

SOME MEDICAL IMPRESSIONS OF ABYSSINIA

Before going into the proper matter of this paper it might not be out of place to say a few things about Abyssinia generally.

That area of greater Ethiopia conquered by the Italians in their 1935 Campaign comprises roughly 350 000 square miles and can be considered the Jewel of Northern Africa — bounded as it is on one side by the flat desert-like country of Italian Somaliland and on the other by the bleak, desolate and inhospitable mountains of Eritrea. Small wonder therefore that the Italians for years had an eye on Abyssinia which for hundreds of miles on end consists of green mountains and rolling valleys covered with grass, generally presenting scenery which in some spots surpasses Switzerland and the Grand Canyon of Colorado.

The population of fifteen million consists of seven million pure Amharas (Coptic Abyssinians) while the rest is made up of Moslems, Somalis and other odds and ends, all of whom were mostly ruled locally by Provincial Governors, each a little king in his own domain, owing allegiance to the Emperor in Addis Ababa hundreds of miles away. Due to the distances, bad roads and poor means of communication generally, the reforms both social and medical which the Emperor Haile Selassie introduced, naturally took a long time to mature.

Abyssinia is mainly an agricultural country and produces wheat, millet and coffee. Cattle, horses and sheep abound but the quality is inferior. Alluvial gold is found in the river beds and the presence of many other minerals is geologically indicated.

Haile Selassie had European advisers and went all out to improve this, when the Italian invasion cut short his efforts.

Education and Medical facilities were provided by the various European countries; America and Sweden however taking the initiative. We were sometimes pleasantly surprised to find a tattered Abyssinian youth speak good American, learned at a mission school, while the Addis Ababa American Hospital which had

still functioned throughout the Italian occupation period, was a model of efficiency.

The Swedish peaceful infiltration in the pre-Italian period was popularly referred to as the "Swedish Invasion". Even the Abyssinian army was being trained by a Swedish General.

When the Italians had conquered the country — or at least the highways of it — their first job was to build roads and arrange for Medical and Veterinary services. And when it is remembered that actually till the outbreak of the present war, they were still carrying on Guerilla warfare against remnants of the Abyssinian army, then they deserve credit for what was achieved. These efforts were however also of vital importance to themselves if they wanted to consolidate their gains which again was only made possible by keeping enormous garrisons of troops, whose health of course had to be looked after.

Throughout Abyssinia there were scattered hospitals having a sum total of 8 000 beds while attached to Forts, Police Outposts etc, were small "Ambulatoria" with a number of beds which in time of war could be utilised for hospital accommodation. In addition there was a Leper Asylum at Addis Ababa capable of accommodating about 350 inmates.

The Italian Institutions were very well stocked and it is no exaggeration to say they had enough drugs and other medical supplies to go on with the war for years as far as the medical side of things was concerned.

Unfortunately whenever the Italians evacuated and the natives got in before we did, the latter started looting and destroying. This was especially true of the smaller outposts. It was not at all uncommon to enter a small village and pick up valuable instruments scattered all over the place.

At Harar we witnessed the partial looting of an Italian advanced depot of Medical supplies. It was a big barn with walls 13 m high and measuring approximately 33x66 metres. It was stacked to the roof with cases of Ampoules of all kinds, various drugs and

dressings, while big jars or ointments and gallon bottles of stock mixtures were stacked on big racks. When we arrived on the scene there were hundreds of natives smashing the bottles, breaking open packing cases and scattering their contents. On the outskirts of the crowd the children were amusing themselves by playing with balloons, made of inflated Caputs Anglaises boxes of which were very much in evidence — these being ration issue to Italian soldiers. After the crowd had dispersed and a guard been posted over what was left, one walked ankle deep through boxes of ampoules and each step was followed by miniature explosions caused by crunched ampoules, whereas one's boots were coated by a muddy paste of ointments and powders due to the floors being covered by the mixed contents of jars and cases.

