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EDITORIAL

The Imperial Conference.

It is five years since the last Imperial Conference met at Ottawa, seven years since one met in London. In 1930 the depression had barely arrived. The possibility of war was held, on Cabinet authority, to be at least ten years distant. The Conference that year was concerned with the constitutional relations between Great Britain and the Dominions. Its resolutions were cemented by the Statute of Westminster, a statute the implications of which had certainly not been fully thought out at the time and which are only vaguely appreciated to-day. The Ottawa Conference two years later met at the nadir of the depression, when international trade had almost died. Decried by many critics, particularly of the orthodox school of economic theory, it produced nevertheless a great stimulus to inter-Empire trade.

The Conference which met this May had to discuss more serious matters. The agenda were grouped in three categories: foreign affairs and defence, constitutional questions and a miscellany of trade, shipping and airway development. In view of the international situation, it was only natural to expect that the first category would overshadow the remainder. Canada, separated by the Atlantic from the chaos of Europe, influenced by the United States, permeated by American money but never quite sure of American policy, remains keenly interested in European affairs. Australia and New Zealand, even more remote, keep a watchful

eye on the Pacific. South Africa, growing steadily more prosperous, with few problems of her own, has recently been seriously disturbed by events on the African Continent. India, in the midst of great constitutional changes, is involved in a serious frontier campaign. Geographically far apart, each with its own problems, the members of the Commonwealth are agreed on essentials. All are supporters of the collective system of security, within or without the Empire. Yet no one of them has defined what it considers to be its obligations either under the League Covenant or in the event of an imperial war. It is fairly clear that no Dominion interprets either its international or its imperial obligations as involving an automatic duty to resort to war. While the extent to which a Dominion would participate in a British war would rightly be decided by the Dominion legislature at the time, genuine neutrality on the part of a Dominion would be impossible as long as it remained a member of the British Commonwealth. The defence of the Empire is not an easy problem. At present the main burden falls on the United Kingdom. As Mr. Baldwin explained, Great Britain shoulders the burden of defence not only for the security of the British Isles, which are still the heart of the Empire, but also to fulfil Great Britain's responsibility for the guarding of the Empire oversea and as a loyal member of the League. In the long run that burden cannot be supported entirely by forty million people living in a small island. It must be borne by the developed resources in men and material of the whole Commonwealth.

For years imperial co-operation was organised by the Colonial Office. The Statute of Westminster abolished the last vestiges of imperial control. The centralised machinery of the Colonial Office has long since ceased to exist, but nothing has taken its place. It is true that there are imperial committees dealing with shipping, marketing and agriculture, all of them being purely advisory in character. It is true that British High Commissioners in the Dominions and Dominion High Commissioners in London carry out some of the duties of inter-Dominion diplomacy. But there is no imperial secretariat, no permanent body which looks after the interests of the Empire as a whole. Premiers meet every four or five years, but this is not enough. Practical necessity must before long bring into being adequate and permanent means of imperial co-operation. The equality of the various parts of the Empire is evident. Co-operation on a footing of equality would

be more simple if each part were prepared to make a more equal material contribution to the defence of the whole.

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Waziristan.

The Khaisora operations, which were described in the January issue of this journal, resulted in the pacification of a large section of the Tori Khel Wazirs and the construction of a fair weather road through the Khaisora valley, but they did not effect the submission of the Haibati Khel section of the Tori Khel or the ejection of the Faqir of Ipi from Tori Khel limits.

When they resumed control on 1st February, the settlement of these outstanding questions became the responsibility of the Political authorities. As regards other tribes who had opposed the Government, the Madda Khel had forfeited one hundred rifles as a punishment and the Mahsuds had declared that they had no interest in Wazir troubles and would not support the Faqir. From 1st February onwards, the situation in Waziristan began to deteriorate, largely as the result of the increasing prestige of the Faqir of Ipi and of the intensive anti-Government propaganda he spread.

The Political authorities tried by political pressure, the threat of further drastic fines and exclusion from specified areas to force the Tori Khel either to control or to eject the Faqir of Ipi. The murders of Captain Keogh and of Captain Beatty frustrated their efforts and other minor hostile acts made the situation in Waziristan so uneasy that military reinforcements had to be sent to Bannu. During March and April, in spite of continued political pressure and air action at the request of the Political authorities on a limited scale, the situation steadily deteriorated. Throughout this period the policy was to avoid action by land forces except for the protection of communications. The Faqir increased his propaganda, other small faqirs started to emulate him; enemy gangs increased; the influx of Afghan tribesmen continued; the Tori Khel as a whole became hostile; the Mahsuds were affected; raids in the Bannu District and attacks on convoys became rife. Naturally enough these incidents were magnified by tribal rumour and made the task of the Political authorities even more difficult. In spite of the move of further reinforcements to Bannu, the situation showed no signs of improvement. On 23rd April the Government decided

that they could no longer withhold action by land forces. The General Officer Commanding in Chief, Northern Command, was accordingly placed in full military and political control of Waziristan and of certain tribal tracts adjoining Bannu and Dera Ismail Khan Districts with instructions to pacify the area in question. Since that date events have been fully described in the Press and it is not proposed to recapitulate them here. Although it is too early as yet to say that the country is entirely pacified, the situation has taken a definite turn for the better. Troops have obtained the upper hand over the tribesmen certain sections of whom have already signified their desire to cease hostilities.

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North-West Frontier Policy.

There has been a considerable undercurrent of criticism of Frontier policy in recent months. We refer to numerous leading articles which have appeared in the Press and in particular to a letter signed "Experientia docet," which appeared in *The Times* in April. The contentions advanced can really be summed up as follows:

> "Political administration on the Frontier has proved itself a failure. Trouble will continue until the tribesman is disarmed. Disarmament of turbulent subjects has been carried out in Albania and elsewhere and there is no reason why it should not be carried out in Waziristan."
>
> "Military organization on the Frontier has also been a failure. Troops and commanders are unseasoned and whenever unseasoned troops have been used a disaster has occurred. The military authorities should revert for some years at least to the system of having a special force of all arms which never moves away from the Frontier."

It is not the sphere of this journal to criticise the Frontier policy of the Government of India. The arguments for and against disarmament of the tribes have been thrashed out many times in the past. As regards military policy, we can however speak more fully. The suggestion that the troops in Waziristan are "unseasoned" is incorrect and it is moreover an insinuation which is greatly resented by the units to which it is applied. The troops at present in Waziristan are mainly drawn from the

normal garrison and from the 1st (Rawalpindi) Division of the Northern Command.

The troops of the normal garrison serve continuously under conditions which approximate closely to those of active service. When conditions in Waziristan are normal they are frequently moving over the country. During the period in which they are stationed in the area they are continuously and intensively trained in the intricacies of tribal warfare. It would hardly be possible to produce a force more highly trained, adequately equipped or physically fit to undertake warfare against tribesmen.

The troops of the 1st (Rawalpindi) Division are also highly trained in methods of tribal warfare. This is essential since they may be called upon at any time to undertake operations on the Frontier. They are always in close touch with the latest developments on the Frontier and to assert that they are "unseasoned" is as unfair as it is untrue and misleading.

Taking into consideration the main role of the Army in India, namely, the defence of India from external aggression and the maintenance of internal order, a system of specialized and localized forces is not only uneconomical but is detrimental to the efficiency of the Army as a whole. This was recognised by Lord Kitchener when he was Commander-in-Chief in India. In his reorganization plans he laid down that in order to improve efficiency, localization, whether on the Frontier or elsewhere, must cease, and that all troops should take their turn on the Frontier and thereby gain experience of the tribes and the terrain over which they might be called upon to fight.

This view remains as sound to-day as it was then. The gradual abandonment of the old "closed border" policy and the progressive opening up and development of unadministered tribal territory as exemplified by the military occupation of the Khyber and Waziristan, would have involved a very large increase in the old Frontier Force had it been retained in its original form. This would have still further accentuated the disadvantages attaching to the localization of parts of the army.

Even in the days before Lord Kitchener's organization, the Frontier Force was not numerically strong enough to undertake major operations such as are in progress in Waziristan to-day. The troops composing the expeditionary forces which took the field in Tirah, Swat and Bajaur in 1897 were perforce drawn

from stations all over India and might truthfully have been termed, with no derogation to their fighting value, as unseasoned to frontier warfare, since in those days the majority of units, other than those belonging to the Frontier Force, served for many years continuously in non-Frontier stations. This cannot be said of any units of the Indian Army to-day. Under the present system all infantry units in India take their turn of duty on the Frontier and the intervening periods between tours of Frontier duty are comparatively short. Thus to-day there are few units which have not had recent periods of actual Frontier experience or which do not include in their ranks many individuals who know the tribesmen, their country and their methods of fighting. In addition to this, throughout India, instruction and practice in methods of tribal warfare are part of the normal annual training of all units.

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Recruiting.

The measures recently announced by the Secretary of State for War are designed specifically to ameliorate the lot of the British private soldier. Vocational Training has been transferred from the War Office to the Ministry of Labour, which will absorb the present army centres during the next twelve months. Men will be trained for civil employment on the expiry of their colour service and the numbers offered training will be related to the capacity of industry to absorb men after training. The effect on India of this transfer of responsibility to the Ministry of Labour has still to be worked out. We presume that, as the soldier is to undergo vocational training after leaving the colours, vocational training in India will more or less cease. In any case the effect on Indian revenues is not likely to be great, for vocational training has always been largely financed by private funds.

The unpopular practice of "holding" is to be abolished. We say "practice" because the soldier will still be liable under the Army Act to be retained for an extra year with the colours, while serving outside the United Kingdom. Now that the practice is to be abolished, all those men whose colour service is due to terminate by November 1938 will be sent home during the coming trooping season. For a period of a year or so, therefore, most British units in India will find themselves under establishment. Numerous steps to improve the lot of the soldier during his service are also being taken. There is to be an all-

round improvement in his messing; suppers are to be provided, kitchens modernised, the allowance of fuel for cooking and heating increased. Ration allowances to men not living in barracks or in a mess will be on a more generous scale and small units will have preferential treatment in messing affairs. The recruit is to be given an increased kit allowance and stoppages from his pay for such items as regimental canes, gymnasium shorts and canvas shoes are to be abolished. When sent overseas, he will receive a third suit of khaki drill and a helmet. On the troopship he will get a hammock billet to himself.

That many of these changes will cost India money is inevitable. This is obviously the case as regards the improvement in trooping conditions, the provision of free suppers and the increased scale of tropical clothing. But few officers will deny that these innovations are long overdue. Time alone can show whether, by themselves, they will lead to a sustained improvement in recruiting. Whether they do so or not, they represent one of the biggest advances ever made in the conditions of service of the British soldier.

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Belgian Neutrality.

The joint declaration by Britain and France releasing Belgium from her obligations under the Locarno Treaty has been a triumph for Belgian diplomacy.

When Belgium separated from the Netherlands in 1839, her independence was guaranteed by Britain, France, Russia, Prussia and Austria; as a corollary Belgium herself was debarred from forming any defensive alliance. That independence lasted until 1914. It was recognised at Versailles that, the 1839 guarantee having proved ineffectual, it was natural that Belgium should wish to have the right to form defensive alliances. The logical consequence of the war was, in fact, a military convention between Belgium and France; and general staff understandings between the two countries undoubtedly existed until 1925, when the *status quo* in Western Europe was guaranteed at Locarno by Britain, France, Belgium, Germany and Italy. That agreement lasted until the German reoccupation of the Rhineland on 7th March 1936, an event which caused an immediate revival of interest in Belgian defence matters.

While discussions for a new Western pact were proceeding last year, King Leopold anticipated a decision as to Belgium's

future by stating that she had no desire either to be a guarantor or to be guaranteed under any future agreement. Belgian policy was in future to be entirely national; military obligations would be confined to defence of Belgian territory; all that the country desired was to maintain an attitude of strict neutrality. At the time, the announcement came as something of a shock to the chancelleries of Europe.

It must be realised that there is a sharp cleavage of race in Belgium. In the North the population is Flemish, is Teutonic in origin and has a racial dislike of the French. In the South, the population is Walloon and Francophil. Although the Flemish population is by no means wholly fascist, the difference in outlook between the two races was illustrated recently in the struggle between M. Van Zeeland, the Premier, and M. Degrelle, leader of the Rexist party.

King Leopold's policy was probably guided by two considerations: the need to silence Flemish criticism of increased defence measures, which Belgian statesmen recognised as necessary but which would never receive Flemish support if it was suspected that Belgian policy was being subordinated to that of France; and the desire in any case to avoid the entanglements which might occur as a result of the Franco-Soviet Pact. The effective clauses of the Anglo-French declaration, which is the coping stone of King Leopold's policy, are as follows:

"The Governments of the United Kingdom and the French Republic have taken note of the views which the Belgian Government has itself expressed concerning the interests of Belgium, and more particularly:

(1) the determination expressed publicly and on more than one occasion by the Belgian Government: (*a*) to defend the frontiers of Belgium with all its forces against any aggression or invasion, and to prevent Belgian territory from being used, for purposes of aggression against another State, as a passage or as a base of operations by land, by sea, or in the air; (*b*) to organize the defence of Belgium in an efficient manner for this purpose;

(2) the renewed assurances of the fidelity of Belgium to the Covenant of the League of Nations and to the obligations which it involves for Members of the League.

In consequence, taking into account the determination and assurances mentioned above, the Government of the United Kingdom and the Government of the Republic declare that they consider Belgium to be now released from all obligations towards them resulting from either the Treaty of Locarno or the arrangements drawn up in London on March 19th, 1936, and that they maintain in respect of Belgium the undertakings of assistance which they entered into towards her under the above-mentioned instruments.

The Government of the United Kingdom and the Government of the Republic agree that the release of Belgium from her obligations (as defined above) in no way affects the existing undertakings between the United Kingdom and France."

At first sight it would appear that Belgium has gained all, Britain and France nothing. The integrity of Belgium has always been an essential feature of British policy and the growth of air power has added importance, from a British point of view, to Belgium's position. While the establishment of British air bases in Belgium would be ruled out in war by the fact of Belgian neutrality, it must be remembered that bases in Germany or in Northern France, as the case might be, would probably be equally effective in a Western war. Moreover Belgium has reiterated her adherence to the League, has accepted the general obligations which adherence involves and has undertaken to put her own defences in order. And the declaration, explicit enough in itself, does not impose any obstacle to the wider organization of Western security.

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American Neutrality.

