ...	108°
11.30 ...	110°	5.30 ...	102°	12 noon ...	114°	4.45 ...	107°
		6.20 ...	96°			9.15 ...	92°
		7.45 ...	88°				
Maximum for 24 hours ... 115° F.				Maximum for 24 hours ... 114° F.			
Minimum for 24 hours ... 75° F.				Minimum for 24 hours ... 82° F.			

Paradoxical as it may seem, it is nevertheless a fact that the heat is not always worst when the temperature is highest, and the most trying time was undoubtedly the moist heat of Basra in May and June. During these months perspiration literally poured from one. It began with the exertion of drying after the morning bath and continued until tardy slumber temporarily buried in oblivion the discomforts of a wet pillow, for there was "no freshness in the dawn," and each succeeding day brought the same discomforts. The constant state of perspiration in which one lived was a great trial, and in spite of the heat I found it a comfort to stand in front of the open fire which we used for sterilizing our drinking water. I believe that this extraordinary perspiration is partly paralytic, but even so it is a wonderful example of the power of the sweat glands, and it would have been interesting to try and measure the amount of fluid lost in this way. As a result renal secretion was much diminished, and most people only urinated twice or thrice in the twenty-four hours.

This excessive loss of fluid may also have accounted for the low blood pressure which I found to prevail. In a small series of observations made on comparatively healthy men the average was only 87½ mm. of mercury, and in the case of an officer whose pressure in England was never less than 135 mm. of Hg the manometer never registered more than 120 mm. Quite apart from the serious effects of the heat it is generally depressant, and vitality and resistance are both at a low ebb.

The temperature was usually highest about 2 o'clock in the afternoon, and it was between then and 3 o'clock

that cases of abnormal pyrexia occurred among the patients in the wards. In fact it was so common that medical officers got into the habit of visiting their wards about that time, and quite often some case of dangerous pyrexia was discovered. For those who were up and about the most trying time was in the evening from about 5.30 to 6.30, and it was then that one appreciat benefit of a little alcohol.

Food is of immense importance, and the principal difficulty is to secure enough variety. For a time vegetables were very scarce, but hospitals will become more or less independent as more attention is paid to gardens. Some of the Indian hospitals at Amara grow enough vegetables very considerably to augment the resources of the commissariat. This is a very important matter, for scurvy has been rife among the native troops. The lack of local grown fruit is very disappointing, for one rather expected luxuries in the Garden of Eden; but perhaps it is as well, for all who have lived for any length of time in the East warn one against eating uncooked fruit, and the temptation to do so would be great. Raw fruit is very liable to set up diarrhoea, which is always dangerous, and there seems to be a definite relation between the consumption of raw melon and the onset of cholera. Where dangerous infective intestinal diseases are so common it is a good rule to eat only such food as has come off the fire.

The quantity of liquid one consumes is almost as interesting as the quality, and while at Basra I never drank less than a gallon a day. I am a great believer in hot water as a thirst quencher, and used often to drink as much as a pint once or twice in the course of the morning. One of the effects of the heat is to cause loss of weight, and it was surprising how the "large men" of our unit diminished in size, though we all suffered to some extent. Even the Indian troops felt the heat very much; at first this may seem strange, for in many parts of India the heat is as great and as trying as in Mesopotamia, but the conditions under which they live in their own country lessen the discomforts materially. Nearly all the troops in Mesopotamia lived under canvas, but buildings either of stone or brick or mud with few windows, and those properly shaded, are the only suitable dwellings. In fact, in the hottest weather even the natives dig big holes in the river banks resembling caves, into which they retire as a means of shelter from the sun. The superiority of buildings as a protection from the heat was well illustrated on a day in June when the temperature in my tent was 100° F., for in the ante-room of the operating theatre, which was a building with thick brick walls, verandah, and double roof, the thermometer only registered 87° F. Of course, the living arrangements were more or less improvised, and though the patients were housed in good huts the staff and personnel for the most part lived under canvas, and neither punkas nor electric fans were universal.

The question of exercise during the hot weather is interesting, and one certainly requires very much less than at home. At Basra I did a good deal of walking, and I think that on the whole I did myself harm. But it is quite possible to work on the hottest days, and I was accustomed to operate and to work in the wards or *post-mortem* room with a temperature of 110° to 120° F., and I am sure one feels the heat less when well employed. The way the cooks were able to work, in spite of the heat and exposure, was a constant source of astonishment to me. Of course abundance of sleep is essential, and the natives always rest from about 11 a.m. to 3 p.m. during the hottest part of the year. I found it difficult to sleep in the afternoon, but it is surprising how much refreshment can be secured by merely resting with nothing but a towel across the pelvis, and, if very hot, a wet cloth tied round the head. The mental attitude has much to do with the way people tolerate the climate, and those who suffered most, and sometimes seriously, were often of a nervous, irritable disposition, and all through the depressing weather men of the Mark Tapley stamp were an invaluable leaven in the unit. There are many physiological points of interest to be worked out, and any one condemned to spend a hot season in the country might devote his spare time to their solution. For instance, the trivial amount of haemorrhage following the extraction of teeth, etc., led me to believe that the blood coagulated more readily than at home, and a small series of observations in the estimation of the "blood coagulation time" confirmed my suspicions.

Insects.

Of all the minor troubles none are so distressing as the insect bites, and, owing to their liability to become infected, they often lead to grave disability extending into weeks or months; men were often in and out of hospital all the summer for no other reason. In my own case some infected bites on one of my feet were two months in healing, though I was never off duty. The insects are legion, but of all the many varieties probably only a small proportion bite, for which we were devoutly thankful.