Even the smallest medical outposts attached to garrisons were all equipped with the most elaborate sets of instruments — mostly Orthopaedic. This also held for drugs.

The Italians were particularly fond of ampoules and it became the joke that Castor Oil seemed to be the only drug that was not administered hypodermically by them.

Glucose and Saline ampoules (250 cc) for Intravenous use were especially useful; there was almost no limit to the supply, helping us out no end and incidentally being instrumental in saving many a South African soldier's life. This also applied to Plaster of Paris which although inferior to our own plaster, was still available in large quantities when due to the rapidity of our advance, our own supplies could not keep up with us.

Contrary to South African and Imperial Army standards most of the Italian pills (Quinine and other) were all sugar coated and in the case of Quinine especially considered to be partly unabsorbable and therefore useless by us.

The Italian stores had very large quantities of vaccines and Sera especially anti-meningococcal, anti-gonococcal, anti-gasgangrene, anti-pneumococcal but strangely enough no Sulphonamide preparations. Limited use of the latter by them was confirmed in later conversations with their medical men. They also did not use any elasto adhesive strapping; much to our annoyance as we were running

short of M & B and elastoplast towards the end of the campaign.

Arsenicals were very much in evidence and formed about 25% of all Italian medical stores plus large jars of "Pomata Anti-leutica" and thousands of "Dreadnaughts". Collapsible tubes of ointment containing Ammon. Hydrag. & Liq. Picis in a vaseline base, were employed extensively for veld sores and with very good results.

Everywhere we found enormous stocks of ampoules of Strychnine and Camphor in oil, these older heart stimulants therefore still seem very much in vogue in Italian medicine. Quinine was present in all shapes and forms. For injection purposes one found ampoules of Quinine Bichloride ($7\frac{1}{2}$ grs) for intravenous use and a special ampoule for intramuscular injections. It was also put up in form of powder, tinctures and elixirs, in sugar-coated tablets and in compounds combined with Caffein and Phenacetin.

A very useful compound tablet that they used extensively was one containing Quiacol carbonate, Sodium Benzoate and Dovers powder. "Ulcovaccino" boxes of six ampoules each containing a vaccine of Ducreys bacillus starting with 225 million in No 1 and gradually increasing to 675 million in the sixth ampoule, were very much in evidence. The very big supplies of "Ulcovaccino", Arsenicals for injection, Mercurials for inunction and internal administration, Gonorrhoeal vaccines and even sera and large stocks of Potassium Iodine, all told a very dismal story of venereal disease which must be very rife in the Italian army. No wonder that in spite of Mussolini's aping of Hitler prohibiting the sale of contraceptives, three condoms per month per man was a regular ration in the Italian African Army. Judging however from the great number of these things found everywhere, even in the abandoned Italian forts and trenches, the issue to soldiers was much higher than 3 and nearer to 30.

We were rather intrigued to find big stocks of Fl. Ext. of Ergot and Saffron in the captured Italian stores. Ergot — an essentially obstetrical remedy looked distinctly out of place in a Military dispensary miles away from any woman. Later I was informed that the Italians regularly employed Ergot in stomach mixtures. Saffron was given in the form of a tea as an antipyretic.

Ampoules of Tripaflavine 2% was extensively used by them in the intravenous form for Cystitis, pneumonia, sepsis and gonorrhoea, and large stocks were found.

Morphine supplies were usually in the form of Panopium (morphine equivalent 1/3 gr) also again in ampoule form.

We did not find any tablets (soluble) for hypodermic use and in this respect the English method of compact packets of soluble hypodermic tablets, has a distinct advantage from a transport and space saving point of view. Collapsible tubes of "Ointment" containing Silver Nitrate and Ichthyol we found most useful in treating old foul Ulcers, and were used by the Italians especially for treating Tropical Ulcers.

Atebrin stocks represented a fortune. Bottles containing 15 000 tablets and therefore representing about £75 at present market prices, were not uncommon. Atebrin was also found in the form of "Italchina" a compound tablet containing grs ii each of Atebrin and Plasmoguinine.