Turning to the neutrality of another country, American opinion has for long been opposed to any formal connection with Europe and its diplomatic organizations, such as the League of Nations. Proposals such as those made by Mr. Norman Davis in 1933 for American consultation and for purely negative co-operation in the collective system are no longer practical politics. This attitude we can well understand, even if we consider it unsympathetic. But the recent American Neutrality Bill goes further. Under the new Act, the proclamation by the President that a state of war exists between two foreign states will make it illegal to export arms and ammunition or to lend money to either of them, and it will be illegal

for Americans to travel in ships belonging to a belligerent power. In addition the President is given discretionary authority to forbid the export of any goods whatever to a belligerent country except on a "cash and carry" basis. That is to say that the country in question will have to pay in cash and will have to remove the goods in her own ships. This latter clause was so serious a bone of contention between the Senate and the House of Representatives that a compromise had eventually to be agreed to by which the clause is to be reviewed again in two years time. One has only to reflect on the enormous purchases made by Britain in the American market in 1914 and 1915 to realise the far-reaching results which the bill might have. Of course Great Britain would probably be better situated than other countries as regards ability to carry away American goods in her own ships and probably also as regards her ability to pay for them. On the other hand the Bill, were it to be enforced to the letter, would have peculiarly grave consequences for a country dependent, as Britain is dependent, on overseas supplies. Many believe, however, that the terms of the Act could not be carried out in practice. They question whether any American Government will be able to resist the demand of Kansas farmers to sell their wheat at five or more dollars a bushel. They wonder whether firms such as United States Steel, forbidden to export American products from the United States, will not set up factories across the Canadian border. Whether these views are right or not is a matter of opinion. The Bill itself is a most forcible expression of American thought.

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Spain.

We have been asked on more than one occasion recently whether there are any military lessons to be learnt from the fighting in Spain. Major strategical lessons are seldom to be deduced from a civil war in which every province is divided within itself. Such conditions did not of course prevail in America, where the division between Federal and Confederate was fairly clearly cut. As regards tactical lessons, it must be appreciated that, although modern weapons are being used by both sides, they are being used by forces which are not armies in the true sense. Tanks have not proved very effective, but then co-operation between infantry and tanks and between artillery and tanks has certainly been lacking and the service of maintenance on both sides has been poor. More interesting, however,

are reports that the armour of many tanks has proved insufficient against the modern anti-tank gun and that speed alone has not afforded adequate protection.

As regards air fighting, the way in which Madrid has held out against continuous bombing is remarkable and, in Madrid, arrangements for water, fire-fighting appliances and general control of the population have been lacking. On the other hand Guernica, the Basque capital, where incendiary bombs were used, was almost obliterated.

An equally interesting point has been the comparatively slow rate of movement on both sides. The fighting has been open enough; there has been no continuous front such as there was in France, yet the war has not proved to be one of rapid tactical movement. Possibly there has been a dearth of mechanical transport for the supply and movement of troops.

Generally speaking, the war in Spain appears to support the experience of the Great War that the defence still has the upper hand over the attack. It must be admitted, however, that the course of a campaign in progress is not an easy thing to gauge. There is the natural fog of war and that fog is rendered thicker by modern developments, such as propaganda and systematic censorship.

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Japan.

We alluded in our last number to constitutional difficulties in Japan. In January of this year the Hirota Cabinet resigned owing to the refusal of the Diet to pass the budget. General Ugaki, who was then called on by the Emperor to form a ministry, was unable to do so for the simple reason that he was a man of liberal views. As Minister for War between 1932 and 1935 he had cut down the army by some four divisions. In 1937 he proved unacceptable as Premier to the army chiefs. General Hayashi, who undertook the task, preferred to risk an election rather than submit to the persistent demands for a cut in the defence budget.

At the election the *Minseito* or Liberal Party secured 132 seats, the *Seiyukai* or Conservatives 138, but the greatest advance was made by the Social Mass Party representing Japanese labour. General Hayashi himself obtained only forty seats, most of them held by bureaucrats, out of a Diet of 466 members. To retain office under such conditions would of course be impossible in a

truly democratic country, but it is what General Hayashi attempted to do. He may perhaps have been encouraged by the knowledge that the *Seiyukai* had for long given at least a nominal backing to army leaders; for he proceeded to announce a programme which included measures for the reform of education, the encouragement of industry and the rehabilitation of the agrarian community, which might have meant substantial social advances. But the programme also included measures for the reform of politics and the administration, the repletion of national defence and the renovation of diplomacy which in his hands would certainly have been treated in a concrete manner. As was expected, the programme received a cold reception from the Press, from financial interests and from politicians. Among the latter, Mr. Masazumi Ando, leader of the Conservative Party, went so far as to describe the General as a traitor to constitutional government for attempting to stay in office with so small a minority. General Hayashi was forced to bow before the storm and at the end of May he tendered his resignation to the Emperor. Since then Baron Koynoe's ministry has been formed. A notable feature of the new ministry is the inclusion in the Cabinet of four members of the parliamentary parties which had been most critical of General Hayashi. Baron Koynoe is himself a moderate and his Cabinet has been hailed by the Press as a genuinely national executive. But his task will not be an easy one if he is to combine much needed social reforms with the programme of rearmament on which the army is still insistent and yet avoid the rising prices to which increased budgets are apt to lead.

The ex-Premier, Mr. Hirota, has been appointed Foreign Minister and he is expected to turn his attention to the negotiations, among other things, which have been started in London to place Anglo-Japanese relations on a firmer basis. It is to be hoped that these negotiations will develop into a wider pact of non-aggression among all those nations who have interests in the Pacific.

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A New Service Journal.

A new service journal, the *Indian States Forces Annual,* made its first appearance in April this year. While the journal is in no sense limited to purely army topics, one of its objects is to disseminate military knowledge among the State officers for whom it is primarily intended. It will also be a

means of chronicling interesting events in the history of Indian States Forces during the previous year. The Indian States Forces number some 50,000 troops of all arms and are maintained by fifty different States. Many of them have magnificent records. If the first number of this magazine is a fair criterion, it is one that should find a place in the mess of every regular unit of the Indian Army.

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The United Service Institution of India.

At the annual general meeting the Council of the United Service Institution of India made two decisions which will interest members. They decided to increase the premia paid for articles by fifty per cent. A contributor may in future receive Rs. 150 instead of Rs. 100 for his literary efforts. He may of course receive more, if the Council approves it, but this is to be taken as the normal scale of payment for a good article. They decided also to raise the amount awardable by the judges of the Gold Medal Prize Essay competition from Rs. 150 to Rs. 500. Their object in doing so was to bring the award more into line with those given for prize military essays at Home. This latter decision will not, however, take effect until 1938.

LHASA MISSION, 1936

Extracts from Diary of Events

31st July (Friday)

Karponang Bungalow. Height 9,500 ft. 10-mile march.

Five members of Mr. B. J. Gould's mission assembled at Gangtok and started their long trek to Gyantse and Lhasa on 31st July. They comprise Mr. B. J. Gould, Political Officer in Sikkim, and his private secretary, Mr. F. Spencer Chapman, Brigadier P. Neame from Eastern Command Headquarters, and Lieuts. E. Y. Nepean and S. G. Dagg, Royal Signals. The Medical Officer, Captain W. S. Morgan, I.M.S., and Mr. H. E. Richardson, the British Trade Agent, Gyantse, will join later at Gyantse.

The organization and despatch of the transport has been a considerable task, involving amongst other things some 50 maunds or 25 pony loads of wireless and signal equipment, food stores for several months and tents, baggage, etc., for half a dozen or so Europeans. Presents necessary for highly placed Tibetan officials are an important consideration, and amongst other things include radio telephone sets, and three cocker spaniel puppies which have to be carried on coolie back.

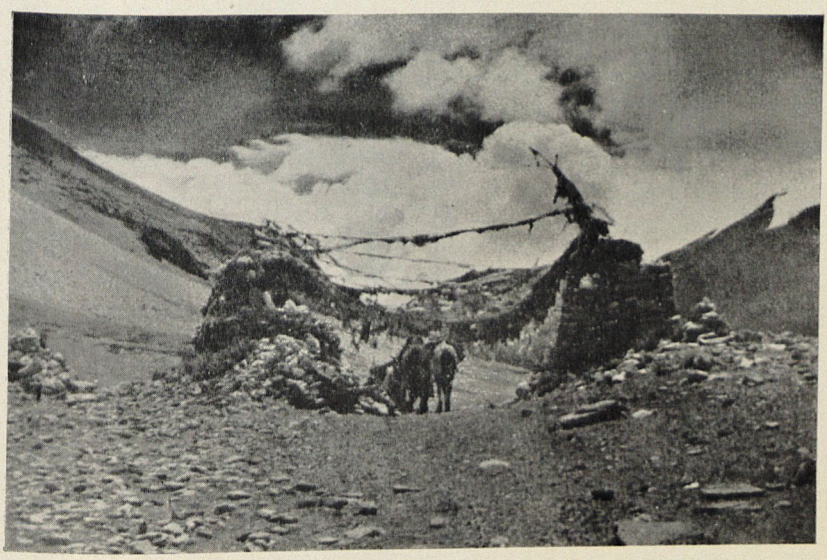
1st August (Saturday)

Champithang Bungalow. 13,350 ft. 23-mile march.

We reached the picturesque lake of Changu after 3 hours and breakfasted in the bungalow there. This lake at a height of some 12,500 feet was stocked with trout some years ago by Colonel F. M. Bailey but although many were reported to have grown to a large size, they do not appear to have bred at all, and now since a year or two none have been seen and it is to be feared that they have died out.

The prevailing colour just now is yellow—yellow poppies, yellow primulas, ragwort, rock rose, etc. The yellow poppies were most striking and these and the primulas extended right up to the Nathu La at 14,600 feet.

At the top of the Nathu La were the usual prayer flags and pile of stones which the Tibetans put at the crest of every pass, and Sikkimese and Tibetans alike bow low to the prayer flags and add a stone to the pile.



Prayer flags on the road to Lhasa

Passage of Tsangpo

One has often heard of the Sikkim stag or "Shou" which used to exist in the Chumbi Valley. It never did live in Sikkim proper, but probably its horns were first seen by Europeans in Sikkim and thus it got the name. Alas, this magnificent stag is now extinct in Chumbi, the last having been shot about 12 years ago. There was a big herd in 1904 when the Tibet Expedition passed through.

2nd August (*Sunday*)

Yatung, 9,950 ft. 11 miles.

We had an easy and pleasant march of 11 miles from Champithang to Yatung, where we are staying partly in the British Trade Agent's Bungalow and partly in the Dak Bungalow.

At Kargyu we had an official reception by the Lamas, and drank tea with the Head Lama.

On leaving Kargyu we were met by Captain Salomons, 2/7th Rajput Regiment, Officer Commanding Escort at Gyantse, and a number of local officials. Everywhere scarves of silk or muslin are presented to Mr. Gould; they are really used as honorific visiting cards in Tibet, Sikkim, etc.

We change transport here, our Sikkim mules and coolies being sent home, and Tibetan ponies, etc., being taken on.

3rd August (*Monday*)

Yatung. Halt.

4th August (*Tuesday*).

Goutsa Bungalow. 12,650 ft. 12 miles.

We passed quite a remarkable collection of buildings in one of which was a big water wheel; this used to be the Tibetan Government Mint, where the paper was made, bank notes printed and also coins struck. It is now out of use; one understands that the Tibetan Government prefer their mint nearer at hand in Lhasa where they can keep an eye on it.

5th August (*Wednesday*)

Phari Jong Bungalow. 14,300 ft. 16 miles.

We are getting out of the monsoon area, for this morning Neame was woken up in his tent by the sun, a most unusual event at this time of year.

We experienced a most remarkable delusion on the Phari Plain. When we first came in sight of Phari perhaps 4 or 5 miles away we all thought the plain was flooded as there was a large area on both sides of the track for perhaps $\frac{3}{4}$ mile shimmering and

silver, like water at a distance, what was our astonishment on getting closer to see acres and acres of blue forget-me-nots in the barley fields, so thick that there was a "flat wash" of blue over the whole country. One has seen poppies in England, fields of iris in the Pyrenees, etc., but nothing like this.

Phari Dzong is an impressive Fort, with the 15,600 feet Tang La and some snow mountains in the background.

6th August (*Thursday*)

Tuna. 15,000 ft. 21 miles.

Just outside the Dzong and village we met a herd of yaks carrying wool, evidently coming down from the interior for export to India. A mile out the local celebrities were assembled to present again ceremonial scarves which were afterwards handed back by Gyaltsen.

Some of the Tibetan names are curious, e.g., Phari Dzong means "pig hill fort." The present year is known to them as the "Fire Mouse" year.

The plain east of Tuna affords unlimited good aerodromes and no work is required on improvements.

7th August (*Friday*)

Dochen. 14,950 ft. 13 miles.

We passed the scene of one of the fights between Gen. Macdonald's troops and the Tibetans in 1904, when the Tibetans tried to stop us by lining a stone wall in the plain astride the path with one flank on a hill. The name of this place is Chhu-mi-Shing-Kung, although Guru is the nearest village and it is by the name of Guru the fight is referred to in the official reports.

Not far from Dochen we met a Tibetan lady on her way to Kalimpong and Calcutta to arrange for the shipment of her husband's luggage; he is one of the leading followers (Tea Serkang by name) of the Tashi Lama.

11th August (*Tuesday*).

Saugang. 13,000 ft. 15 miles.

For two or three miles we passed through a gorge known as "Red Idol" Gorge from the numerous carved and coloured bas-relief idols usually carved on large isolated rocks, with walls and lintel over to protect them from the weather.

12th August (*Wednesday*)

Gyantse. 13,120 ft. 14 miles.

Owing to the numerous official receptions, we had to time our march carefully so as to arrive at a spot some three miles from Gyantse at 11 a.m. Chapman went ahead with two cinemas to shoot the receptions.

The etiquette as to meeting officials in order of seniority is strict, juniors first and seniors nearest home. Also the scarf ceremony is governed by strict rules. The lower ranks present scarves (in lieu of visiting cards) and get none in return. The more senior present a scarf and get it handed back to them. The most senior present a scarf and receive back another from the recipient, i.e., a proper exchange of visiting cards.

13*th August* (*Thursday*)

Gyantse. (Halted.)

The rest of the morning was spent by Gould in receiving official calls.

All the callers brought presents. They are all given tea, or drinks, and will later receive presents in return.

The Jongpen is the District Magistrate, or Deputy Commissioner, and most Jongs have two, one to watch the step of the other. Sometimes one is a lay official and the other a lama. The name of Eastern or Western only comes from which end of the Jong building they live in.

14*th August* (*Friday*)

Gyantse. (Halt.)

Although halted, most of us had a fairly busy day.