It was a great and pleasant surprise to me to find that the men were not infected with lice, for after what one heard of the conditions in France I expected this "minor horror" to be very troublesome. Of course my experience has been limited to the hot weather, and I am told that in the winter lice did flourish. In the hot season the men are very lightly clad and their clothes are perforce exposed to the very powerful rays of the sun, which we know is too much for these parasites. Is it not Shipley who records the experience of a private who told him, "We strips and we picks 'em off and we places 'em in the sun, and it kind o' breaks the little beggars' 'earts"? But all through the hot weather body lice were very common among the

native troops, and this small matter leads me to remark that in many ways the native and British troops are not comparable, and generalizations applicable to both cannot be drawn from the observation of either. When as consulting surgeon I had opportunities of seeing numbers of natives the differences in their resistance, attitude to disease, incidence of certain disease, etc., struck me very much. Of course, these are matters which must be very well known to all medical officers who have worked in India, but to the new-comer they are a surprise.

In one of the camps in which I lived the flea was responsible for an immense amount of discomfort; one officer of my acquaintance caught no fewer than thirteen on or about his person before breakfast one morning! But, of all the minor horrors, fleas are the most amenable to treatment, and Keating's powder, properly used, is a specific. It should be dusted on the socks and in between the folds of the putties, when it will furnish almost absolute protection. I do not know when the flea season commences, but it usually comes to an end about the middle of June. In the spring of 1916 they were only an inconvenience, but since the appearance of plague at Basra they may prove a very real danger.

Sand-flies are fearfully troublesome in certain localities, and I have never been so miserable as when the victim of their attentions, for the loss of sleep which they entail tends to make one very depressed. If it is not possible to sleep away from where they abound, a good deal can be done to discourage their attentions by smearing the face, neck, and ears with eucalyptus vaseline, and by wearing socks on both feet and hands, taking great care to tuck the pyjamas into the top of the socks. A solution of lysol freely daubed on the exposed parts and sprinkled on bed and pillows also helps to ward them off, but I was never fortunate enough to discover a specific, though I tried all the plans recommended. Though their bites are exceedingly sharp, the irritation only lasts a very short time, but they may give rise to phlebotomus fever, from which we have nearly all suffered, an irritable temper during convalescence being pathognomonic.

Mosquito bites are serious because of the malarial parasite which they may convey, but the most uncomfortable bites are those of some insect which produces a swollen area that may remain irritable for days. They may be infected sand-flies or infected mosquitos or some entirely different variety, but whatever their identity their effects may be serious. In my own case these bites produced large oedematous areas, which were attended with recurrent irritation for as long as a week at a time. The irritation usually came on when the part was exposed to the air, and, in fact, the only real relief is to keep the part protected from exposure. It is almost impossible to prevent scratching, and this almost invariably breaks the skin and introduces sepsis. Frequently ulceration developed, and some cases were attended

with cellulitis and lymphangitis. I have often seen men covered with these sores; they were very slow in healing. The minor sepsis met with in this country is of a very resistant sort, and the defences of the body are at a low ebb.

Every gradation in the effects of sepsis was represented, and the relation between infection and resistance is sometimes so low that a general infection may occur. I saw fatal septicaemia arise as a complication of what was apparently but a trivial sore.

The patient, a big well-built man of 22, was admitted with cellulitis of the foot, which had followed ulceration produced by wearing his boots continuously in the trenches for a fortnight. From the time of admission he was very ill, and had a high temperature. In spite of free incisions the ankle-joint became infected, and after a rigor the leg was amputated. Though he improved a little as the result of the intravenous injection of eusol death occurred a week later.

A mild and chronic form of pyaemia is quite common. Abscesses at first develop in the course of the lymphatics running from the affected part, but later subcutaneous abscesses form in distant areas as the result of the blood infection. Such patients have long-continued pyrexia and get exceedingly thin, but ultimately recover as the infection becomes attenuated. Sometimes a blood infection persists, and I am sure that it was the cause of the various unexplained cases of spontaneous joint effusion met with. In all such cases there was some antecedent history of septic sores which had been long in healing. I used to think that there was no leishmaniasis in connexion with these bites, and though I never saw what might have been a Baghdad boil, many of the cases were exactly like the descriptions of oriental sores or veldt sores, and just before leaving Amara I saw cases in which the Leishman-Donovan body was found. They must be looked for in the softened foci before ulceration actually occurs, or the discharge must be washed away from the ulcers and material selected from beneath the overhanging edges, for secondary staphylococcal infection very soon occurs. Quite apart from the question of leishmaniasis there is nothing like taking these troubles seriously at the outset, and it often pays to take a man into hospital for what may look like a very trivial condition. After treating any cellulitis by foments, etc., I found that there was nothing better than a few applications of iodine to sterilize the surrounding skin, followed by a simple spirit dressing, great care being taken never to let the part remain uncovered. Granulating sores must be treated *secundum artem*. Doubtless many other plans of treatment will do equally well, but this I found to answer admirably.

There is a manifestation of minor sepsis that is characteristic and very troublesome. It begins as a pustule, usually on a finger. At first it looks most trivial, but within twenty-four hours it is surrounded by an area of induration, but without much pain, lymphangitis, or constitutional disturbance. After another twenty-four hours

it either bursts or has to be incised, disclosing a large slough, which separates, leaving an equally large granulating area. The process often extends to the bone, and the amount of sloughing is out of all proportion to the severity of the initial lesion. It was very common on the fingers of nurses and ward orderlies. This type of sepsis ought to be very carefully worked out bacteriologically, but the laboratory accommodation has been in such demand for other and more important things that, so far, it has not been possible to deal with this interesting subject as it deserves.

The seasonal variation among the insects was very remarkable. This is very well understood in connexion with those which have been the object of close study, such as the mosquito, but it may also explain the incidence of other diseases that are not yet recognized as being insect-borne.