Their Glucose and Saline in the form of 250 cc ampoules proved a handy packing for active service as it could be connected to tubing and needle and given in a minimum of time. For continuous drip administration however we did not like them as it meant emptying several 250 cc ampoules into a large container with a concomitant danger of contamination.

Italian gauze swabs plain and Iodoform, packed in sterile packages of 10x15 cm were plentiful and extremely useful. The same applied to their "Shell dressing" which had a sliding arrangement for applying the pack on two sides of an extremity. This we found an improvement on our own.

We captured quite a large stock of British manufactured drugs, originally captured by the Italians in British Somaliland. Coming across the well known names of English manufacturing houses amongst hundreds of bottles labelled "Resercite Italiane" was like meeting an old friend amongst a crowd of strangers.

Personal relations with Italian confreres were most cordial and it was good to see that in a large measure the brotherhood of Hippo-

crates is still international and above inter-cine strife.

Whenever possible and available Italian doctors were put in charge of Italian prisoners of war and where functioning hospitals were available, the existing arrangements were left undisturbed. When space was needed for our own wounded, a part of the hospital was allotted to us after mutual discussion. South African and English wounded prisoners of war subsequently found by us in Italian Hospitals were all unanimous in lauding the treatment they had received.

The Italian method of anaesthesia however would not appeal to citizens of a democracy as the patient is firmly tied down on the table before the anaesthetic — mostly a local one — is administered. The standard of surgery in the few hospitals we visited was good except that they are more conservative than ourselves. In gunshot wounds of the abdomen for example, they still believe in an expectant policy, treating complications as they arise. Intravenous glucose and saline is given to all and sundry cases; not however in the form of a continuous drip but always in one "sitting". This seems to be universal in all the hospitals we visited and in this way it seemed that much of the efficacy of intravenous fluid administration was lost. Cotton gloves were still much in evidence.

The Italian surgeons were all addressed as "Professor" and one felt rather embarrassed by also having this title conferred on one by the Italian hospital staff when visiting a surgical colleague.

Exceptional good work was done by Professor Ribandi at the Italian military hospital at Dessie, where the standard of surgical work was high in spite of drawbacks such as lack of X-ray apparatus.

Naturally continental in their outlook, the Italians themselves operate whenever possible under local Anaesthesia, and we found big stocks of their own brands of Novocain; the quality however was inferior to our own.

The Italian ambulances were very elaborate affairs each accommodating four stretchers, and containing a wash-basin, cupboard, etc. Fittings inside were of Chromium. We also found much bigger ambulance and a few mobile operating theatres all made of converted buses.

In general however these elaborate ambulances were found inferior to our smaller rough-and-ready models which alone could stand up to the strain of a "Blitz campaign" as conducted by our forces. The Italian losses were very heavy and they lost many dead because their transport and consequently entire medical services broke down.

From Juba onwards it was very common to find Italian wounded dead from exposure or inattention — men that could have been saved had they been collected.

Italian hospitals were well built and equipped — in all cases however Sanitation did not come up to English and American standards. One would find a functioning water closet discharging its contents through the wall into an open drain outside.

A few veterinary remarks might be of interest. Anthrax, Contagious Abortion and Rinderpest are the three most serious cattle diseases, and they are kept under control by two very fine veterinary institutes at Addis Ababa and Asmara, while smaller subsidiary stations are scattered all over the country.

The Italians also tried to improve native stock, but this was a most difficult task as it is against the Abyssinian native's religious and moral conceptions to castrate any animal. The result is that everywhere interbreeding is rife and scrub cattle of the first order the result.

One Italian veterinary surgeon told me that the natives would readily bring their cattle for inoculation but would disappear the minute castration was suggested.

The recent campaign

A few details about experience in the field of our Unit, 10th Field Ambulance, might not be without interest. It should be borne in mind however that the following remarks apply only to the Somaliland and Abyssinian Campaigns as conducted by the South African Expeditionary Force, and does not necessarily refer to other spheres of the war.