We all went to the British Trade Agent's post, where a most interesting race meeting and sports were organized. Local Bhotia ponies raced, including a "pacing race," in which only one out of seven ponies kept its "pace" and won. The others all broke into a canter or gallop. A yak and cow race caused great enthusiasm and the favourite won.

There is unlimited space for an aerodrome in the Gyantse plain, but nowhere usable without a fair amount of work on levelling small irrigation bunds. There is plenty of local labour.

16*th August* (*Sunday*)

Gobshi Camp. 13,800 ft. 17½ miles.

The animals we ride are mostly Mongolian-bred ponies brought to Lhasa for sale and thence to Gyantse. They are trained to amble or "pace" on the march to Lhasa by tying their legs together in a certain way.

A fast "ambler" is highly prized by the Tibetan officials and nobles.

17*th August* (*Monday*)

Ralung Camp. 14,800 ft. 15½ miles.

18*th August* (*Tuesday*)

Dzara Camp. 15,700 ft. 16 miles.

About three miles after leaving Ralung we came to a great flat plain called the Ralung Pangde at a height of 15,200 feet, which would afford an excellent aerodrome. There are a lot of "mouse hare" holes all over this plain but they are too small to endanger an aeroplane landing.

We saw Goa (Tibetan gazelle) grazing on the plain and several flocks of burrhel (blue wild sheep) on the slopes above this valley.

A mile or two below the pass were the remains of old Tibetan fortifications last used in a fight with our troops in 1904. They formerly comprised a continuous loopholed wall right across the valley from one precipice to another, but it is now razed to the ground and only the trace is visible.

19*th August* (*Wednesday*)

Nang-Kartse Camp. 14,500 ft. 14 miles.

There is an interesting Gompa (Sumding) three or four miles from here, which has the distinction of having as abbess the only female incarnation in Tibet.

20*th August* (*Thursday*)

Pe-de-Jong Camp. 14,500 ft. 16½ miles.

On the road to Lhasa.

21*st August* (*Friday*)

Singma-kang-chung. 11,700 ft. 11 miles.

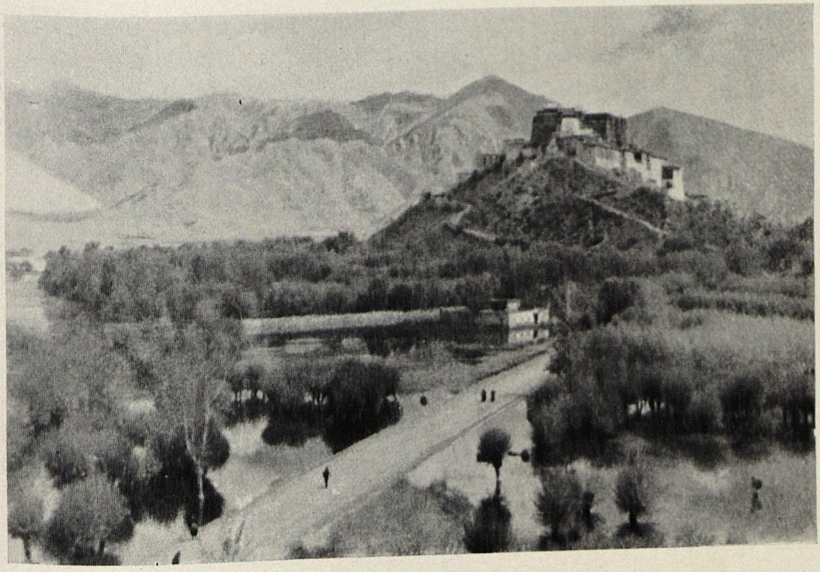
22*nd August* (*Saturday*)

Chusul. 11,600 ft. 16 miles.

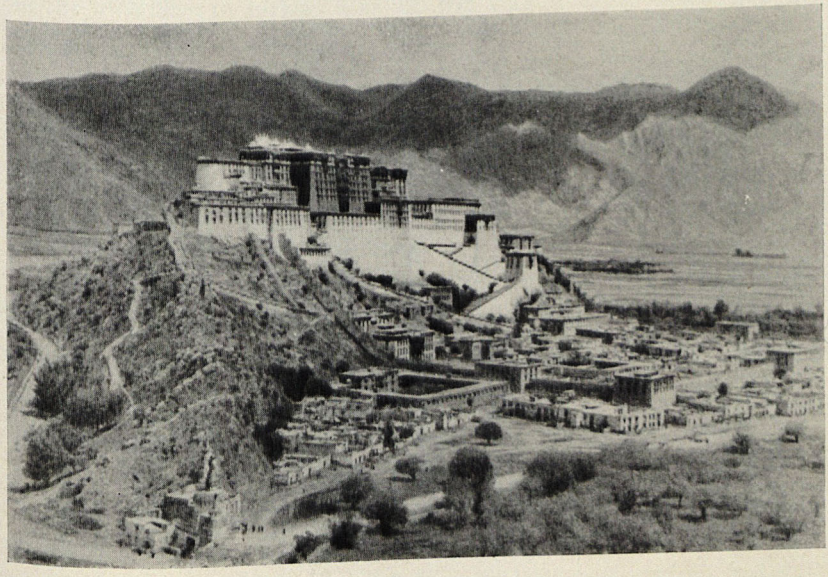
We had quite an interesting march, starting with the passage of the Tsangpo in flood by means of yak skin boats or coracles and ending with a mile of track flooded to a depth of about 2 feet by the river.

Our riding ponies and some of the baggage were ferried across the river, and then marched to Chusul, while the bulk of the baggage went the whole way by river in the coracles.

Each coracle is about 8 feet long and two are lashed together to form a ferry raft. The ponies, two, three or four at a time are pulled into the river with great excitement and splashing on the



Entrance to Lhasa



The Potala, Lhasa

upstream side of a raft which then pushes off. The ponies swim alongside the raft with their heads held up out of the water by their head ropes. The rafts land about half a mile downstream. They are then rowed over again and carried each on one man's back upstream as far as required. They are very buoyant, but very light and are made of six yakskins stretched on a framework of poles. Several ponies broke loose and swam by themselves. Three broke back across the river and swam back to the near shore; unfortunately one of these, exhausted by its efforts, died, presumably of heart failure. It was evidently best to tow only two ponies at a time; when more than this was attempted, trouble usually ensued.

We saw some enormous old walnut, peach and apricot trees. The crops are numerous—potatoes, beans, buckwheat as well as the common barley.

23rd August (*Sunday*)

Netang. 11,600 feet. 23 miles.

A few miles on we left the Tsangpo valley and entered its tributary the Kyi-chu, and soon we had a distant view of the mountains surrounding Lhasa.

About half way we were met by a ceremonial guide from Lhasa who will accompany us in. He is a high lama, an official of the fifth class in Lhasa, and of the fourth class when outside Lhasa.

Skin boats seem to ply down the fast running Kyi-chu as we saw two lashed together whizz past camp this evening. They will do our days march in a couple of hours!

24th August (*Monday*)

Lhasa. 11,800 feet. 16 miles.

This has been a most notable day, the first entry into Lhasa for all the British members of the Mission. Lhasa has been in the past, and still is to a great extent, one of the secrets of Central Asia, so far as Europeans are concerned, for the Tibetans still maintain the strictest supervision on all European visitors, and very few are allowed to reach Lhasa.

The most phlegmatic person could hardly avoid a thrill, when marching up the Kyi-chu, at the first sight of the Potala, the palace of the Dalai Lama with its gilded roofs glittering in the bright sunshine of these high altitudes at many miles distance.

We had to time our march so as to reach the various reception places at a fixed hour. We passed the great Drepung Lamasery,

the biggest in Tibet (with 7,000 lamas) at about 10-15 a.m. after coming some 12 miles; and near there were met by Kusho Mondong, a Lama Official, who in 1913 was taken by B. J. Gould, with three other Tibetan boys to England to school, at Rugby. Although over 20 years since he had returned to Tibet, Mondong still spoke good English.

A mile or two further on we were met by representatives of the Tibetan Government, also Monks or Lamas, and were conducted into a park or public garden where ceremonial scarves from Government, Regent, Kasag (Cabinet), etc., were received, and other scarves presented in return. We were then regaled with Tibetan tea and bread. The costumes of the Tibetan officials and their servants were magnificent and appropriate and suited in every way to the surroundings.

The Lama officials wear comparatively dull claret-coloured robes, but with brightly gilded red lacquer hats. They ride smartly caparisoned mules or ponies with gay saddle cloths. Lay officials wear brightly coloured and embroidered Chinese silks. The servants have most marvellous red-feathered and tasselled round-fringed hats like a great lamp-shade!

The whole setting, bright sun, oriental costumes, old world oriental garden and pavilion, with lacquered chairs for us and cushions on the ground for the Tibetans, was remarkable. The old world courtesy, politeness, bowings and compliments of the Tibetans, officials as well as servants, are charming.

After tea we mounted and moved on, always with the most impressive sight of the Potala on its steep hill before us.

We were next received by a guard of honour of a regiment of soldiers and of police, the soldiers under their Depon or General, and the police under the Chief of Police.

We then rode to our residence and camp at Deki Ling-Ka where our official Tibetan guides showed us the rooms in a sort of summer pavilion with a nice garden in which tents are pitched.

All this way we rode facing the imposing Potala, and also in view of the Medical College on the second hill of Lhasa.

The whole valley is extraordinarily fertile, lush and green, with irrigation rivulets everywhere, vegetables, ripening crops and groves of trees. There is a considerable stream of pack animal transport moving to and from Lhasa. Villagers turned out in crowds to watch us. The dirt of the villagers, the frequency of

goitre, and the many pock-marked and in some cases imbecile faces were noticeable.

The climate now is mild and warm, minimum temperature of 55°F. or above, and maximum of a little over 70°F.

We had fine views of the Drepung and Sera Gompas, two of the "big three" of Tibet, whose lamas have great influence on the policy of the country. The third, Ganden Gompa, is a day's march away.

On arrival at Deki Ling-ka, we sat down to what we were told was to be a "light lunch." There were thirteen solid dishes of hors d'œuvres of meat and vegetables of various sorts highly spiced. Then followed in succession three or four éntrees of hot spices, meats, mushrooms, tripe, etc. Finally came in the usual main course of Tibetan spaghetti in soup, of which one is expected to consume three or more large bowls. To drink there was Tibetan butter tea, and "chang." Chop-sticks were used to eat with.

We arose, gorged, after an hour-and-a-half.

25th August (*Tuesday*)

Lhasa.

Most of the day was spent in receiving numerous visitors, who made full ceremonious calls in their best silk robes. Each lot of visitors is allotted a time to call, and each is entertained to tea, sweet biscuits, cake and liqueurs. The favourite liqueur is creme-de-menthe closely followed by benedictine. The servants are kept busy clearing and preparing fresh tea all the morning and afternoon. As it is polite to drink a little tea with each visitor, these continuous snacks are trying to the digestion.

The most magnificent sight was the arrival of three Shapes (Cabinet Ministers) of the Kashag (Cabinet). They wear most beautiful yellow silk robes, and gilded and brocade hats with red silk fringes, and a jewelled knob on top. They are accompanied by beautifully dressed attendants, and servants. The three of them sat cross-legged on a divan in the first floor reception room, and we all sat round the room while Dzasa Norbhu (dressed with equal resplendence in accordance with his Tibetan rank) interpreted.

The day's list of callers is as follows:

Dronyer of Tendong Shape.

The Kashag (Cabinet).

Bhondong Shape.

Tendong Shape.
Langchungna Shape.
Depon Jigme (Tering).
Kusho Chango pa (Ringang).
Tsarong Dzasa and his wife.
Kalon Lama Shape.

Shape is cabinet minister (second grade official), Dzasa is third grade, Depon is General.

Some of us went for a ride in the evening round the Potala, whose southern aspect is indeed magnificent and impressive.

27th August (Thursday)

Lhasa.

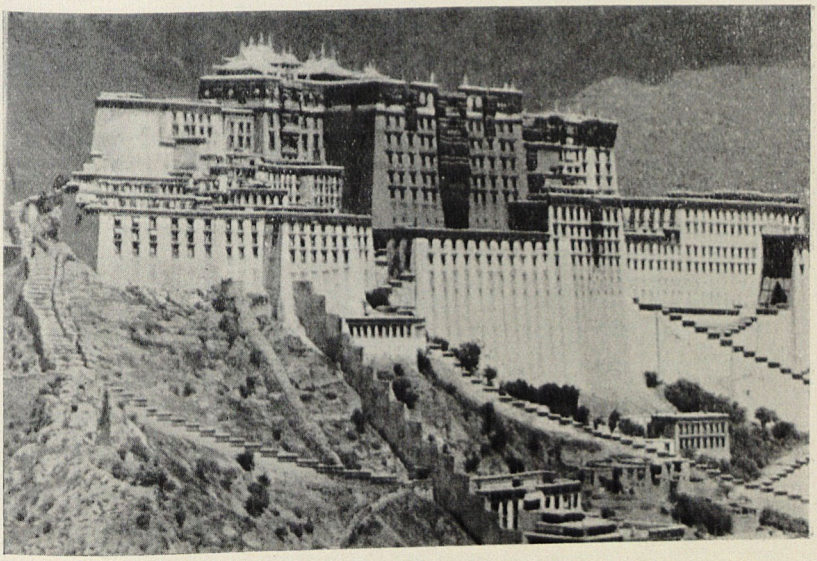
At 10 a.m. we all went in uniform to pay our official call on the Regent and Prime Minister in the Potala.

The ceremony was most impressive, for the buildings although in places dirty, and with low doorways, etc., are of noble design and in a wonderful situation with striking views over the plain round Lhasa. The ceremonial is strict and carefully carried out with officials and attendants to usher us in. First we met the Prime Minister in an ante-room, and then went into the Regent's throne room, small but well decorated. He is not allowed to use the Dalai Lama's apartments.