Of other types of vermin I have said nothing, for I have not seen the bites of scorpions or tarantulas. We had men bitten by jackals. Naturally jackals are shy creatures; when they run amok they are most probably hydrophobic, and those bitten by them had to be sent for treatment to the Pasteur Institute at Kasauli (India).

Malaria.

The types of disease varied very much in the few months of our stay. At Basra we had a large amount of malaria, but it is always common there at certain seasons of the year, and the up-river natives speak of it as "Basra fever." Every precaution was taken to protect the men from this scourge, but in a district which is riddled with creeks, and which during certain seasons is inundated, the difficulties of the sanitarian are great, and the most important prophylactic measures are personal. The men were furnished with mosquito nets, and the orders were that each should take 5 grains of quinine daily. Anybody who has used a net will know how difficult it is to be sure that it is always efficient, especially as it adds so much to the intolerable stuffiness of the nights, and many authorities express grave doubt as to the value of quinine as a prophylactic. If the latter is to have a fair chance it is essential that it should be taken in an assimilable form. I made some observations on various kinds of tablets, and found that a very popular variety did not even disintegrate in water after twenty-four hours, and that the addition of an amount of hydrochloric acid equal to that in the gastric juice, or of a "ration" of lime juice, made very little difference. Our O.C. then issued the quinine in solution, and although it was very nasty I think there was some evidence that it helped to diminish the incidence of malaria among our own staff. In all cases of pyrexia malaria must be first excluded, and in a busy hospital with between thirty and forty admissions a day this was a very big undertaking for the pathologist. Some of the cases of malaria were of a very severe type, and there were quite a

number of the malignant and cerebral varieties. Though it is recognized as the most protean of diseases, its manifestations were a surprise to most of us. Gastric irritability with persistent vomiting was common, and such patients could not take quinine by the mouth. Many times the great value of intramuscular injection was demonstrated, and no case of tetanus occurred as a result. Fortunately tetanus is rare after wounds in Mesopotamia, and most medical officers had never seen a case, but as the ground over which we are now fighting has been fouled since the spring of 1916, the conditions may prove different. I always injected 15 grains of the acid hydrochloride into the vastus externus muscle, and never saw any ill effect, either local or general. The situation appears to me to be much better than either the deltoid or gluteal region, for there are no considerable vessels or nerves that might be injured. Many patients with the cerebral type of disease died in spite of treatment, and there is no doubt that many so-called cases of heat-stroke were of this nature. In some cases the pathologist was able to demonstrate the parasites in the cerebral vessels after death. Though it was common to find the spleen palpable, the "ague cake" was rarely met with, and is only to be expected in very chronic cases. In one man who died of malaria I found a large collection of blood in the peritoneum, due to spontaneous rupture of the moderately enlarged spleen.[2] We had many illustrations of the lighting up of a latent malaria as the result of some operative interference, and this possibility must always be borne in mind and provided for by the exhibition of quinine. After any operation an unexpected rise of temperature is an indication for a blood examination rather than a sign of alarm.

Cholera.

Cholera, fortunately was only sporadic, and there have really not been many cases. Though it is often taught that it is entirely a water-borne disease, many men with tropical experience are inclined to suspect the common fly as one of the main factors in its spread, and, as with all these diseases, attach the greatest importance to carriers. The treatment of cholera by the transfusion of hypertonic saline was attended with considerable success. These patients are so denuded of body fluids that they are positively shrivelled up, and the immediate effect of supplying some pints of fluid to the tissues is very remarkable. I have often heard the method spoken of disdainfully, but I feel sure that the criticism is not fair, and if there has been a want of success it is probably because the careful directions of Leonard Rogers and his co-workers have not been carried out. As cholera is more or less endemic on the Tigris it is indeed remarkable that it did not occur in epidemic form when we consider the possibilities of infection and the ignorance of the soldier in matters sanitary. Frequently men filled their water bottles at the nearest creek rather than go a little further or wait a

little longer for a purified supply. Even in hospital I intercepted a patient going to the creek in order to fill a feeding cup for one of his fellows. On another occasion an orderly of more than average intelligence was found carefully sterilizing a piece of ice by washing it in permanganate solution before allowing it to melt in his drinking water! It is also very difficult to prevent men patronizing the native vendors of cold drinks, sweetmeats, and other commodities, which are all potential germ carriers.

It is difficult for any one at home to realize the amount of pollution to which the creeks of this country are subjected. They are at once the sole water supply and the main sewer. Every sort of abomination is thrown into them, and it is the commonest of sights to see offal floating on the surface. Our water was pumped from the creek near the hospital, was then sedimented and chlorinated in water carts, and was finally boiled. For the latter purpose two tanks were employed, and no water was used until it had boiled for half an hour. The result was a most beautiful water, the only difficulty being that it could not be easily cooled; but this was a very small price to pay for a pure supply. Later on this difficulty was got over by storing the boiled water in large chatties, which were covered; the demand was so great that the water was never there long enough to get contaminated. As showing the necessity of this careful sterilization, I may mention that within 25 yards of the place from where our supply was pumped there was a wooden bridge, and during the course of its repair a human corpse was found in a high state of decomposition.

Enteric Group.

There have been many cases belonging to the enteric group, mostly paratyphoid A or B. However mild a disease paratyphoid may have been in the Mediterranean war area it was often very severe in the cases that came under our care. There did not appear to be any pathognomonic features and the variations in type were extreme. Cases with otherwise unexplained pyrexia lasting more than five days very commonly turned out to be of this nature. It was the milder ones that gave rise to the problems in diagnosis, and undoubtedly a large part of our difficulty was due to the fact that the patients were commonly not seen until the disease was either well established or the patient convalescent, but sent on to us for some complication. Some of the few cases which did develop under observation had rather severe abdominal pain, and in one instance I opened the abdomen under the impression that I was dealing with pelvic appendicitis. Fortunately the course of the disease was not influenced unfavourably.