The accepted system of RAP, ADS, MDS, CCS,¹ Base Hospital, which worked so excellently in France during the last war, was never even attempted this time. This system was admirable in France with a number of miles between stations, but would have fallen

hopelessly short in Abyssinia where distance between ADS and MDS was often round 40 km and between MDS and CCS a matter of several hundred miles.

A new system had therefore to be worked out, both because of the big distances and because the South Africans were conducting a "Super Blitzkrieg", which compared to the German "blitz" pace was that of a snail with different battalions sometimes simultaneously moving and fighting on a wide mobile front.

Our ambulance was therefore faced with the task of having to give attention on more than one front at the same time, not only to our own casualties but also to enemy wounded, most of whom fell into our hands due to the breakdown in the Italian medical services.

In order to cope successfully with the work under these circumstances, a system was worked out whereby each company was working away from each other as a practically independent show; the whole however being co-ordinated by the ambulance Officer Commanding, who consequently was on the go practically all the time before, during, and after a battle.

Each company was equipped to do practically all emergency operations. A and B companies were each subdivided into the usual ADS and a light section immediately behind the front line. The case could be kept at the ADS till evacuation to the MDS was made possible, and cases could again be kept at the MDS till evacuation to the CCS perhaps hundreds of miles behind the line could be arranged. With long distances, road blocks and evacuation through enemy territory infested with Guerillas, it would have been an impossible task to evacuate seriously wounded to the CCS for urgent attention.

In addition Head Quarter company which ran the MDS and whenever possible did the most serious cases, could equip two operating theatres thanks to "Salvage" of enemy equipment. This proved a big timesaver, as the Surgeon could walk from one theatre to the second and while working there, the first theatre could be prepared again for the next case.

¹ RAP: Regimental Aid Post.
ADS: Advanced Dressing Station.
MDS: Main Dressing Station.
CCS: Casualty Clearing Station.

In short therefore our ambulance developed into three light mobile Casualty Clearing Stations, capable of the hospitalization of patients until evacuation could be arranged.

This system worked so well that all our own wounded **without exception** received attention early, that is under six hours which is the ideal aimed at in treating battle casualties. This unfortunately did not apply to the Italian wounded who often were only collected after we had reached the positions previously held by the enemy; many of them often being picked up accidentally on the field of battle where our troops came across them. The spirit of cameraderie with a vanquished enemy however was remarkable, and many a wounded Italian owed his life to the efforts of a South African soldier to get him to our ADS as soon as discovered.

Our operating theatres were many and varied. At Dessie we were fortunate enough to get the use of half the Italian Military Hospital and the use of the Italian fully equipped operating theatre for abdominal cases.

At Marceu on the Eritrean border, a big veterinary institute was converted into a hospital, one part being used for Italian wounded attended by an Italian doctor and ourselves, and the other half being used for South Africans.

Most of the time however the theatre and wards were under canvas. Electric lighting from a mobile plant with which each company was equipped, made all the difference and the work proceeded very smoothly except during thunderstorms, when we were ploughing in mud.

The biggest drawbacks of a canvas theatre were however dust and flies. The first was remedied by stopping all traffic in the neighbourhood, the second by screening all openings with Mosquito netting and having an official "fly-swatter" inside as routine part of the theatre staff.

One evening we lost the next day's theatre staff rations in the form of a goat tied to the theatre lorry. While an operation was in progress, the goat, loudly protesting, was carried off by a leopard.

In Somaliland the surgeon had many additional worries, least of which was the lack of water. If it is realised that only one gallon

of water per man per day was allowed, this having to do for washing, drinking and cooking, the problem of fluid intake and cleanliness in the case of wounded becomes quite a big one. No healthy civilian would like such a restriction although beer for drinking purposes was available. It however was very much "I.B." during our operations too!