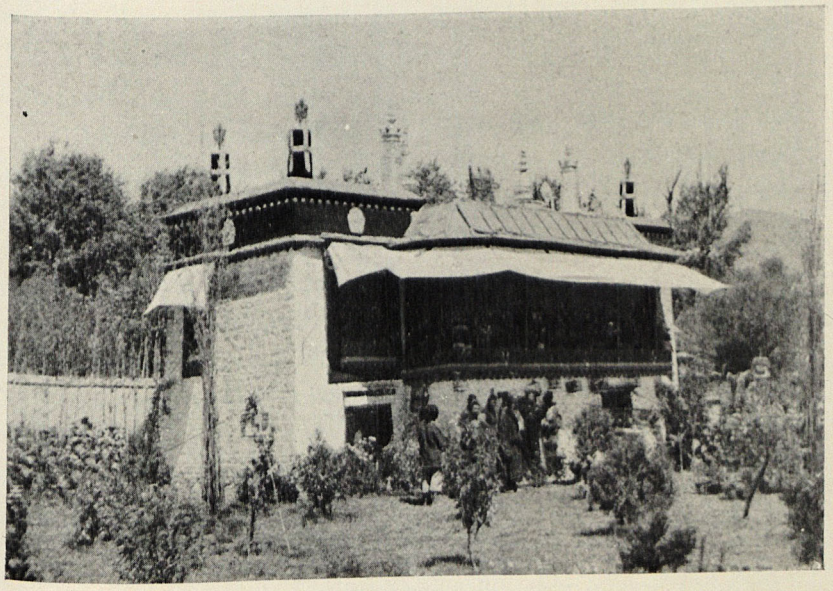
We exchanged scarves, and then, being seated, Tibetan tea, biscuits and dried fruits were handed round by some colossal servants. One of them would indeed have made Carnera look small. They are specially selected for attendance in the Potala on the Dalai Lama, or Regent.

The grading of officials is interesting. Of Shape's (Cabinet rank) there are four in all Tibet. They are 2nd rank officials. Of Dzasa's there are six in Tibet, and two honorary in British India (Laden La and Norbhu Dhondup); they are 3rd rank officials.

It is a notable fact that the Commanders-in-Chief of the army, of whom there are usually two, are fourth rank officials only, i.e., quite low in grade, and that the present two have no military qualifications. They do not apparently ever take the field, and might be regarded more in the light of War Secretaries. Compared with the religious organization of Tibet the army takes a low place, for there is a Lama Shape (Cabinet Minister) and a very high official in addition, Chikyab Khenpo, graded just below Shape who



The Potala, Lhasa



Regent's Summer House, Lhasa

is in charge of all the religious organization of the country, and he has four Grand Secretaries graded as fourth rank officials who are very influential and each of whom is equal in rank to the Commander-in-Chief. In fact one of the religious Grand Secretaries is at present Commander-in-Chief in addition to his religious duties.

28th August (Friday)

Lhasa.

We called this morning on the Regent at his private residence.

The Regent's pavilion is a very pretty little building and charmingly decorated inside. There is a small square garden surrounded by a high wall, with grass lawn and lovely flower beds with a profusion of flowers. The place is full of pet birds and animals, including a talking "Mina," paroqueets, a monkey, a leopard cub, a fox cub, pheasants, and numerous dogs.

The young Regent was much more natural and talkative here than in the Potala yesterday. This time the Prime Minister was not present and only a very friendly Dzasa in chief attendance with several minor officials. All were very friendly and natural.

Presents were carried in and given to the Regent, a beautiful silver tea service and tray, rifles, etc. etc.; first and foremost Gould presented the "Kharita" (letter) and photograph from the Viceroy and also three young spaniels as a personal gift from the Viceroy. These were particularly appropriate in view of the Regent's love of animals and pets.

The conversation turned on flowers, the Regent's room and garden containing masses of them. He was very interested when Gould told him that His Majesty the King was keen on flowers, and had specially asked for certain Tibetan wild flowers to be collected by Gould for him.

Neame and Chapman were allowed to take photos and cine of the Regent; amongst his attendants was a giant lama, some 7 feet high, and when Neame snapped him he began to talk and wave his arms. These were not threatening gestures as he was only asking for a copy of the photo.

29th August (Saturday)

Lhasa.

As the result of a long conversation between Neame and Kusho Chapay, who in his younger days had done many years service as Depon in Kham (Eastern Tibet), the following information was

elicited. This was modified in details by a talk with the Lama Commander-in-Chief later in the day, and the combined results are given here. Both officials were capable and clear-headed.

There is a feudal system of recruitment for the Tibetan Army, every official with an estate has to produce so many men. Some estates are specially fee'd or encumbered with providing a large number of soldiers, in fact they are military estates.

Local militia are raised from the villages with their own local armament of prong gun match-locks, etc., for internal security in districts denuded of regular troops.

Kham, i.e., the Eastern Tibetan frontier province, has absorbed all the regular Tibetan forces in recent years, leaving only the Bodyguard of about 600 in Lhasa and 400 armed police and also 300 machine-gunners from 4 or 5 regiments under instruction at Lhasa. There are a few regulars left on the Nepal border, otherwise all the remaining provinces, Gartok, Rudok, etc., depend entirely on local militia with ancient armament for internal security.

The system of promotion is via the ranks, Naik, Havildar, Subadar, to Rupon (major). Appointments to Depon (General), the next rank above Rupon, are all made direct from the nobility without previous experience or training, except for one or two Depons who in past years received military training in India, and also one or two special promotions from Rupon to Depon made by the late Dalai Lama, but none of these exceptions are now serving.

In Eastern Tibet there are now 9 regular regiments, two of 1,000 men with two Depons in charge of each, two of 600 men and the remainder of 500 men with one Depon in command of each, a nominal total of 5,700 regulars.

There are in addition 11 regiments of local militia of 500 each, about 5,500 militia or 10,200 embodied troops in all.

There are in Kham 4 British mountain guns, also some captured Chinese guns, and most of the regiments have one Lewis gun apiece. The mountain guns are in one regiment (or battery) and are allotted as required. The troops are all armed with .303 rifles with plenty of ammunition.

There are 6 or 8 mountain guns in Lhasa with the 300 men under training and one with the field army.

30th August (*Sunday*)

Lhasa.

Being Sunday Gould had arranged to have a rest from visitors

Tibetan orchestra, Lhasa

The Regent broadcasting

and arranged a visit to Drepung Gompa, the biggest Gompa in Tibet or in the world for that matter. It has a nominal strength of 7,700 lamas, actually about 5,000 "live in" and a certain number more live outside.

It is organized in six colleges each under an abbot or Khenpo. The civil control (administration and discipline) is in the hands of two Shen-ngos who are always preceded when abroad by two "lictors" or mace bearers carrying great metal staves, and perched on top of the staves the Shen-ngos' yellow hats of ceremony. These stave-bearers preceded us and called in stentorian voices at frequent intervals "Pha Gyuk" (clear the way). This was hardly necessary as during our visit the lamas were confined to their cells by order.

The gompa is like a great town on a steeply rising hillside 5 miles out of Lhasa, and the numerous buildings, halls and temples rise perforce in terraces with steep alleys and steps between. The feeding, sanitation, etc., of such a colony must be a big task. The place was very clean compared with Lhasa city or any village, and apparently there is a sewage system taking all latrine refuse by an underground channel to some sort of natural pit or settling tank a mile away; for we were told the sewer did not overflow except in heavy rains.

We were met at the entrance by Shen-ngos and stave-bearers and conducted up the steep hill to the main assembly hall. The smell in the great dark cloistered hall was indescribable, a mixture of incense and rancid butter and the floor was thick with black grease, which we understood was due to the sloppings of the lamas' tea which they drink there.

We drank tea with the abbots and then proceeded on a tour of all the colleges in each of which we had to drink tea, or hot sweetened milk. Some of the big halls are very strikingly decorated with coloured friezes of Buddha's life, or of Tibetan devils and spirits. There are literally hundreds of enormous gilded and jewelled idols in this Gompa, for each hall has twenty or thirty or more. In one there was a striking model of the late Dalai Lama and also of the founder of Drepung said to have flourished 2,000 years ago.

We visited a kitchen and saw enormous copper cauldrons 6 feet across and 3 or 4 feet deep in which soup and tea are made. We also saw the lamas' cubicles in each of which two lamas live.

The roof of the main hall rises in striking steep pitched oriental curves and is gilded. In some cases these roofs are actually overlaid with gold leaf.

We then proceeded to the "Nachung" or temple of the Great Oracle of Tibet, a mile from Drepung Gompa, where we had a picnic lunch under a grove of trees at which we entertained our Tibetan guides and our own clerks, who had accompanied us to Drepung, much to their delight.

After lunch we all went round the Oracle's temple guided by a very intelligent Urdu-speaking lama.

We admired the old armour and swords hung round the cloisters, the solid gold butter lamps at the shrines, and the gold leaf pagoda-like roof.

The lamas' living houses at this temple are very superior and clean looking.

ATTACK ON THE CONVOY AT SHAHUR TANGI ON THE 9TH APRIL 1937

(See Sketch Map 1 inch to 1 mile, attached.)

For some time prior to the 9th April conditions in South Waziristan had been very unsettled but the general situation regarding the safety of the main Jandola-Razmak and Jandola-Wana roads was in no way comparable to that existing in North Waziristan. Thus, with the agreement of the political authorities, escorted convoys had been running between Manzai and Razmak and Manzai and Wana without incident. During the passage of a previous Manzai-Wana convoy the presence of suspicious characters in the Shahur Tangi area was noted and reported and formed the subject of a special reference to the political authorities. The latter, however, were of opinion that convoys to Wana could continue without undue risk. It was in these circumstances that the convoy was ordered to leave Manzai for Wana on the morning of the 9th April.

It must be understood that in South Waziristan between Manzai and Wana no troops were available for road protection which therefore devolved upon Scouts and *Khassadars*. In all convoys the escort consisted of one section of armoured cars, a detachment of fifty infantry with one officer and two light machine-guns and a detachment of sappers and miners. Continuous air reconnaissance over each convoy was provided, the pilots being instructed to give warning of road blocks and afford close support if required.

The Start of the Convoy from Manzai

The convoy for Wana left Manzai at 6-10 a.m. on the 9th of April. It consisted of forty-five lorries, two or three private cars and one ambulance. Included in the convoy, which was carrying supplies, leave details and officers proceeding to Wana, were some lorries belonging to the civilian Bagai Transport Company. It was escorted by four armoured cars of the 8th Light Tank Company distributed one ahead, two spaced along and one in the rear of the convoy. An infantry escort of one Indian officer, fifty-eight men and three light machine-guns of the 4th Battalion, 16th Punjab Regiment, under the command of Major H. W. D. Palmer,

3rd Battalion, 16th Punjab Regiment, was carried in lorries distributed at intervals along the convoy. A sapper and miner demolition party of fourteen men travelled in the fifth lorry just behind the leading infantry escort, and one aircraft carried out a continuous watch over the area in which the convoy was moving.

Subsequent reports show that, prior to the 9th April, a gang of Mahsuds arrived by night from the Shaktu *via* Sorarogha and occupied the Shahur Tangi. Their presence in the neighbourhood was not reported by either *Maliks* or *Khassadars,* who were supposed to be loyal and protecting the defile. Actually the bulk of the *Khassadars* were not carrying out their duties and were not in position on the 9th April. Patrols of Scouts were working respectively from Jandola towards Kotkai and from Sarwekai eastwards towards Sura Ghar. Information available at the time showed that these areas were potentially more dangerous than the Shahur Tangi area. Thus on the morning of the 9th April the Shahur Tangi itself was not patrolled by Scouts.

The First Attack

The convoy proceeded without incident *via* Jandola and Chagmalai Post to the Shahur Tangi. At 7-45 a.m. when the head reached milestone 8.4, near the western exit of the defile, firing broke out simultaneously along the whole length of the convoy, being most intense against the leading half of it.

In the defile the road runs along a steep cliff side and lorries can only turn in a few places. The leading armoured car commander therefore ordered the three leading lorries, which were still moving, to follow him to Splitoi, whence he despatched them to Sarwekai Scouts Post, and returned himself to the fight. For the first fifteen minutes of the action the enemy fire was intense and sustained. Several lorry drivers were killed at the outset and their lorries slewed across the road preventing any movement of armoured cars along the convoy. The enemy were located behind rocks and in catchment drains on both sides of the precipitous defile. Subsequent information gives their initial strength as from sixty to eighty, increased later to some two hundred to three hundred.

When the attack began it so happened that all four armoured cars were in sight of each other on the winding road and they at once engaged the enemy with machine-guns. Though many of the casualties occurred in the lorries at the start of the attack,

the infantry escort at once debussed and came into action from behind boulders, from *nalas* and from the road side. In spite of casualties they fought back with the greatest gallantry, inflicting casualties on the enemy and checking at point blank range all enemy attempts to overrun the convoy. In this they were assisted by the armoured cars which, although unable to move up and down the convoy, used their machine-guns with great effect. The infantry escort in the leading lorries under Subedar Badshah Gul, 4th Battalion, 16th Punjab Regiment, established a piquet to the north of the road. This piquet was maintained all day and was of the greatest value. Efforts were made on several occasions to get the lorries under weigh, but casualties immediately resulted. After the first quarter of an hour the enemy resorted to intense and accurate sniping and no movement was possible in the vicinity of the convoy.

Subsequent Course of the Action

Meanwhile the news of the attack had reached Waziristan District Headquarters, Sarwekai and Jandola, and the following reinforcements were despatched to the scene of action:

From Manzai (in lorries)—

One section 8th Light Tank Company.

One Company 4/16th Punjab Regiment.

One Platoon, Support Company 4/16th Punjab Regiment. Followed later by a composite company 4/16th Punjab Regiment.

From Jandola—

Three platoons South Waziristan Scouts.

From Wana (in lorries)—

Three platoons South Waziristan Scouts, which reached Splitoi at 4-30 p.m.

From Sarwekai—

One section 8th Light Tank Company.

One mounted infantry and four infantry platoons South Waziristan Scouts.

The Scouts were out on patrol eastwards from Sarwekai and when the news reached them were at Sura Ghar.

Mr. Lowis, Assistant Political Agent, Sarwekai, organised a party of *Khassadars* at Splitoi.