Perforation is not common in paratyphoid, and in the numerous *post-mortem* examinations which I made it was quite unusual to find ulceration. I have seen specimens

illustrating perforation, and know that one or two cases occurred, but during my stay in Mesopotamia, when we had a total of many hundreds of cases, I did not see a single case. I was several times asked to see patients in whom this complication was diagnosed, and on two occasions I opened the abdomen in the confident expectation that it would be found. In one of these there was infarction of the spleen, with haemorrhage into the peritoneal cavity, and in the other acute cholecystitis. Others of the patients died, and at the *post-mortem* examination I found perforation of the ascending colon, with liver abscess, the result of dysentery; acute paralytic distension of the stomach and intestinal tract; and cholera. In other cases the easy recovery of the patient showed the diagnosis to be wrong. So closely were the symptoms of perforation simulated in some of these cases that I should hesitate to accept any figures dealing with this complication unless supported by operative or *post-mortem* findings.

Scurvy.

Although scurvy among the British troops in Mesopotamia is only very rarely sufficiently obvious for the patient to be sent to hospital with a diagnosis, it nevertheless occurs, and has proved of much diagnostic interest and of importance in treatment. The cases can be arranged in three very definite groups:

1. Those in which scurvy is the explanation of some otherwise obscure haemorrhage.
2. Those in which it explains the sluggish healing of some wound or ulcer.
3. Those that occur in the course of some other illness for which the patient has been fed on sterilized foods for long periods.

The last class are etiologically akin to the scurvy rickets of infants (Barlow's disease), but the origin of the other cases is more difficult to explain. Whereas among the Indian troops whole regiments have been affected to the extent of from 30 to 50 per cent. of their effectives, only sporadic cases have occurred among the British, and it is perhaps only because of their exceptional interest that they have come before my notice. I myself believe that it is not entirely dietetic, and that lack in variety of food and monotony of surroundings have much to do with its causation. The actual symptoms of scurvy are often preceded by great bodily weakness and lethargy, conditions usually diagnosed as "debility," but which may be an earlier stage of the same nutritional condition that may later develop into scurvy.

The following case is a typical illustration of the first group:

A gunner, aged 26, was admitted to Amara with a diagnosis of haematoma of the thigh. He stated that he had usually been a perfectly healthy man, but that for the last four years he had

had a delicate stomach, and had not touched anything sweet; for this reason he had always avoided sugar, fruit, and vegetables. He arrived in Mesopotamia in January, and had been up the line ever since. He kept in good health, and never had to report sick, though he said that for some time his gums had been tender, and sometimes bled when he cleaned them. About August 21st he started on a long march, and on the third day noticed some stiffness behind the left knee, but he went on and finished with the column, arriving at the destination on the tenth day. Two days later he had to report sick, and was sent into hospital on account of the swelling behind the right knee. At first it was only swollen, but after about four days the skin became discoloured.

On admission he looked quite a healthy man, though a little thin and sallow. The haemorrhage was very obvious as seen from behind; from the front the calf was noticed to be swollen, and there was discoloration up the inner side of the leg and thigh. Posteriorly the whole affected area was black and blue, the discoloration being darker at the extremities of the haemorrhage. The calf was indurated and slightly painful. He walked with a limp, and kept the knee a little flexed. There was no effusion into the joint. Scurvy suggested itself as the explanation, and on looking for other signs slight swelling and blood discoloration were found in the palm of the right hand and the lower part of the forearm. There were no petechial haemorrhages or other signs on the surface of the body, but the gums were quite typical. The teeth were very good, especially the incisors, but the gums around the latter were swollen and spongy, and on the apex of each pyramid between the individual teeth there was a bright red cap of submucous haemorrhage, like a bright red granulation, which bled easily. On the left side of the upper jaw there was a septic stump, and this was surrounded by especially well-marked swollen spongy gum. On September 14th the patient went to a concert and sat for a couple of hours. When he got up he felt a stiffness behind the right knee, and on September 16th he drew my attention to a patch of subcutaneous haemorrhage about the size of the palm of the hand on the inner side of the lower part of the right thigh and also a well-marked superficial haemorrhage in the popliteal space and upper part of the leg. He was put upon an ordinary diet with vegetables and a mixture containing citric and tartaric acids with syrup of orange and infusion of calumba. He improved rapidly, and by September 25th the haemorrhages were fading and the gums were nearly all right; by the end of the month he was sufficiently well to be transferred to a convalescent dépôt.

As examples of the second group I may quote the following case:

A man, aged 23, had been in Mesopotamia since the beginning of January and had been up the line all the time. He had kept quite well until the end of July when he developed what looked like trivial sores on the right foot, but as they made little progress he was sent down and admitted to a base general hospital on August 19th. Both these ulcers were typically indolent; the few granulations present were flattened and unhealthy looking, and there were no signs of healing at the edges; the discharge was thin and blood stained, and there was staining of the tissues around. The appearance suggested to me a scorbutic tendency, but the only confirmatory sign was the condition of the gums. The mouth was clean and sweet, and the teeth very good, but on the apex of the pyramids between each of the incisor teeth there was a tiny red haemorrhagic spot and a similar red line along the edges of the gum surrounding the molar teeth. Under appropriate antiscorbutic treatment the ulcers soon took on a healthier appearance, though their ultimate recovery was longer delayed than I had expected.

Examples of scurvy coming on in the later stages of some chronic disease like typhoid or dysentery were quite common, and several developed in hospital.