What did compensate for the latter though was "Ministrone"-Italian beef extract equivalent to our meat juices. We found big quantities of "Ministrone" amongst captured Italian supplies and a cup was always enjoyed by the recipient, being more of a stimulant than the usual cup of tea which otherwise was given as it was invariably our custom to give the casualty, whenever he was in a fit state to take it, some liquid nourishment the minute he was admitted.

Anaesthesia

Most major cases at Headquarter Company were done under open aether induced with aethyl chloride. In very few cases could orthodox and suitable pre-anaesthetic medication be given; we are now of course referring to the "rush" after a battle.

Abyssinian native and Italian soldiers were however most apprehensive and usually resisted to the hilt when a mask was applied. We gradually therefore started using intravenous barbiturates for induction continued with aether. This gave such eminently good results in the hands of the anaesthetist Capt du Marigny, MC, that it became our anaesthetic of choice. It was a time saving anaesthetic in that patients went under quickly and quietly, safe when the barbiturate dose was used for induction only and could be carried on towards the end by the theatre assistant, enabling the anaesthetist to start off the next case. Without preliminary morphine one need not fear respiratory embarrassment using the barbiturate-aether combination.

Compound fractures of course were treated by the accepted debridement-plaster technique. As our asepsis however for obvious reasons was not always ideal, we introduced antisepsis by using BIPP strips instead of vaseline strips. The BIPP was however very sparingly used with a view to BIPP poisoning and we had no cases as such. The "people down the line" who were eventually landed with our cases, groused about the obscuring

effect on their X-rays but we were more than satisfied with less smelly wounds and happier patients and in any case we were more concerned with the immediate effects.

Antiseptics proved to be quite a problem as our Iodine supply soon became exhausted, not even mentioning the other more fancy cleansing agents. We therefore fell back on the good old orthodox soap and water and followed it with Methylated spirits which was also used for disinfecting hands and immersion of gloves after boiling. When the Italian methylated spirits stocks ran low we had to fall back on Listerian Carbolic 1:20 and did not regret it.

Gas gangrene

The occurrence of gas gangrene may be of interest. Castellani has stated that there were no cases of gas gangrene amongst the wounded during the Italo-Ethiopian Campaign, and Rawson that in the Sino-Japanese "incident" gas gangrene occurrence was comparatively rare.

Our figures might therefore be of interest, viz 4 definite cases out of a series of 820 operations in the field. Two of these cases were Abyssinian patriot troops. One had an amputation of the foot four days after the latter had been smashed by a hand grenade. The foot was a rotten evil-smelling mass and the patient was in a poor state generally. He developed gas gangrene in the stump with a fatal outcome. The second case was one of a bayonet wound of abdomen with perforation of the posterior wall of the stomach. He died 3 days post operatively from gas gangrene of the abdominal wall.

Abyssinians are difficult patients to treat as they will tear off dressings and inspect their wounds when they have pain, or when friends would like to see the site of the injury, and as they all live in the same enclosure as their cattle, it can readily be understood how manure-infested their fingers are.

This also happened in both these cases. After that all wounds of the extremities in natives were encased in light plaster of Paris, to prevent any unauthorised inspection of the wounds by the patients or other sympathisers. Both cases had had both anti-gas gangrene serum and sulphonilamides prophylactically and therapeutically. Their natural poor re-

sistance due to generations of undernourishment may also have contributed to the fatal outcome.

The other cases were both infantrymen with compound fractures of the humerus, caused by machine gun bullets. One arm required amputation with subsequent re-amputation due to gas gangrene developing in the stump. The second case was treated in closed plaster, but amputation due to gas gangrene setting in, was later found necessary. They were treated with massive doses of Sulphonilamide after the condition had been diagnosed, and made good recoveries.

Clerical

A few remarks about the clerical side may not be without interest to the Officer who has just joined an ambulance and who usually regards the writing part as just so much red-tape not to be taken seriously.