From Miranshah—

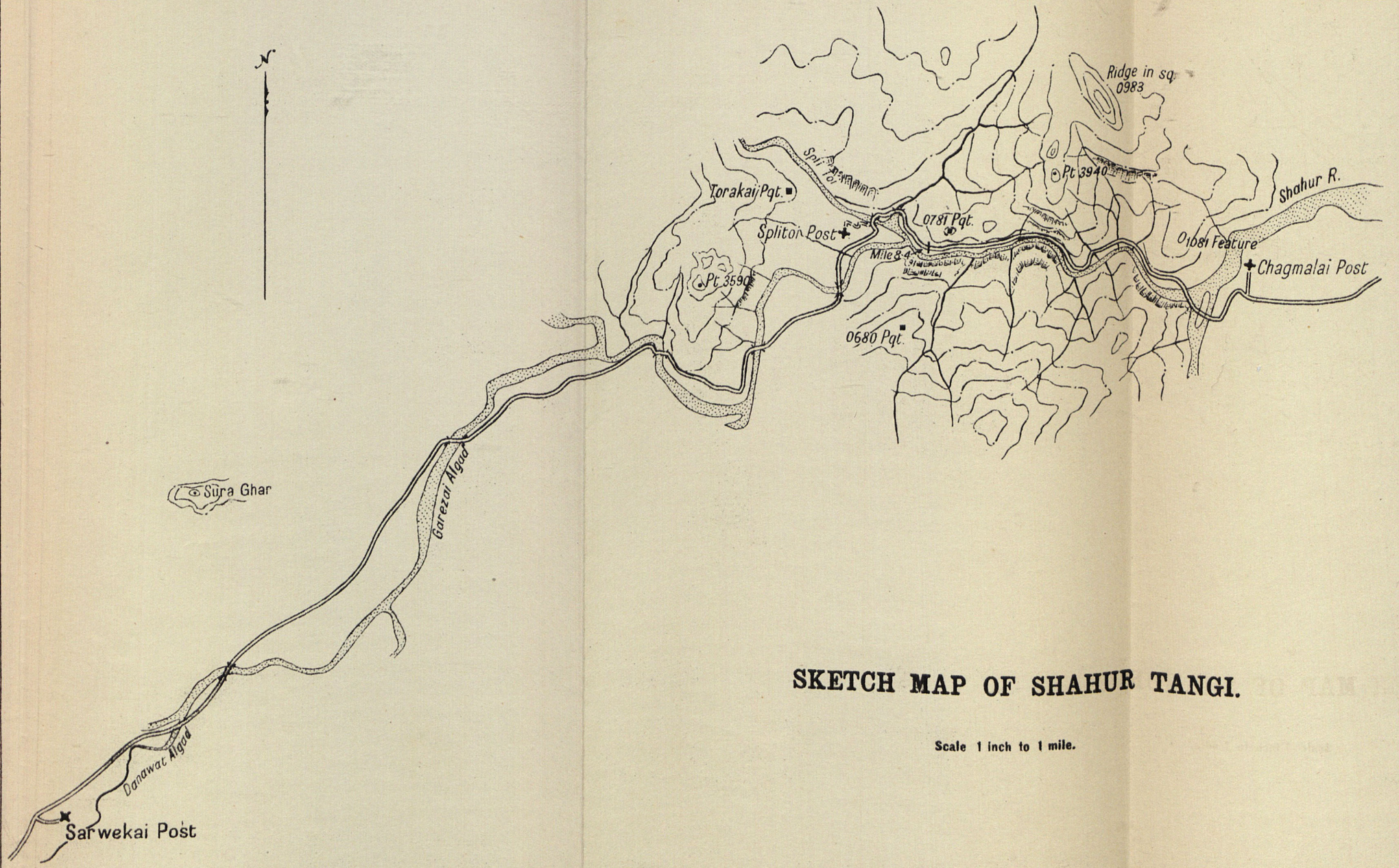
A second aircraft for close support.

The reinforcements from Manzai and Jandola reached Chagmalai about 10-30 a.m. Major Skrine, South Waziristan Scouts, who was in command, hearing it was impossible to extricate the convoy decided to seize the high ground north of the defile, his object being to prevent enemy reinforcements from coming down to the scene of the fight from the north, and to join hands with reinforcements from Sarwekai.

The advance from Chagmalai met with only slight opposition until it reached the 0983 ridge, but the subsequent advance towards point 3940 drew heavy fire and opposition grew stronger, particularly on the right flank where considerable numbers of the enemy were seen streaming down from the north.

It was now 4 p.m. and as there was no sign of any advance from Splitoi and as the evacuation of casualties was a formidable matter in such difficult country, Major Moll, 4/16th Punjab Regiment, who was now in command, decided to withdraw. The withdrawal was very closely followed up, but Chagmalai was reached at 6.45 p.m., and, with the exception of one Scout missing, all casualties were evacuated. Meanwhile three more platoons of South Waziristan Scouts arrived from Sararogha. These established a piquet for the night on hill 1081.

To turn now to events at the western end of the defile. The Scouts from Sura Ghar reached Splitoi at midday, seized point 3590 and then advancing along the ridge took Torikai piquet from which they were able to fire on the enemy in the Splitoi stream. Mr. Lowis with his party of *Khassadars* and some Scouts seized the hills 0781 and 0680, of which the former was held by the enemy. Meanwhile the enemy threatened to advance from the ridge north-east of Splitoi. They were driven off by Scouts and prevented from infiltrating down the stream. These attacks had the effect of weakening the enemy's position in the Shahur Tangi, and with the assistance of the armoured cars from Sarwekai it was found possible to pass some fifteen or twenty lorries of the convoy through to Splitoi and thence on to Sarwekai. At about 4-30 p.m. three platoons of Scouts arrived from Wana, and were ordered to seize point 3940 which they did in spite of considerable opposition. Lieutenant Robertson, who was in command of this party, was



SKETCH MAP OF SHAHUR TANGI.

Scale 1 inch to 1 mile.

Army Section 6 D. O. S. of I. No. 8781. May 1937.

wounded, but the hill was held by the Scouts throughout the night.

As dusk came on the enemy made attempts to rush the convoy, but were beaten off by the fire of the armoured cars and the survivors of the infantry escort. After dark the strength of the latter was insufficient to protect the convoy throughout its length. They were collected in small parties in the vicinity of the armoured cars, two of which were situated about the middle of the convoy, and sangars were built. These measures were successful in keeping the enemy from approaching the convoy as a whole though they were able to reach a few lorries which were defiladed from the fire of the defenders. In addition, Scouts patrols from Splitoi, supported by armoured cars, worked along the convoy, and helped to evacuate casualties.

Throughout the day the Royal Air Force co-operated closely, one sortie on each side of the road being continuously in the air. Their action, and in particular their machine-gun fire, was invaluable in keeping down enemy fire.

By morning the enemy had disappeared and the work of extricating the remaining vehicles was able to proceed unhindered. The Tangi was clear of the lorries by 2 p.m. when regular troops returned to Manzai and the Scouts having established garrisons at Chagmalai and Splitoi, to Jandola and Sarwekai.

THE PRINCIPLES OF MOBILIZATION

By Major A.V. Anderson, m.b.e., r.e.

"Mobilization is the process by which an armed force passes from a peace to a war footing."

"The object of mobilization schemes is to ensure that, so far as can be foreseen, every detail connected with the change from a peace to a war footing has been thought out in peace."

The above two extracts from Mobilization Regulations, India, 1929, are well known and most officers have at least a working knowledge of the process of mobilization as it affects their own units and of the contents of their unit mobilization schemes. Mobilization and mobilization schemes are, however, concerned so closely with matters of detail that the details are liable to mask principles and to make it difficult to distinguish between what is essential and what is merely desirable. This is said without intending to detract in any way from the importance of details and, to avoid misunderstandings, it may be as well to assert here that attention to detail must always remain a necessary element in the preparation of all mobilization plans. Mobilization is, however, a complex process and it is all the more necessary that principles should not be obscured.

Instead of attempting to define these principles at this stage, it is proposed first to examine the process of mobilization more closely with particular reference to the definition of mobilization which stands above.

In the first place it is clear that the process of mobilization must depend upon the state of preparedness at which the army and the units which compose it are maintained in peace. Certain units exist in peace at a higher establishment than they require in war. Others exist only in cadre form, while others which are required in war do not exist in peace at all. All administrative machinery, such as training establishments, depots, record offices, etc., has to be considerably expanded and in the case of new units and services this administrative machinery has to be built up from the beginning. Speaking generally as regards the army as a whole and as regards new and "cadre" units, mobilization is a process of growth; as regards most combatant units, however, it is something entirely different.

In peace most combatant units have a higher establishment than in war and all are governed by a very complex system of administration, with the result that in their case mobilization is more a process of discarding men, stores, equipment, etc., than of adding to peace holdings. Surplus personnel are sent to the depot; such mobilization equipment as is taken into use is more than offset by the training and station stores handed over; all ranks are restricted to war scales of clothing and surplus clothing and baggage is left behind; messes and institutes are closed and unit ledgers and accounts are finally balanced. The mobilized unit is like a battleship stripped for action; it has all its requirements for war but everything else has gone overboard.

It is also clear that the process of mobilization will vary in accordance with the role allotted to the unit in war. Certain combatant units, internal security units for instance, will remain outside the theatre of operations and although their mobilization must follow the general lines of that of the rest of the army it is obvious that the "stripped for action" condition will not always be suitable.

There is, however, another and even more important point of difference between a mobilized unit which enters the theatre of operations and one which does not. In the former case the complete war outfit of the unit is written off ledger charge and thenceforward equipment, rations, clothing, etc., are demanded on an "as required" basis. It is clearly impossible, for many reasons, to extend this simplification of procedure to units which remain outside the theatre of operations and in their case the process of mobilization must be modified.

A further point which emerges from an examination of the definition is that the process of mobilization is also liable to variation on account of the fact that the expression "war footing" need not necessarily always mean the same thing even for the same unit. A war with a major military power will require a higher standard of organization, both on the part of units engaged and on the part of the force as a whole, than might be permissible for a minor campaign on the North-West Frontier or for a rising such as the Burma Rebellion of 1931. It is most desirable in the interests of economy that no higher standard of organization should be adopted than is necessary in each particular case, although the standard must be sufficient to meet the occasion and

must be such as can easily be converted to a higher standard should the operations develop unexpectedly.

Without proceeding further on these lines, it appears to have been established that the process of mobilization is one of considerable variety and the next step towards formulating principles is to find some factor common to each of the many varieties which the process of mobilization may assume. It seems obvious that this common factor cannot take the form of some particular action whose fulfilment has the effect of marking the completion of mobilization and, as we are looking for principles, the clue can hardly be expected to lie in some matter of detail.

There is, however, one factor common to all varieties of the process in that all result in the unit, etc., in question passing to a war footing. This expression "war footing," as has been shown, has no fixed meaning but it implies that the unit of force is ready to undertake the task allotted to it in war. Here, it is suggested, is our first principle:

> "A unit or force may be considered as having passed to a war footing, or to have completed mobilization, when it is finally in a position to carry out efficiently its war role."

The above statement affords a fresh basis for enquiry and it is now proposed to consider the conditions which affect the capacity of a force to carry out its role in war. This capacity is dependent upon many things, such as standards of training, physical fitness, suitability and sufficiency of equipment and armament, etc., but for our present purposes the possession of all these essentials must be assumed, the justification for this assumption being that if these are not present in peace the order to mobilize will not in itself produce them. There are, however, two other conditions which must be satisfied before a unit or force can be considered as having passed to a war footing and these two conditions are intimately affected by the process of mobilization itself.

These conditions are that the unit or force must be suitably organized for its task and must also have adopted a suitable system of administration. The importance of the first of these two conditions need not be laboured; as regards the second it need only be pointed out that if administration breaks down the machine will stop and if administrative methods are unsuitable effort and energy will be diverted from more active channels. It is suggested therefore that we can now formulate a second principle:

"A unit or force is in a position to carry out efficiently its war role when it has adopted an organization and a system of administration suitable to that role."

These two principles read together make it clear that the process of mobilization is, in essentials, one of change in peace organization and peace administration. This fact contains the explanation of why the process is subject to such variation and it is worth while, even at the risk of some minor repetition, to illustrate this by a few simple examples. These examples could be multiplied almost indefinitely by considering organization and administration in their broader aspects, but for the sake of brevity we will confine ourselves to the case of combatant units.

As regards organization, a combatant unit will normally adopt for war its war establishment and will normally be brought up to that establishment before it takes the field. In certain cases, however, the necessity for speed may make it desirable to concentrate the army before units can be brought up to their war establishments and modified establishments, sufficient for the immediate task in hand, may be ordered for the initial stages of even a major campaign. For a minor campaign units may be required to retain their peace establishments and to operate at any strength varying from the minimum practicable up to approximate peace strengths, depending upon the nature of the campaign. On other occasions it may be necessary to lay down special establishments to meet special conditions. It is clear that the process of mobilization will vary in each different case.

As regards administration, the system to be adopted will also vary according to the role of the unit and the nature of the campaign in which it is engaged, subject, however, to one cardinal rule. In all cases the peace system of administration must be simplified as far as the war role of the unit demands and as far as the necessity for economy and for control allows. Simplification of administrative procedure in units usually means the provision of other agencies to relieve them of certain duties, *e.g.*, 2nd Echelon. and a consequent elaboration of the process of mobilization from the point of view of the army. Confining ourselves, however, to the case of combatant units three aspects of administration may be quoted as examples of variations in procedure:

(*a*) The system of pay accounting. The war system can be adopted on as wide a basis as is desirable, regardless of

the location of the unit or individual. In both peace and war systems equivalent safeguards are observed, cash being held on charge and receipts being given and taken as rigidly in war as in peace.

(*b*) The system of accounting for equipment, clothing, rations, etc. The war system can only be applied sparingly and will normally be confined to units which enter the theatre of operations. Under the war system there are practically no safeguards, expended articles are not accounted for and nothing is held on charge.

(*c*) The system of unit and individual records. The war system must usually of necessity be applied to units entering the theatre of operations and the peace system will usually be retained by units remaining outside it as a matter of convenience. Both cases may, however, be subject to exceptions.

It is now proposed to return again to the definition of mobilization which we have been examining, but this time our examination will be more critical in the light of the two principles which have been formulated. We have seen what the process of mobilization really consists of and we know that changes in organization and changes in administrative methods are of frequent occurrence in the army as matters of normal evolution. Some reorganization of units or services is continually taking place and although administrative changes are less obtrusive, much alteration has been effected in army administration during the past ten or twenty years. We are therefore led to suspect that the definition, although it may be true and may be suitably worded for the context from which we have taken it, does not contain the whole truth and that it requires elaboration as follows if it is to present a completely accurate picture: "An armed force passes from a peace to a war footing by a process which normally involves changes in its organization and in the system of administration by which it is governed. This process will vary according to the degree of preparedness at which the force is maintained in peace and the standard of organization required for the war in question. The process may, but need not necessarily, be termed mobilization."

If, as is suggested, it is not always necessary to employ the term "mobilization," it may be asked whether there are ever any advantages to be obtained from its use and, if not, whether there

is any point in retaining it in our military vocabulary. The word "mobilization" has many sinister associations; it is one which any Government will desire to avoid during a period of strained relations and possibly even after hostilities have commenced; its use may invest a comparatively minor operation with undesirable importance. It is in short a word whose use is becoming distinctly unfashionable.

It is, however, a descriptive word which has a definite value if properly employed and if its use were to be discontinued it would be necessary to introduce some other word in its place. Mobilization regulations, mobilization plans and mobilization schemes are still necessary, by whatever names they are to be called, to ensure that every detail connected with the change from a peace to a war footing has been thought out in peace. These regulations, plans and schemes must, however, of necessity prepare for the worst possible case and the prejudice against the term "mobilization" has arisen from this fact and from the mistaken belief that these plans and schemes can only be put into operation by the order to mobilize and that, if they have to be put into operation, they must be implemented fully.