I was asked to see a man in the dysentery ward on account of an effusion into the knee-joint. I found the patient bright and cheerful but exceedingly emaciated. The right knee was flexed and contained a good deal of fluid. It was neither painful nor tender, there was no temperature and no haemorrhagic staining. I could not discover the cause, and thought that it might be an example of so-called dysenteric arthritis. The joint very soon improved and the man began to get about again, but two weeks later he suddenly developed a large subcutaneous haemorrhage down the inner side of the leg and extending into the instep and sole of the foot.

Another man recovering from a bad attack of enteric fever and who had been on milk diet for several weeks rapidly developed a large haematoma on the buttock, the tissues all round were also infiltrated with blood, and there were petechial spots on the legs. I drew off 30 c.cm. of broken-down blood clot, and a few days later a similar amount of haemorrhagic pus was evacuated by incision.

When well marked the characteristic appearances of the gums affect the whole mouth, but when only slight they may have to be looked for on the inner aspect and especially around some septic tooth or stump. The petechiae are nearly always confined to the lower limbs and the front of the chest, though they may be found elsewhere. The large haemorrhages occur either subcutaneously or into the muscles. The former are most common behind the knee or on the inner side of the leg and extending into the instep and sole of the foot, but they may be found in the palm of the hand and over the middle of the sternum. The deep haemorrhages are also commonest at the back of the knee, deep in the popliteal space, down the front of the leg, among the muscles on the dorsum of the foot, and on the back of the forearms.

In addition to these large intramuscular haemorrhages, there may be small haemorrhages among the muscles of the thigh or buttock. Quite often they are multiple and not infrequently suppuration takes place.

REFERENCE.

[1] Matthew D. O'Connell, *Lancet*, August 19th, 1916, p. 342. [2] Turner, *Lancet*, May 26th, 1917.

PART II.

Heat-Stroke.

The cases coming under the heading "Effects of Heat," though interesting, were depressing and disappointing, for so very often treatment was unavailing. I shall not soon forget the streams of patients in June and July who were hurried to the bath-house, nor the occasion when nearly a dozen stertorous patients lay in the open air along the side of the creek, many of whom went to make up the sixteen funerals that left our hospital the next day. These men were not weaklings, but often big strong fellows who might be expected to be the last to go under. Nearly every case illustrated the importance of prophylaxis and of early treatment, and those that developed in hospital often recovered as the result of prompt measures to reduce the temperature. But the heat regulating centres are so much deranged that relapses are common, and there can be no doubt that anybody who has suffered from a severe attack should be sent out of the country. *Post-mortem* examination in these cases was disappointing, the appearances were not uniform or characteristic and there was much less cerebral or meningeal mischief (to the naked eye) than we expected. The congestion of the internal viscera which we always found was, I am sure, only a consequence of the slow process of dying from coma. There is a great deal of work to be done on these cases, and until their minute pathology and chemico-pathology is better understood the methods of treatment must be empirical and haphazard. Prophylaxis is the most important thing, and the responsibility for the transport and care of troops coming fresh to a moist hot climate like Basra in May, June, and July, must always be great. Every detail must be attended to, and the soldiers must be tended like ignorant children, and no point is too small or trivial to be neglected.

As a result of conversations with men who had suffered from the effects of heat in its various forms, I am satisfied that those who tolerate heat badly at home should not be sent to this climate. New troops, and especially their officers, coming to tropical countries should be educated as to the precautions necessary. New-comers revel in the sun and suffer; they should be taught that the sun is an enemy to be avoided, that the head and back of the neck should be covered, and that advantage should be taken of every little bit of shade. But it takes some time before

one instinctively walks at a funereal pace and seeks the most trivial of shades. Men should never leave camp without their water-bottles, and every care should be taken to avoid exhaustion.

Jaundice.

In May and June many men suffered from jaundice, and one medical officer in charge of 62 beds had as many as 25 cases under his care at one time. I doubt if this jaundice was really of the epidemic type, and we all thought that at least some of the cases were malarial in origin. Many different factors were probably at work, but in the absence of adequate laboratory facilities at that time we were unable to examine them by blood culture, etc. Two cases died, and at the *post-mortem* examination I found all the appearances which we associate with delayed chloroform poisoning, and which must have been the result of some profound toxaemia. In another case, a coloured subject, my colleague, Lieutenant F. G. Thomson, found catarrhal pancreatitis, but in that instance the symptoms were largely abdominal pain and distress.

Being interested in the question of infection of the gall bladder, I examined many of the cases with this in view. In several the liver was enlarged and tender, and in a smaller proportion the tenderness was limited to the region of the gall bladder, but there was no case of cholecystitis requiring operation, though, as will be mentioned later, I had several of the latter following enteric group infections.

Dysentery.

The dysenteries formed a large proportion of the medical cases admitted. The bacillary varieties were the more common, but the amoebic variety occurred also, and for them emetine is almost specific; indeed, if it fails, it suggests either a mixed infection or that the diagnosis must be revised. I had an admirable illustration of its value in the case of a patient who was admitted to hospital for the closure of an appendicostomy, which I did by removing the remains of the appendix. This man told me that he developed dysentery in India and in this state went on leave to England, where he was medically treated for some weeks without benefit. He then consulted a surgeon, who arranged a series of treatments by ionization. After eight applications he was no better, and was taken into a nursing home, where appendicostomy was performed. He remained in the home for a month, living only on light diet, and having daily irrigations of the bowel. While following this regimen he was very well and had no symptoms of dysentery, but as soon as he went out and began to take ordinary food and exercise all his troubles returned, and he passed large quantities of blood and mucus. He then went to a practitioner with a large experience of tropical medicine, who prescribed emetine. At the end of a month he was perfectly well and had never had any recurrence in spite of

hard campaigning both in France and Mesopotamia. In the bacillary variety the effect of the antidysenteric serum is often very remarkable, but if it is going to be successful it produces its good effects promptly. Many of the cases that reached us were too far advanced for treatment by this means, and in October we had quite an epidemic of fatal cases. In a few patients I tried appendicostomy without success, but one very severe case made an excellent recovery as the result of caecostomy. This operation combines all the advantages of appendicostomy without any of the disadvantages and disappointments, and if the patient recovers the subsequent operation for closure is a small matter in comparison with the benefit derived.