Actually however the clerical part is most important. This fact is only brought home forcibly after the wars are over and there are claims for pension and compensation to be settled. Bearing this in mind, the Officer Commanding our Unit right from the start insisted on the clerical part of the Ambulance being most carefully seen to.

During a rush of casualties it is a difficult job to see both to casualties and records and the latter is usually neglected in favour of the former. We found that it was possible to do justice to both provided a good system was marked out and adhered to. To attain this end our Ambulance Unit was always as much as possible laid out in the form of a semicircle with one end serving as an entrance and the other as exit.

The reception tent is the heart of the record side and the reception officer — preferably the OC of the Company here sees every patient brought in. There is a short examination — a Field Medical Card is made out and the patient is then referred to the ward particular to his complaint. This can always be adhered to — even the worst casualty has to be examined before being treated and in cases of extreme urgency, a running dictation is given to the reception Sergeant who fills in the card. The patient's particulars are now in the books and he is transferred direct to the Surgical or Medical ward as the case may

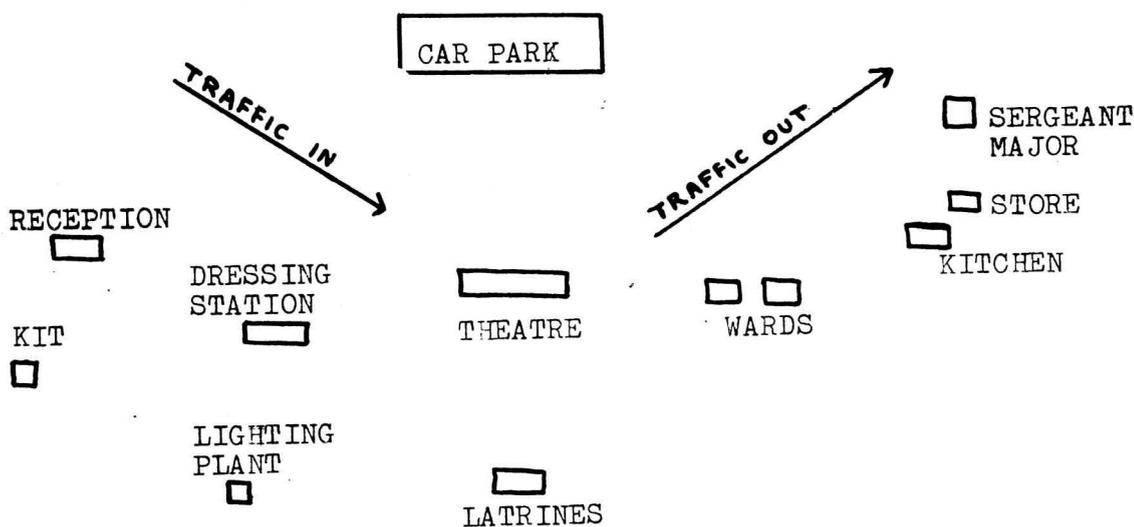
be. In this way also a very badly shocked patient is not kept waiting while the surgeon is attending to a less serious case because he has not been examined the minute he was brought in.

The reception officer therefore is the keyman of the show when casualties come in. He also runs sick parades ordinarily. It is in the interests of patients for one man to run sick parades every day. When different officers — usually the Orderly Officer for the day — conduct sick parades, the patient is never seen twice by the same man and this does not tend to better treatment of the soldier. The reception officer is assisted by the reception clerk who does records only and nothing else and the kit assistant who takes kit and fills in details on a list of the usual soldiers' belongings. We had these lists roneoed and the kit assistant then just ticks off on the list what the patient possesses.

The patient now has been entered in the books, his kit has been noted and he is sent to the ward, where the officer in charge takes him over. Whenever this system is not strictly adhered to it will be found an almost impossible task going about amongst hundreds of casualties trying to get the necessary details and chaos must eventually result.