As we have seen, however, we must be prepared to give effect to the process of mobilization in many varied forms; our regulations may have to be applied partially or piecemeal; our schemes will almost certainly have to be considerably modified to meet actual requirements; the word "mobilize," although it may be useful as a code-word for the worst possible case, cannot obviously be applied to each of the many varieties of process involved and its use may even be definitely forbidden.

This situation presents no difficulty provided that it has been appreciated and prepared for beforehand and it merely entails the various stages of mobilization being ordered as they become necessary and to the extent which the needs of the moment demand. The basic orders required can be issued in peace in the form of regulations, dissociated entirely from mobilization, and modifications and additions can be issued very simply in the form of instructions as the occasion arises. Regulations and instructions have, however, to be applied and this can only be done most intelligently when all concerned are fully acquainted with the principles upon which they are based. It is hoped that in this article some progress has been achieved towards making these principles clear.

SOME REFLECTIONS ON THE COST OF INDIAN DEFENCE

By "Spur"

Critics of Indian military policy usually adopt the attitude of detached opponents who believe that the country is made to pay large sums for humouring the whims of its bellicose advisers. Their arguments were ably summarised by the late Commander-in-Chief in the Council of State in 1931 as follows:

(*a*) Military expenditure is, according to standard economic theory, unproductive and contributes nothing to the wealth and welfare of the country. India simply cannot afford the sums she now pays for defence.

(*b*) External perils are not really serious; for the chances of attack have been reduced since the League of Nations came into being. And in any case the army is used less for the service of India than for the furtherance of British interests.

In Europe the essential facts of defence are known to educated persons. England knows what the loss of sea power would mean to her; France what failure to defend her land frontiers might entail. In India such facts are not widely known. To cite the costs of defence in other countries and then to point to the poverty of India and the relatively high cost of Indian defence is not by itself enough. The cost of defending India depends on her geography, the composition of her peoples and her relationship to world politics.

One may lay it down as a principle that it is the duty of the statesman to formulate policy and of the soldier to see that the means with which that policy is to be carried out are ready at hand and efficient. While the soldier should take notice of the political and economic conditions which affect the development of a country, he must never be unduly influenced by them. He has his case to state; it is for the statesman to hold the balance between military and civil demands. And if the statesman cannot find the money for those armed forces which the soldier assures him are necessary to carry out his policy, he has in reality two courses open to him. He can rid himself of the soldier and seek

other advisers; or he can modify his policy. This article represents then a soldier's reflections on the size of India's defence forces in relation to current political and economic conditions.

It would be difficult to find any period since the war when the international scene has been more disturbed. In Europe the League of Nations appears helpless. Three great nations have openly flouted it. Disarmament is a dead letter. Every Western nation, almost every nation in the world, is bent on increasing and modernising its armed forces for the struggle it fears will come. "Guns not butter" are the unfortunate orders of the day.

In Spain a civil war, barely confined to national territory, shows no signs of early termination. Moving further East, there has been a rebellion in Palestine, a *coup d'etat* in Iraq. Throughout Arab countries there is a feeling of unrest. Even the African Continent has been vaguely disturbed by the reduction of one of her few remaining independent states.

In the Far East, Japan is well launched on a career of military and territorial expansion. Her Press no longer refers openly, it is true, to the possibilities of Japanese domination of Asia but it has done so on more than one occasion in the past.

Closer to home India is experiencing a disturbance on her frontier as serious as any she has seen for a decade.

Throughout the world there is a clash of ideas. Fascism, Communism, Naziism, Syndicalism; do any of these hold out hopes of lasting peace?

But economy in defence depends not only on world peace but also on internal calm. When unrest is rife, accentuated by racial hate and by terrorism, the army finds it hard to keep expenditure within bounds. The size of the Army in India is referred to later in this article. Here it may be remarked that India has, since the war, been forced to retain on an average one British and nine Indian cavalry regiments, twenty-eight British and twenty-five Indian battalions, and five armoured car companies for internal security purposes alone. The figures speak for themselves. There is admittedly a school of thought which maintains that the problem of internal security will fade as alien government is replaced by national government. This is a contention which the future alone can prove to be right or wrong and the writer is dealing with the present. Of course the millenium may arrive, but the millenium is after all an abstract conception on which

no government, alien or otherwise, can safely rely while labour unrest is present and communism, terrorism and communalism remain factors to be reckoned with. It will indeed be an exceptional Indian minister who is able in the near future to steer his province through times of unrest without being grateful for the knowledge that military aid is available in the background, even if he does not have recourse to it.

Moreover, political unrest affects Indian finances in another way. Referring to the depression, Sir George Schuster remarked on the 28th February 1931:

> "So far as India's external trade is concerned, the depression may be put down to world causes. But internally the Civil Disobedience Campaign has weakened confidence in India as a field for investment, both at home and abroad. This has led to a steady decline in the price of securities, to a lack of credit to traders and of capital for new enterprise; and to an export of capital from this country."

In support of Sir George's statement, it is of interest to note that during the period of which he was speaking the price of British War Loan rose from 102 to 104, while the price of sterling $3\frac{1}{2}$ per cent India stock dropped from $65\frac{1}{2}$ to 59.

Turning from the political to the economic sphere, we find admittedly a more hopeful picture. Yet it is still a picture of light and shadow.

The resources of India in man power and material are great. With a population of over 300 millions, she has a vast productive capacity in coal, manganese, cotton, sugar, jute and numerous other commodities. Her foodstuffs are adequate. To judge by the amount of bullion exported in recent years, her accumulated treasure is immense. Yet by western standards she is a poor country; for her wealth is not developed. It is surprising how few of the great industrial concerns of India have been created by Indian organization. Except for Tata's and the mills of Bombay where the population is essentially cosmopolitan, few were until recent times in the hands of Indians. The jute industry is British; the works for the production of machine tools at Barrackpore are not Indian works; they were erected by Messrs. Herbert & Co. Indian industrial apathy is well illustrated in the leather manufacturing industry. The factory is as uncongenial to the Indian

labourer as is the industrial system to the Indian university graduate. It sounds a paradox to say that in a country with a population of 300 millions the demand for factory labour is often in excess of supply. Yet the Report on the condition of trade in India at the close of the war stated:

> "The most serious defect of Indian labour to-day is its intermittency. Ten per cent. is a low estimate of the number of absentees at any one time. In the harvest season staffs are sometimes reduced by forty per cent"

and there is no reason to think that the attitude of Indian labour has undergone a fundamental change in the last twenty years. Again the habits of the people of India would not support a banking system such as we understand it in the West. In some eighteen towns possessing a population of over 30,000 there are no banks at all. Unfortunately the habit of investment is still undeveloped. Its place is taken by hoarding and by conversion of bullion into jewellery. Those who have studied the subject are agreed that a wonderful future awaits the country the moment investment becomes anything like as general as it is in England. In making these remarks the writer does not urge that India should attempt to change herself from an agricultural into an industrial country. That would indeed be a sorry policy, for India's strength lies in her land and her peasantry. But the facts cannot be burked. One has only to read the speeches of Indians such as Mr. C. R. Das and Mr. Gandhi to realise that Western industrialism and Western efficiency are regarded by a large section of educated opinion not only with indifference, but with aversion.

Financially, however, India is in a more advantageous position. The total debt of the Government of India on 31st March 1935 was 1,236 crores, say a little over £900 millions sterling; not a large amount for a country of her size and possibilities. Of that debt it was estimated that 981 crores were directly productive in railways, telegraphs, irrigation and commercial undertakings; 51 crores were held in cash and bullion on treasury account. Some 20 per cent. of the whole represented unproductive expenditure. By comparison the national debt in Great Britain on the same date fell just short of eight thousand million pounds; the major part being due to unproductive expenditure.

At the moment economic prospects are reasonably encouraging.

High tariffs, a pronounced feature of post-war years, and uncertainty in the foreign exchanges have, it is true, entailed a great shrinkage in international trade.

Against this, thanks to the conservative management of her affairs, India has weathered the storm well. The balance of trade is still in her favour and internal trade has already recovered substantially.

A review of this economic background leads one to think that a big factor in reducing the apparent oppressiveness of defence costs must be the development of Indian industry and agriculture and the creation of a habit of investment. Investment is after all nothing more than the employment of accumulated wealth to a useful purpose, but the habit is one that must be encouraged if India is to grow more wealthy. At present much of the finer technical equipment of the Defence Forces has to be imported. The lack of facilities for obtaining various articles from the trade compels the army either to manufacture itself or to keep up large stocks of spares. The army provides that security which is essential to social and economic development. It cannot provide, and nor can any government department provide, the will to improve. If the educated Indian, able as we all know him to be, would turn to trade, military burdens would soon disappear.

Before examining the size and cost of the Indian Defence Forces in any detail, certain other broad tendencies of Indian finance require notice. By 1859 the long-drawn-out operations of the Mutiny had produced a huge deficit. At the request of Lord Canning, Mr. Laing, a Treasury official, was sent out to India. He filled up the deficit by new taxes, among them an income-tax. In his extensive report he stated that he had come to the conclusion that the revenues of India were elastic and buoyant to an extraordinary degree. In railways, canals and other public works, India had assets of great capital value and there was no reason to be uneasy about the financial stability of the country. Writing some years after the war, the Oxford Historian records:

> "That unfortunately the Indian Government is prone to panic on the subject and far too ready to resolve on short-sighted petty economies whenever it finds itself slightly embarrassed. Such a panic occurred in 1911 without any substantial justification."

Admittedly it is not only in times of financial stress that the Government of India has been hard put to it to find revenue. The sums that have been spent on "nation-building" services have never been large, but then the revenues of the country are not large. On the other hand a marked feature of Indian finance —and soldiers will agree that it is a right one—has been to allot a larger proportion of the slowly growing revenue to civil needs. The incidence of military and civil expenditure over the last three decades is shown below:

	1913-14	1922-23	1933-34
Total revenues of India	... 87	219	174 crores
Defence	... 29	63	44½ „
Other expenditure	... 58	156	129½ „
Defence per cent.	... 33½	29	26 „

To-day the proportion of revenue devoted to the armed forces is substantially less than it was in 1923 and of course much less than it was before the war.

In 1923 it was felt that the ratio of military to total expenditure was excessively high and the Inchcape Committee, which sat for the express purpose decided to enforce economy in two ways, by a decrease in actual fighting strength and by a relatively greater reduction in the provision for maintaining that fighting strength. In their enthusiasm for economy at all costs it is possible that they overstepped the mark. Certainly it was not long before the balance between fighting strength and maintenance services essential to the production of an efficient army was seriously impaired. In 1927 the Commander-in-Chief was compelled to draw attention to the fact that the equipment of the army had fallen and was progressively falling below modern standards. He estimated that a special outlay of ten crores would put the army on its feet. A scheme for the stabilization of the defence budget was thereupon introduced. Fifty-five crores were to be placed at the disposal of His Excellency for 1928-9 and the following three years. The army itself was to undertake an economy drive and internal savings were to be retained and to pass to a military reserve fund.

Actually up to 1931-2 the sum of seven crores was obtained in this way. Critics at the time pointed to the savings as a proof that the army was normally most extravagant. They forgot that half of the saving had been obtained by a fall in standing charges;

that is to say by a turn-over of British ranks to new and lower rates of pay and by a fall in wholesale prices.

The severity of the depression forced a reduction in the stabilised defence budget and by 1933 the actual net expenditure had fallen to 44½ crores. Under the conditions prevailing it was only right that defence expenditure should be reduced, for all classes in India were called on to make sacrifices. But it must be remembered that at least some of this saving was effected by a reduction in stocks, by a postponement of building programmes and programmes for modernising the forces; a process which could not go on indefinitely. Unhappily rapid obsolescence is common today. But that is the work of the scientist and the inventor. The soldier is not to blame. The critic may well remark that these are the views of the soldier. Let us turn then to the remarks made by the commissioners who were appointed by Act of Parliament to enquire into the Operation of War in Mesopotamia:

> "It is the primary duty of every well-regulated government to enforce effective economy. In other words to prevent waste and yet secure efficiency. Simple as is the phraseology of this formula, it is in practice most difficult to enforce. A policy of strict economy had been insisted on by the India Office and by Simla for many years. We should like to draw attention to the manner in which the Army in India suffered during the era of economy before the war when military estimates were ruthlessly cut down, often, it is feared without due consideration. The result was that the army was inadequately equipped, not only for an overseas expedition, but even for frontier requirements."

The present generation cannot of course realise conditions on the Tigris in 1915, but the moral is there for all to study.

To revert to another aspect of the question. It was pointed out earlier in this article that to compare Indian defence costs with those of other countries was not fundamentally a sound argument. It is however to meet the critic on his own ground that the table below has been prepared. It is hard to make an accurate comparison between the various countries as regards expenditure on armaments. Nations class expenditure under different heads and it is not possible to draw a clear line between armament

and non-armament expenditure. Commercial aircraft factories can turn over to the production of military aircraft with little disturbance. Chemical industries producing fertilizers in peace can produce explosives in war. Professional armies have to be paid at a higher rate than conscript armies, a factor which affects the United States, Britain and India more than it affects other countries.

Approximate Defence Expenditure of various nations

	Millions Sterling		*Per cent of 1935-6 Revenues.*	*Cost per head*
	1931-2	1935-6.		1935-6.
				£ s. d.
Western Nations				
United States ..	140	195	20% of central revenues	1 12 0
Italy ..	58	170	40%	4 0 0
Germany ..	50	500	..	6 0 0
France ..	140	146	30%	3 10 0
Russia ..	119	580	..	3 0 0
Great Britain ..	92½	109†	15%	2 10 0
Eastern Nations				
Japan ..	45½	60	46%	0 14 0
Siam ..	1¼	2	22%	0 3 0
Iran ..	3¼	3	..	..
Afghanistan ..	..	1·3		0 2 6
India ..	34	31	23% of total revenues.	0 2 6
Dominions				
Canada ..	3 6	3·7	3½% of total revenues.	0 7 6
South Africa ..	·76	1·75	4½% of total revenues.	0 3 0
Australia ..	3·67	5·6	5% of total revenues.	0 16 8
New Zealand ..	·69	·94	4%	0 15 0

These figures are only rough approximations and so it would be wrong to attempt to deduce more than general tendencies from them, but even these general deductions are not without interest. For instance it will be noticed that almost every country has increased its expenditure on armaments during the last few years. India has reduced hers. Again, while the percentage of revenue devoted to defence is high in Asiatic countries, notably so in the case of Japan, the burden per head of population is low.