Liver Abscess.

The classical complication of liver abscess is far from common considering the large amount of dysentery, but I saw over a dozen cases. Three were discovered in the *post-mortem* room, and in all of these the final cause of death was rupture of the abscess into the peritoneal cavity. Others were merely suspected and cleared up under treatment by emetine; seven cases required operation for drainage. In all the interesting feature was the absence of any history or symptoms of well-developed dysentery, and in at least two there was no history of bowel trouble whatever.

The classical descriptions must have been founded on old-standing cases, for as a rule most of the symptoms described are absent. Pyrexia with slight local pain and tenderness on pressure over the right hypochondrium with slight enlargement of the liver upwards have been the suggestive symptoms, the diagnosis being confirmed by the elevation and immobility of the right wing of the diaphragm as demonstrated by *x*-ray examination and made absolute with the exploring needle. All my cases were treated by open incision and drainage through a lower intercostal space, the diaphragm being stitched to the parietes before being incised. In the one case that died after operation there were multiple abscesses in the liver, with empyema and pericarditis. The amoeba was never found in the pus evacuated at the time of operation, but was usually demonstrated about the fourth day. A course of emetine (one grain daily for a week) was always given after operation. In no class of case was the co-operation of physician and surgeon more helpful, and in nearly all my patients I was indebted to my medical colleague Lieutenant F. G. Thomson for valuable help in diagnosis.

Other Surgical Complications.

Other surgical complications of dysentery were perforation of the colon and acute peritonitis without perforation. In one of the cases of the former complication an inflammatory mass formed in the right iliac region simulating an

appendix abscess. There was a large slough in the caecal wall with localized peritonitis, and though the appendix contained a dysenteric ulcer it was not the cause of the symptoms. I also saw cases of local thickening of the pelvic colon following dysentery, and on two occasions the condition very closely simulated a new growth in the bowel. Several of the chronic cases developed symptoms suggestive of appendicitis, and I was once or twice led to operate only to find a normal appendix. These patients may have definite attacks of abdominal pain, but the history and the diffuse tenderness over the caecum and ascending colon, and often over the sigmoid as well, enabled a diagnosis to be made.

Beri-beri.

We had one or two cases of "beri-beri," and any number of men suffering from so-called "debility." These were to me a most interesting group, for, as I have already said, I am sure the debility of active service is some type of nutritional disease probably allied both to scurvy and beri-beri.

"P.U.O."

A diagnosis of "P.U.O." (pyrexia of uncertain origin) used to be very frequently made, but it became less and less so as the facilities for laboratory investigation increased, a large number of the cases turning out to be enteric group infections.

Parotitis.

When I first arrived at Amara in July I was astonished at the large number of cases of parotitis under treatment in the wards; I have certainly seen many more than I have previously met with in the whole of my experience. I have notes of twenty-three of these cases, but many occurred when I was occupied with administrative duties and was not able to find the time to record them. The type is quite different from what one is accustomed to see at home, for they nearly all suppurate early, and form abscesses which discharge abundantly. In one patient there was enormous destruction of the tissues overlying the parotid, giving an appearance very like cancrum oris. Many of the earlier cases proved fatal, but I believe the primary disease was the real cause of death. At first I was inclined to think that the infection might be specific, but though Captain Stevenson, I.M.S., kindly examined several specimens of the pus for me he only found a coccal infection. Probably the organisms gain access to the gland along the duct, and the only common factors were that the patients had almost without exception been under treatment for some disease requiring milk diet, and that no special attention had been paid to the hygiene of the mouth. They nearly all came from field ambulances where

there were no nurses, and just at a time (July and August) when the vitality of every one was at its lowest ebb, and the personnel of those units was taxed to the utmost. But even with scrupulous attention to the mouth this complication did arise among patients under treatment in our own hospital, but with, I think, two exceptions it was only in cases in the later stages of exhaustion from typhoid or dysentery.

When the cases came under my observation the proof of infection of the duct was usually evident, but whether *post* or *propter* I am unable to say. The papilla was reddened, and quite often pus could be squeezed from it, and sometimes in abundance. At a later stage the normal flow of saliva was absent, only a little thick glairy mucus being obtained on pressure. The destruction of the gland was very widespread, and it would be interesting to know what the ultimate effect on the salivary function will be. The abscesses often burst spontaneously into the external auditory meatus, or pointed near the angle of the jaw. In some of the slighter cases the question of mumps cropped up, but there has really been nothing to support the suggestion, for the swelling is usually unilateral, and nearly all suppurated; there has never been orchitis, and the condition has never spread among the other patients in the ward. As showing the care necessary in opening these abscesses, and the importance of employing Hilton's method, I may refer to a case which had previously been operated upon, and which was admitted to our hospital with complete facial paralysis. As he said, before the operation he could not open his eye because of the swelling of the face, but since he had never been able to close it. Though I never saw facial paralysis as a complication of the condition, it developed in one of my patients some days after the evacuation of pus. In this case the onset of the parotitis was preceded by herpes of the area of the fifth nerve on the same side. The paralysis was clearing up when the man was evacuated down the line three weeks after the incisions had been made.

The following is a summary of the cases of which I have notes. The series does not represent the true mortality, because, as I have said, some of the worst cases occurred at a time when I was not able to keep records:

Parotitis.