The kit store is just next to the reception tent. Then comes the dressing tent, then wards and theatre with kitchen immediately adjoining and at the exit of the semicircle the general store tent with stretchers, blankets, etc and the Sergeant-Major who is in charge of all the outside arrangements.

Opposite the centre of the semicircle is the car park and petrol supply, the whole supervised by the transport officer. It is important to have reception and dressing tents and theatre close to one another so that they can be lighted from the same lighting plant.



Evacuation

Evacuation was another problem with which our unit had to cope due to the speed at which the combatants moved. Most of the time we were out of reach of a motor ambulance convoy, and therefore were faced with the problem of having to do our own evacuation.

Evacuation can be successfully handled by an ambulance if details are carefully worked out beforehand and each man knows his job. This

is most important as an evacuation not running smoothly can have disastrous consequences since this is a transport operation where sick and wounded are concerned — people who cannot be left in ambulances a minute longer than is absolutely necessary. It was the custom therefore for Company Commanders and Transport Officer to meet beforehand. A plan of action was decided on and each officer and NCO concerned was issued instructions in writing. When the time came each man got busy with his job, there

was no confusion and patients were taken away the minute they left the ward.

In one morning 110 patients were evacuated in one and a half hours, everything working smoothly. This was often repeated, always however working on our system.

It cannot be stressed enough how each man should be taught to do his job and be made responsible for that job. There is no place for a jack-of-all-trades in an ambulance. Working on this again, all our theatre equipment was loaded on one three ton lorry — the "Theatre Truck" which also carried the theatre personnel — each member of which had just his own work to do both in putting up and running the theatre which could be assembled and got ready for major operations within 25 minutes from unloading.

Nursing

Last but not least it will not be out of place to say a few words about general nursing and cooking arrangements.

A Field Ambulance is essentially a man's show and therefore lacks the gentle touch of the nursing sister — so appreciated by a very sick patient. It is marvellous however how much this can be compensated for by a well-trained sympathetic orderly. To attain this ideal, the orderlies must be handpicked — not only for their ability but also for their sympathetic outlook. A happy and contented state of mind makes all the difference especially in a badly shocked patient who probably has just returned from an inferno of shell fire. His happiness however depends very much on the way in which he is nursed.

Should therefore an orderly not prove to be temperamentally fitted for the job, he should be put on seretcher bearing or other duties.

We always managed to keep our patients happy and contented by seeing that they were well-fed and clean. After the irregular hard tack meals for days on end of an advance, there is nothing more appreciated than good food and lots of it. It was interesting to note in the course of censoring letters from

patients that almost invariably if something favourable was said about the treatment received at the Ambulance, the food came in for praise.

Cleanliness was another ideal aimed at — even when in the desert. A clean patient is a comfortable one and a bath or a wash is especially appreciated after days of marching and sleeping in the same clothes.

In the desert when water was severely rationed the bath problem was solved by putting a tarpaulin in a three ton truck and filling it up with water. All and sundry not debarred from a bath due to wounds or sickness then shared this communion bath. It was not very ideal of course but certainly was appreciated by the patients.

Throughout the campaign this was kept up and whenever near the sea, patients were encouraged to go swimming if their condition allowed them to.

Before ending, a tribute to our personnel. If it be borne in mind that they are drawn from all walks of life and professions, then the fine job of work they did is more to be admired. Many a surgical case may be nursed under ideal conditions in a private nursing home with the best nursing attention but he never gets more sympathetic treatment from any qualified nurse than some of our badly wounded cases got from our orderlies, who throughout nursed their cases both as patients and as fellow brothers in arms, all fighting for the same cause — reminding one of a passage in one of the great Churchill's speeches — "There is at least this to be said of war: You live simply if at all and you do so in company of men at their best, spurred to a passionate unselfishness by a common purpose which at other times is lacking. The tragedy of war is that the sense of fellowship it engenders seems unable to survive the coming of peace. It is an arresting paradox that mutual service, the seed of that all embracing sympathy which would make war impossible, appears to flourish best in a bloodsoaked soil".