Then one may remark on the small burden which defence places on the peoples of the Dominions. There is undoubtedly truth in the argument that the Dominions do not bear their fair share of imperial defence. But the deduction that India bears more than she ought is not on that account alone a logical one.

There are two sections of opinion which may well be noticed at this point. The first is one that is prepared to accept the assurance of India's advisers that military expenditure is not conducted

†Large increases since 1935.

in a wasteful manner, but maintains that the cost is nevertheless more than India can afford. The argument is based on the analogy of the man who is so poor that it would be folly for him to pay an insurance premium at all. It is a most difficult one to answer. In fact the writer can think of no reply except to say that this is a counsel of despair for which in his opinion there is no real justification.

The second section is one that holds that India gains nothing from being in the Empire, in fact that she pays heavily for the privilege. The proponents of this theory forget that from a military point of view, India has at her disposal the latest refinement of equipment, the newest British invention. Without Britain, would not India have to face an increased bill for research and experiment? They forget that the cost of British troops in India was in fact the subject of most careful investigation in 1932, when an advisory tribunal under the chairmanship of Sir Robert Garran presented an unanimous report on questions arising out of the so-called Capitation Charges, which were made by the War Office and the Air Ministry in connection with the raising and training of British troops for service in India. The report involved acceptance by the Government of India of capitation charges calculated in accordance with the tribunal's suggestions as a legitimate charge against Indian revenues; but it also involved the payment to India of a sum from British revenues towards the cost of Indian defence and the net result was a gain to India of about one and a half millions sterling a year.

They also overlook the fact that India obtains practically free protection for her overseas trade which, before the depression, consisted of exports and imports to the value of 340 and 300 crores of rupees respectively. The Royal Indian Navy consists only of five sloops, one surveying and one patrol vessel. It is designed for local protection of Indian coasts. Including a small grant for the imperial navy, India has never yet paid a crore a year towards the protection of her overseas trade. The security provided by the British Navy was remembered by Indians when the Emden visited their shores in 1914. In peace it is forgotten.

And there are other benefits which India receives from her connection with the Empire. British consular and diplomatic representatives look after the interests of Indians abroad. India gains prestige from her membership of the Empire. She is an independent member of the League of Nations, she is represented at

Imperial Conferences, she has her trade commissioners in London and elsewhere. More important are the facilities she gets for borrowing on the London money market. How many other Asiatic nations can raise loans at so low a rate as India?

While India has on occasions been able to lend forces for Imperial expeditions in the past, as in Egypt in 1882 and at Shanghai in 1927, it has been the British taxpayer who has paid the bill. Circumstances may well arise in future when India will be only too glad to borrow troops from Britain.

Without being didactic one may reasonably make two deductions from this brief survey of Indian military finance. The first is that undue economies in defence expenditure always entail a larger and more oppressive burden at a later date. Indeed it is a lesson which the British public is now learning to its cost. The second is that India outside the Empire would find herself faced with a defence bill which in all probability she could not meet at all.

It remains only to review the size of the forces India maintains and to consider whether they are, as is alleged, more than enough to afford her reasonable security.

Now the objects for which Indian Defence Forces are maintained were agreed to by the Legislative Assembly in 1921 and were later approved by the Cabinet in London. Those objects were resistance to external aggression and maintenance of internal order. The size of the Army in India is not dictated by the War Office any more than the size of the Royal Indian Navy is dictated by the Admiralty. The size is decided by the Secretary of State for India on the advice of the Governor-General in Council and on the understanding that the army is not an imperial force but one intended directly for Indian Defence. Within the limits set out, the organization of the army is and always has been the duty of India's military advisers. As is well known, those advisers have divided the available forces into covering troops, internal security troops and a field army.

In peace the covering troops undertake the ordinary watch and ward duties of the frontier; in war they have also to cover the mobilization of the field army. The force has varied slightly at different times since 1918, but on an average it has consisted of two Indian cavalry regiments, four British and thirty-six Indian battalions, twelve light and mountain batteries and the normal proportion of supporting arms and services.

As a rough total one may take it that the covering troops number 33,000 fighting men. In addition there are the irregular forces of the frontier—scouts, militia, levies, constabulary—numbering about 15,000 men. The day-to-day work of these irregulars is of course invaluable, but they are lightly equipped and the ultimate responsibility for the peace of the frontier lies with the Regular Army. When it is realised that there are a quarter of a million modern rifles on the North-West Frontier and that the Mahsud alone can arm 14,000 out of 18,000 men, the force does not appear excessive. Moreover, frontier troubles are of regular occurrence. In 1930 for instance the following are among the events that took place: The Afridis raided the Khajuri and Aka Khel Plains, necessitating protracted operations and the use of two brigades not of covering troops but of the field army in addition to covering troops. Datta Khel was attacked by 4,000 Mahsuds. Boya Fort was heavily sniped and Bannu raided. A Mohmand lashkar was only dispersed after air action had been put in hand. And 1930 was not really an exceptional year, for similar operations have been necessary at periodical intervals ever since the British crossed the Indus.

The trouble is that a frontier expedition to-day is a serious operation of war requiring a high standard of equipment and at times a large number of men. In 1852 an expedition entered Waziristan with fifteen hundred men. In 1920 it required forty-five thousand to deal adequately with the situation. The change has been brought about by the arming of the tribes with modern rifles. These facts are unfortunate, but the creation of law and order on her borders is a duty which no civilised power can refute for long. Nor is there any reason to believe that the fulfilment of that duty will ruin India. Operations under the "Close border" policy of the 'nineties cost on the average fifty lakhs a year. Although the occupation of Waziristan was in itself an expensive move, the expenditure on frontier operations since 1924 has dropped to some thirteen lakhs annually. That India's burden will eventually disappear is possible. Until it does so, it is hard to see how she can reduce her covering troops.

Turning to internal security, a table of great length could be drawn up to show typical occasions on which troops have been called out to aid the civil power. In 1930-31 there were actually one hundred and eighteen requests for troops to stand by and these requests came from seventy different places in India. Many

reports stated that regular troops could not be got to the scene of trouble sufficiently quickly. And the use of Auxiliary and Territorial Forces for this work in peace is plainly undesirable, since it dislocates the ordinary life of the community. The troops normally maintained for internal security purposes are ten regiments of cavalry, fifty-three battalions of infantry and five companies of armoured cars. Yet these troops proved insufficient for the purpose in Malabar in 1921, in the North-West Frontier Province in 1930, in Burma in 1932 and in Bengal in 1933. It is at least a reasonable deduction to say that, were the country to reduce its internal security forces, it would have to meet a greatly enhanced police bill.

As regards the field army, it is perhaps illogical to refer to the 300,000 first line troops which Japan can put into the field or the 600,000 which Russia has immediately available; for both countries have their own defence problems and both have embarked on a military expansion which is as distasteful to the Indian as it is to the Englishman. Still, the comparison with India's small field army of four infantry divisions and four cavalry brigades is sufficiently striking to make one reflect. And these reflections become graver when one realises that one or other of India's field army divisions is frequently mortgaged to a role not properly its own. The case of Bengal has been quoted, Waziristan is before us to-day. Moreover the Indian Army Reserve is a small one, a handicap from which all long service armies must suffer. Its strength since the war has averaged only 35,000 men.

Equally serious is the lack of an officer reserve and it is difficult to see how this could be quickly remedied in war. The Auxiliary and Territorial Forces, although their cost is borne by the Defence estimates, do not form part of the Regular Army in India. The Auxiliary Force is designed only for local service. The Provincial battalions of the Territoral Force are in emergency liable for general service, it is true, but they would require some months of intensive training after embodiment before they could replace regular army units. In 1935 the strength of the Auxiliary Force was about 33,000 men, the establishment of the Territorial Force was only 19,000. The smallness of Indian Army Reserves is only too apparent.

Another factor which intimately concerns the well-being of an army is its admininstrative services. During the Great War it was found necessary to maintain in the field forty men of the

administrative services for every sixty engaged in the combatant arms. The former thus constituted 66½ per cent. of the latter. That ratio has since been reduced to about 30 per cent.*

Admittedly the incidence of supply and evacuation may not be as heavy in a future campaign as it was in France and Mesopotamia, but it cannot fairly be held that the military authorities have over-insured in this respect, when the difficulties of improvising from the Indian market are remembered. As regards the other services, the Royal Indian Navy has already been mentioned. It may, however, be appropriate to point out that the sloops of which it consists are small vessels of some 1,300 tons. It contains no cruiser or light cruiser. Its personnel and annual cost are roughly equivalent to those of a single unit of the British Navy, H.M.S. *Nelson*. Were British naval supremacy in the Indian Ocean to be lost even temporarily the Royal Indian Navy could not possibly hold the field against a foreign maritime power.

As regards air forces, India maintains eight squadrons. Four of these are Army Co-operation squadrons and so do not contribute directly to India's air strength. The bomber squadrons alone represent her independent air forces. It is a fact that the air threat in India is not to be compared with that in most European countries, but when the extent of her frontiers is appreciated and the numerous occasions which have called for the help of these aircraft are remembered, it would again be absurd to call this small force excessive.

This article has not been intended to paint an alarmist picture but to refute some of those ill-founded criticisms which one hears so often made by Englishmen and by Indians. The picture is for all that a sufficiently serious one. In the writer's view the position may be summarised as follows:

The argument that military expenditure is unproductive is only true superficially. Admittedly in peace time the armed forces produce few tangible results. But productivity of material goods is no more an object of the soldier than it is of the policeman. The aim of both is to produce that security under which alone can material benefits be realised.

The deduction that military costs should be cut on every possible occasion is fundamentally unsound. It might be

*In 1914 it was 19 per cent.

applicable in Utopia. Unfortunately it has not applied to the British Empire.

The contention that India's military advisers have in the past been extravagant is not correct. The events of the last few years alone prove the contrary. The future holds out few hopes of lasting peace.

The reason why India feels so much the costs of defence is that her revenue is comparatively small. In Europe costs are as big. If they are less oppressive—and even this is a debatable point—it is because revenues are larger. The remedy lies in the hands of Indians.

A more equitable distribution of the burden of defence throughout the Empire is certainly desirable. But if it came about, it would be Britain, not India, who would gain. For the greater share of imperial defence is borne to-day, as it has been borne for a century, by the people of England.

VELOCIPEDESTRIANS

By "Mouse"

Recently I came across a crazy idea in an historical novel. The originator was a dour Scot who refused to acknowledge the Hanoverian tenancy of the British throne and fought with rare obstinacy for the Stuart claims. During the shaky period of the monarchy prior to Queen Victoria's accession this wilful person decided that the only way to beat England in war was by mechanisation. He evolved a contraption whereby his infantry by sitting on a wheeled frame could propel themselves by their feet, thereby achieving a speed for an army of four to six miles an hour. This rate was double that of the Hanoverian forces, and gave him the necessary mobility without which no battle can, I understand, be won.

He was attracted to this rather indecent and unsoldierly method of mobility by what he thought (erroneously, of course, since the war in Palestine had not then been contemplated) the inadequacy of the cavalry arm. He had some experience of cavalry. He must have had, because otherwise he could never have written the harsh words he did about horses in warfare. Let me quote his harsh words in support of his bicycle project: "No water; no forage; no sickness; no upkeep; no stampeding horse-lines; no waste of man-power on horse-pickets! Mobility, without the disadvantages of cavalry!"

Any modern soldier, brought up in the right traditions, will immediately pick punctures and holes in the above blasphemous and ignorant criticism. It was written over a hundred years ago and, obviously, the writer did not realise that civilisation and strict governmental rules ensure that the upkeep of an office bicycle keeps one man daily and three clerks monthly to maintain its rather heavy standard of efficiency. (The voice of the C.M.A.: "Daisy, Daisy! Give me an answer, do.")

This, I think, must be the aim of real democracy, *i.e.* that every puncture to every bicycle employed by Government must be accounted for. Otherwise there will be chaos. It would be awful if the same rigorous rule were applied to horses going lame. But, fortunately, Government being almost as human as its horses realises where its flesh is weak, and quite rightly says nothing about it.

This rather serious introduction to the subject matter may influence the reader to an unfortunate impression of my standpoint. My idea is, as usual, entirely frivolous.

Supposing in every station with roads where soldiers are quartered in India each soldier was issued with a bicycle (handle-bars, tool-bag—complete with Mark II and III spanner and oil-can—pump, head-light, number-plate, japanned, etc., etc.) free? Supposing that there were no cavalry near or that the nearest regiments were suffering from cold hocks (or the latest equine disease fashionable at the moment and preventing any movement except watering). Supposing there was a petrol-war rendering the adjacent M.T. lorries immobile.

In fact, will you please suppose that circumstances—improbable in peace and of daily occurrence in war—render all the so-called mobile arms impotent and necessitate the move forward of infantry on their feet to fight. Supposing all that, would you, as the G.O.C., be happier in your mind if you had a few roads and a few battalions on bicycles?

I admit now that I don't know the history of the cyclist battalions in France; I can readily believe that they must have been a confounded nuisance to the staff in the congestion of the roads in the rear areas. They have been abolished; they were presumably a failure in trench-warfare (I personally would hate to have to mend a puncture in a trench); but in the more open methods of warfare now advocated I can't help thinking that the infantry soldier would find more happiness and security on a push-bike than on his feet (or horse, naturally).

There are probably many cogent objections to these nebulous ideas of making all infantrymen cyclists. Expense is the main difficulty; but, for instance, if every British soldier was given a bicycle on his arrival in India as a concession (to be maintained in working order at his own expense for military purposes when necessary), it would be a boon to him and a blessing to the God of Mobility. Officers in the British service in England are given horses for exactly the same purpose.

In the plains of India and for Internal Security purposes bicycles would be useful; on the frontier a reserve store in the higher stations like Wana, Razmak and Landi Kotal would give a dash (almost cavalry in its feeling) to the riders spinning down the road to some beleaguered outpost.

I now wonder if that dour Scot who visualised Velocipedestrians deserves the adjective "crazy."

THE CLOTH MODEL AS A MEANS OF INSTRUCTION

By "Plautus Impennis"

The use of the sand model as a means of tactical instruction is of long standing. Sand models, though excellent in many ways, have certain disadvantages. They take time and labour to build; are difficult to make realistic; are usually, owing to their weight and immobility, restricted in size; and cannot be walked upon. These characteristics are liable to prevent their construction on a sufficiently large scale to enable full value to be got from them and to prevent their dismantlement when once built, with the result that instruction given on them is likely to become stereotyped.

A cloth as opposed to a sand model has much in its favour. Quickly and easily laid, it can be walked upon and is limited in size only by the floor space available.