Total number of cases	23
Primary disease:	
Enteric group infections	16
Dysentery	3
Jaundice	1
Pyrexia of unknown origin	1
Nephritis	1
Parotitis	1

Four cases did not suppurate, and all recovered; 19 cases suppurated, and of these 4 died. Of the 23 cases, 11 affected the left side, 6 the right, and 6 were double.

Gall Bladder Infections.

The most interesting complications were the gall bladder infections, and they were not at all uncommon. The cases that came to operation were particularly interesting, because they supplied a clue to those that did not require surgical interference, and because in them it was possible to establish the identity of the infecting organism. I operated on six cases. In two the gall bladder condition was frankly a complication of an enteric infection on the down grade. In one the enteric infection had presumably occurred three months previously; during convalescence there were attacks of colic followed by a distended gall bladder, and numerous gall stones were found in the acutely inflamed viscus. In the other three cases the gall bladder infection and the enteric were concurrent. In four of the cases paratyphoid A organisms were obtained in pure culture from the bile, in one the organism was not quite typical, but was probably of this nature, and in the remaining case it was not possible to have a bacteriological examination made. All the cases recovered as the result of drainage.

The cases I saw in which an operation was not necessary usually came on some weeks or months after an illness that might be interpreted as an enteric group infection. They had acute attacks of pain followed by marked tenderness over the gall bladder and sometimes palpable enlargement. But they were not very ill, and the attacks grew less frequent and less severe, so that I did not consider it necessary to operate. The future will show whether these infections are followed by the formation of gall stones in such a proportion as to suggest a causal relationship.

Renal Colic.

As the weather began to get cooler we had several cases of renal colic, and though they very closely simulated calculus, in no single instance was I able to demonstrate a stone. In all the cases there was an excess of oxalate crystals in the urine, and I believe that the irritation caused by the passage of these crystals down the ureter was the correct explanation of the symptoms. When on the right side appendicitis was very closely simulated, and the diagnosis was often a matter of anxiety. An abnormally slow pulse, and the fact that the rigidity was strictly limited to the middle line, together with deep tenderness over the kidney, were all in favour of ureteric origin. At the early stage, when the diagnosis was in question, there were no urinary symptoms, and beyond the presence of oxalate crystals urinary examination did not give much help. At a later stage a trace of albumin, with large numbers of hyaline casts and a few blood and pus cells, established the diagnosis. Most cases cleared up quickly, but some were not free from pain for several weeks. A mild infection arising in this way probably explained the several cases of perinephritic abscess which also cropped up about this time.

In one case a paratyphoid infection of the kidney began so acutely as to simulate appendicitis, and it was probably an oxaluria which determined the site of infection in this instance.

The Wounded.

Until the middle of December, when we began to get some wounded, the surgical cases had only represented a very small proportion of the total admissions.

I saw something of the wounded from the Kut relief force in April of 1916, but after the gallant garrison had to surrender at the end of that month the stream of wounded ceased. All through the summer months there were occasional casualties due to snipers, the attentions of Arab marauders, and to the accidents which always attend an army in the field. In December the wounded were of the ordinary types. Taken as a whole the wounds were not seriously infected, though there were occasional exceptions, but I never saw a case of tetanus nor of gas gangrene, and even in the hot weather, when resistance was at its lowest ebb, the accidental wounds healed remarkably well. Apart from recent wounds there have been a few relic bullets to be removed, and I am more impressed than ever with the wisdom of extracting missiles when it can be done without running unjustifiable risks. The cases I speak of all illustrated the importance of general methods of examination, for I was able to find the bullets and cut down on them with precision, relying on clinical signs only. They had previously escaped the surgeon's knife because the estimate of their depth by *x*-ray methods was supposed to have shown them in inaccessible positions. An *x*-ray apparatus without an expert in charge is not much use, for anything but extremely accurate localization is worse than useless. Our unit was fortunate in having Captain McCabe Dallas in charge of this department. Talking of *x* rays reminds me to mention the need of other diagnostic instruments, such as cystoscopes, sigmoidoscopes, etc., which in a big station are almost as necessary as at home.

Operations of Election.

At Basra I did several operations of election for herniae, hydrocele, interval appendicitis, haemorrhoids, etc., and two very typical cases of torn cartilage, but as the weather got hotter I had to give it up because the patients so frequently developed jaundice, or malaria, or enteric group infections, or some trouble during convalescence more serious than the original disability. At Amara, with better climatic conditions, I again operated on any case that called for interference; all operation wounds healed perfectly. My only anxiety was the dust, which finds its way into everything, and I was afraid would spread the sort of minor infection which I had found to be so prevalent. However, I took the precaution of using my instruments out of antiseptic, and of having a carbolic towel near the operation area, and relying on mops used directly out of a solution of mercury perchloride 1 in 4,000, and this technique proved most efficient. Emergencies and minor surgery had, of course, always to be dealt with, and I had a few cases of acute appendicitis, but never a ruptured ulcer or strangulated hernia. It is rather surprising that there were so very few dislocations and fractures, for we drew our sick from some thousands of troops.

Anaesthetics.

At first we used nothing but chloroform, and although the patients took a good deal, or appeared to do so, for there was probably a lot of evaporation from the mask, they went under its influence most quietly, and there was practically none of the struggling we so commonly see at home. I am sure that this is due to the absence of alcohol and the very moderate use of tobacco—in fact, the only patient who did struggle hard was under arrest for drunkenness, a very rare crime where alcohol is not easily obtained. After a death from delayed chloroform poisoning, I threw tradition to the winds, and used ether with the greatest success. With a room-temperature of 110° F. we found it answered splendidly, even when given by the open method; certainly a lot of ether was consumed, but the Ormsby or the Clover were equally successful and very little more extravagant than when used at home. At Amara we used nitrous oxide, which is the greatest possible convenience. Infiltration anaesthesia and spinal anaesthesia are both very useful, and the former I have frequently employed.

Dental Cases.

Among soldiers septic teeth and their complications cause a great deal of misery, as well as no inconsiderable disability, and I am satisfied that every hospital should have at least one dentist for every 1,000 beds. There is always a lot of extracting to do, but so many teeth can be saved by simple stoppings, and dentists can do so much to allay discomfort and lessen disability by the repair of dentures, etc., that their services are highly important. One general hospital had a dentist on the staff with a proper outfit and two mechanics, and in a very short time the department proved itself invaluable.

Eyes.

Surgeons with ophthalmic experience are also indispensable in every general hospital, or even nearer the front if communications are long, because there are so many questions which may involve the sight of one or both eyes that can only be decided by those with special training.

Throat, Nose, and Ear.

In the field of throat, nose, and ear surgery there is certainly less need for experts, but someone in each

station that could be called upon in a consultative capacity is most useful. Impaction of cerumen, furunculosis of the auditory meatus, and trouble from old running ears were all common. The two former can easily be dealt with, and in my opinion the latter need not unfit a man for military service. Much can be done to relieve an old otitis, and even if not suitable for the fighting line there are many opportunities for employing such men at the base. At our hospital at Amara the "permanent base men" proved themselves invaluable as general duty orderlies at a time when our own staff was very much depleted by illness.

Military Service After Operation.

I saw many cases illustrating active service after operations, and I am glad to be able to give the lie to those pessimists who state that our military hospitals are crowded with men who have been unsuccessfully operated upon for hernia, hydrocele, varicose veins, etc. Of course there are recurrences, and also men who complain as bitterly of their scars as of their original disability, but these are the exceptions. I was long enough at the hospital to see many of the patients on whom I had operated return wounded and without any complaint about the result of their previous operation. And it is the same out here; and, on the whole, I am surprised that men can undergo so much after even quite serious operations.

Conclusion.

The medical side of the hospital was always well employed, and, indeed, the campaign has furnished great opportunities for physicians. It has also shown the need for most liberal laboratory accommodation, and a first-rate pathologist with a good staff could be fully and profitably employed at every hospital.

We have followed the admirable plan of making *post-mortem* examinations whenever possible, and in all doubtful cases. I have usually made the examinations myself, and am able to say that if anything they are less unpleasant than similar investigations at home. Of course we make them as soon after death as possible, usually only a few hours, and never longer than twelve. Six in the morning is the best time, but I have often had to do them at three in the afternoon, and even with the thermometer at 110° and higher they have "not been too bad," to use a common service expression.

To many of us the life of the army is repellent, and will provide a great incentive to the promotion of something like a lasting peace. But from the medical point of view there are some compensations, and the war will at least have taught many men the great advantage of an unstinted appeal to laboratories and *x*-ray departments, and also the advantage of the very free consultations which can always be had for the asking in military hospitals. These

lessons will not be lost, and must have an effect on civilian practice after the war.

On the whole, both patients and staff have kept very cheerful. There were a few cases of suicidal cut-throat, but always in men who were exceedingly ill. The hospitals are very nice, and the wards being light, airy, and cheerful the patients are very well off, though it would be ridiculous to say that they have all the luxuries which they enjoy in France or at home; yet at Christmas it would have been difficult to detect any difference. They are all glad to get into such comfortable quarters after their experiences at the front. The nursing orderlies are very good, and have worked splendidly, but the addition of sisters to the personnel has been a great advantage in every way; they greatly add to the welfare and comfort of the patients, and relieve the responsibilities of the medical officers. In the hot weather the great difficulty was to provide adequate change and recreation, both for patients and personnel. The services of regimental bands were available from September onwards at Amara, and were not only much appreciated but of great help in keeping men interested and amused. Pianos and gramophones were also very useful in relieving the monotony, and the concert parties which toured the stations during the autumn were most enjoyable. At all times the Y.M.C.A. provided entertainment and change, and every one acknowledged the extreme value of their services.

I must not forget to mention the great psychological value of the mail day. Baths and bathing are useful agents, provided they are taken at the proper time of day. Fishing can be indulged in towards evening, and provides relaxation for its devotees. Officers fond of shooting could always get sand grouse and often partridge, and there are duck and snipe, though further afield. Others enjoyed polo, and horse exercise was very popular.

From October to the end of December the evenings were cool enough for active games, and tennis, cricket, football, and hockey were indulged in and greatly appreciated after the long hot season.

The Amara Clinical Society was a great success. The idea originated with Lieut.-Colonel S. F. St. D. Green when A.D.M.S. Our first meeting was mainly devoted to the subject of scurvy, a series of cases among Indians being shown by Major Connor and Captain Kamat, I.M.S. Subsequent meetings were held fortnightly, when subjects such as enteric, dysentery, wound treatment, and secondary haemorrhage were discussed, and at other meetings cases and specimens were shown. Weekly inter-hospital clinics between an Indian general hospital and a British general hospital were also held and were of mutual help, especially in the direction of keeping up the interest of medical officers.

I would plead for the establishment of schools for officers at all medical reinforcement camps, so that not only may the time of waiting be usefully employed, but the overwhelming monotony relieved. In this connexion I would

like to add my testimony to the excellence of the Sanitary Museum at Makina. Similar museums for the exhibition of the newer splints and surgical appliances might be started at the big bases and be combined with a reference library of the literature of the war.

I am much indebted to Colonel W. H. Starr and Lieut.-Colonel H. J. Bond for the facilities afforded to me and for the invariable interest which they took in my work.