There is no doubt whatever of the value of models as a means of instruction and it is thought that many who are now deterred by the known disadvantages of the sand model would make more use of this means of teaching, had they a cloth model at their disposal. For the representation of tangled mountainous country such as the North-West Frontier of India a cloth model is eminently suitable.

The "properties" needed in a cloth model are—

A large khaki or dust-coloured sheet of cheap cotton cloth. The cloth must not be so thin as to be flimsy or so thick that it will not lie in natural folds when spread on the ground. A cloth of the texture of an ordinary bed sheet is suitable.

Plenty of stout waste paper which, when crunched into a ball, will bear the weight of the cloth without subsiding. Newspaper can be used but packing paper is better.

Models to represent troops, buildings and so on.

Two or three six-foot laths marked off in feet for use as scales, and some old billiard cues for use as pointers to aid description.

Coloured powders, of the kind used for dyeing, to represent crops, water and rough ground, and cotton wool

dyed green to represent trees and vegetation. Coloured tape and wool to show roads and tracks and to represent boundaries.

A large arrow to hang on the wall to mark the North Point.

A cupboard with plenty of shelves in which to keep all these articles.

This may appear a formidable list, but it is not so in reality and the cost of the properties is very small in comparison with the value of the instruction that can be given with their aid.

To get full value from an exercise on the model the representation of troops, buildings and transport must be as realistic as possible. Attempts to show these by labels or flags, the meaning of which is not readily apparent to those attending the exercise, will rob it of most of its value and entail lengthy description before the real business can begin.

It is essential, therefore, that properties should be designed and laid out with imagination and due regard to their effect on the minds of those who are to use them. Unless this is done the exercise might as well be carried out on a map.

As regards details, *fighting troops* can best be represented by strings of large coloured beads, such as can be bought in any Indian bazaar. Different colours can be used to represent various arms or to distinguish between different units and sub-units of the same arm. It is preferable, however, to reserve the beads for infantry and to show cavalry, artillery and armoured troops by small wooden models roughly carved to resemble mounted men, guns or tanks. No wheels or other elaborations are needed and the different natures of artillery can be easily shown by models of different sizes. All these models can be made very cheaply by any ordinary carpenter. Symbols to show machine-guns in action will also be wanted and small strips of tin about a quarter of an inch wide by two inches long and painted black are useful to represent section trenches. The coloured glass bangles which can be bought by the hundred in any Indian bazaar are excellent for representing platoon or section posts and areas.

Headquarters can be shown by small flags cut out of coloured paper to correspond with the distinguishing flags laid down in the Field Service Pocket Book. Sets of unit headquarter flags of various colours are useful.

Models of tanks and guns cannot of course be made to scale but should be large enough to be easily visible to spectators. It will usually be preferable to make one model gun represent a battery or section according to the scale of the model. One model tank can similarly represent a company or section.

For the *administrative services* lorries and ambulances can be made out of small wooden blocks roughly carved to resemble the outlines of the vehicles and painted to taste. Again, one such block can be made to represent five, ten or twenty vehicles to suit the scale of the exercise. Small pieces of tin painted white and folded to stand up form good models of tents for camps, dressing stations and bivouacs. Supply depots and dumps can be simulated by children's bricks. *Arcs, zones of fire and inter-unit boundaries* can be effectively shown by different coloured strands of wool, and concentrations of artillery fire, whether H.E or shrapnel, smoke or gas, can be realistically represented by cotton wool dyed grey, white or yellow. Barbed wire can be shown by the tinsel edging procurable at most drapers.

To represent *hills* and *broken ground,* stiff paper should be crumpled up into the rough shapes of the features it is desired to represent, and then the cloth, spread out to its full extent, should be lowered gently on to the paper where it should be allowed to rest naturally. No moulding of under or minor features is usually necessary as the cloth falls of itself into spurs and re-entrants. Should it be desired, after the cloth is in position, to alter the height or shape of any feature, this can usually be done simply by treading on it without removing the cloth. A little practice will soon show how much or how little paper is needed to produce features of the required height and extent.

Rivers, streams and lakes are perhaps not so easy to show as realistically as they are on the sand model. Unless a loose earth platform can be provided over which the cloth is laid, it is not possible to make indentations in it to represent these features. High banks can, however, be quite well known by paper rolled in long cylinders of irregular shape. Water is best represented by light blue powder sprinkled on the cloth and then smoothed out with the hand or a brush.

Trees and bushes can be excellently represented by small pieces of green cotton wool arranged in clumps, lines or patches; if the wool is applied with imagination, the effect can be most

realistic provided trees are not too regular in shape or size. Trees and bushes can not of course, except on very large-scale models, be made to scale, but this need not impair the general effect.

Crops, grass, rocks and *barren ground* can be simulated by different coloured powders or by actual stones and green rush mats as used in fruiterer's shops. On small size models it should rarely be necessary actually to represent crops, though a green patch here and there will add realism to the model and aid description.

Buildings can best be shown by small wooden blocks quite plain in shape but of different sizes. If they can be of varying colours, with roofs and windows painted in, the general effect will be better. Except on large-scale models, for which special properties are necessary, the houses need not be to scale as each block may represent one house or several according to the general lay-out of the model. There should not, however, be too great a discrepancy in size between models of houses and models of guns, etc.

To lend interest to the view and to facilitate reference, it is most desirable to have some special models such as churches, forts, lighthouses, mosques, temples, obelisks, windmills and towers. These are easily made of tin or wood.

Enclosures can be shown by tin strips bent to the required shape, and hedges by thick green wool or cord. Children's bricks with a letter of the alphabet on each are most useful for labelling villages or other points needing identification, but care should be taken not to destroy the realistic appearance of the model by too extravagant a use of these.

Railways can be shown by pink tape, or the braid used for edging chair covers, etc. Broad white tape can be used for main roads, narrow tape for cart tracks and white knitting wool for footpaths or mule racks. Bridges can be represented by small wooden models of various shapes and colours. Aerodromes and landing grounds can be marked out with white beads. For large-scale models, toy railway tracks of minimum gauge with accessories such as signal posts, stations and sidings, add interest to the model.

For exercises on a brigade basis, experience has shown that a model 45 feet by 15 feet meets most needs and is a convenient size

for laying down in a large barrack room or lecture hall. On a model of this size, a continuous exercise, comprising five or six distinct phases, each of which may form the subject of a morning's work, can be conveniently staged, thus obviating the necessity for remaking the model after each phase and facilitating the grasping of the general picture of the operations by those participating.

As a cloth of this size is inconvenient to handle it should be made in two halves, each of which can, when desired, be used separately for smaller exercises.

The value of a long model is specially evident in a frontier warfare exercise dealing with the advance of a column by stages.

The scale of the model will vary with the scope of the exercise. For elementary subjects, such as the handling of a fighting patrol or the detailed procedure for posting a piquet in frontier warfare, a scale of one foot to a hundred yards, or even fifty yards, will be found suitable. On such a model troops and enemy can best be represented by toy soldiers and model machine-guns. For an exercise which may deal in some considerable detail with the action of a regiment of cavalry or an infantry battalion, a scale of one foot to two or three hundred yards should meet requirements. For an exercise in which a brigade with attached troops is to be deployed, a scale of one foot to six hundred yards or a yard to a mile has been found suitable; on a model of this scale it is still possible to show dispositions down to troops and platoons if it is desired to do so.

The vertical scale of the model must be exaggerated in respect to the horizontal; a suitable vertical scale for a model on a horizontal scale of one foot to six hundred yards is one foot to 500 feet, but for frontier warfare exercises this may need modification.

Having decided on the nature and scope of the exercise and the particular lessons to be learned from it, a rough outline sketch, corresponding in shape to the model and in accordance with the scale on which the model is to be laid out, should be made.

It is easier and much more effective as a rule to make this from imagination to suit the purpose of the exercise than to try laboriously to copy on the model some area of actual ground. The sketch should usually be reproduced for issue with the opening situation. Should it be desired to discuss some past or future operation, it may be desirable to represent the actual ground on

the model but this can, in any case, only be done with doubtful accuracy and in broad outline.

For instructional purposes, a model specially designed to suit the exercise will nearly always be preferable.

The sketch having been made and the various situations which it is desired to produce roughly worked out with its aid, the preparation of narratives and problems may be begun.

It will usually be desirable to open any continuous exercise with a problem demanding an appreciation of the general situation as its solution and so put every one into the picture; such a problem should be capable of solution with the aid of the sketch map and without reference to the model itself. All subsequent problems should, as a rule, be issued in the model room itself and solved there and then.

The narrative issued after each problem should contain a suggested solution of it which should be the basis of the next problem.

Problems must all be concrete and not hypothetical. In a model exercise any problem or question which does not bear a direct relation to the situation shown on the model itself is out of place and a waste of time.

No attempt must be made, except in very large-scale models designed to instruct subordinate commanders, to study in detail the minor tactics of small units such as platoons.

The solutions to problems should usually take the form of verbal appreciations of situations or verbal orders to deal with a given situation.

An appreciation is perhaps the most satisfactory form of problem as it entails the building up of clear and logical arguments leading to definite conclusions.

Minor or tactical situations dealing with small units can be dealt with by demanding a brief statement of the commander's action in the circumstances shown.

In determining the number and scope of problems to be included in a morning's instruction on the model it is desirable to limit the duration of the morning's work to about two or, at the most, three hours. In large exercises dealing with the employment of a brigade, battalion or regiment, it will be found that not more than three problems can usefully be studied in the course of a morning and it may often be necessary to reduce this number to two.

The rough sketch having been made and the problem, solutions and narratives prepared, the model must be laid out. An area of the same size as the model cloth and a few of the key points shown on the sketch should be marked with chalk or otherwise on the floor of the room in which the model is to be made. Paper rolled or crunched into the rough shape of the hills shown on the sketch should then be placed on the floor in positions roughly corresponding with those on the sketch; exact correspondence is not essential so long as the general look of the landscape is the same but it may be necessary to take more care to ensure that some particular features designed to bring out particular lessons are more accurately depicted than others of less significance. When the paper hills are all in place the cloth should be spread out in the air and lowered gently on to them and allowed to settle in natural folds. When the cloth is in place, villages, woods, lakes, rivers, roads, paths, etc., can be added very quickly in the manner already described. To simplify description, villages and towns should be described by letters instead of names and this method may also be used for hill features especially in frontier warfare exercises. Villages, etc., should be actually marked with these distinguishing letters as already described. It is worth a little trouble to try and make the model realistic and attractive so as to interest and amuse those attending the exercise and thus focus their attention on the tactical value of the features represented.

It should be possible, after a little experience, for two or three officers helped by a few men from brigade or unit intelligence sections to lay out a large-sized model in a couple of hours without much difficulty; such a model may serve for five or six exercises, each lasting a morning, without becoming a stale.

It will usually be advisable, except in elementary exercises on a large-scale model, to divide those attending into syndicates. In a brigade exercise each syndicate should, if possible, include a representative of each arm; in any case every effort should be made to include an artillery officer in each syndicate. A representative of the administrative services should be included in syndicates whenever possible. Syndicates should not have more than five or, at the most, six members or general discussion within the syndicate will become impossible and the exercise will lose much of its value.

The allotment of time for the solution by syndicates of each problem and the subsequent general discussion of solutions needs careful calculation. For each problem, up to five minutes may be allowed for the Director to explain the situation as shown on the model and to put the question.

To calculate the time needed by a syndicate to solve a problem it is a good plan to assess the time likely to be taken in similar circumstances by a commander in the field to come to a decision and then to double or treble it to admit of full discussion within the syndicate. It will rarely be advisable to have more than five or six syndicates and, even then, it will not be possible to hear each syndicate's solution to each problem; it will generally suffice to allow two or three syndicates to state their views fully and then to ask the remaining syndicates to give their conclusions briefly after which the Director can make his comments and invite discussion. For the discussion of any considerable problem half an hour to an hour may have to be allowed. Undue shortening of the time allowed for discussion will defeat the object of the exercise. Each member of a syndicate should act in turn as its spokesman.

Time, usually about fifteen minutes, though more may be needed, must be allowed for the Director to sum up at the close of the morning's work and stress the lessons brought out by the exercise. During the exercise all references must be made to the model and not to the map which should be discarded immediately the opening situation is disclosed on the model.

With the model before them, those participating in the exercise should not be allowed to generalise or indulge in hypothetical statements but must be made to express definite opinions directly connected with the situation shown on the model.

After each exercise the Director should issue a brief note describing the conclusions reached and the lessons to be studied.

No amount of instruction on a model can replace instruction on the ground, but exercises on the cloth model can, it is claimed, serve an essential purpose in teaching principles and procedure and so save much valuable time when opportunity occurs to stage exercises on the ground.

Exercises on the model ensure that students shall teach themselves and learn from each other instead of straining themselves to

imbibe instruction from lecturers who may not be particularly good at imparting it.

Those participating in a model exercise cannot help using their brains, and so cannot fail to benefit.

The Director of a model exercise has excellent opportunities of assessing the character, knowledge and reasoning power of those taking part and of impressing his views on them.

Above all, these exercises, even more so than exercises on the ground, serve to bring together, in circumstances of comparative comfort which facilitate free discussion, officers of different units and arms of the Service and thus promote true co-operation and understanding.

THE PASSING OF THE R. A. HORSE DRIVER

By Major M. E. S. Laws, M.C., R.A.

One result of the rearmament programme adopted by Britain has been the acceleration of the process of mechanising the field artillery, so that within a few months every mobile battery at Home will have abandoned the horse both as a means of traction for its guns and for carrying its staff. This change has in turn confirmed the death sentence already threatening the Royal Artillery horse driver who will now be replaced by the Driver I.C. (Internal Combustion).

The story of how the Royal Artillery got its horse drivers is of considerable interest since it illustrates the various methods of solving a problem which to some extent is still a matter for controversy to-day. In the earliest days of artillery development the guns were so clumsily mounted that they were considered by the other arms more as a hindrance to manoeuvre than as a support in action. It was not until the Seven Years War that any idea of moving a battery on the battlefield occurred, but at Minden (1759) the guns actually changed position during the engagement and this manoeuvre may be said to mark the dawn of field artillery tactics.

At that time and for many years later, the Royal Artillery was organised in companies and battalions. A company, when required for mobile artillery work, collected its equipment from the Ordnance Department and was fitted out with horses and civilian drivers by contract, the whole assemblage being designated a "Brigade of Guns." The drivers were peasants who wore no uniform, were unarmed and were not subject to military law except as camp followers. They walked beside their teams and could not ride. Not unnaturally these yokels seldom behaved well in action, being apt to cut their horses clear of the guns and to escape to the rear when danger threatened. At the hard fought battle of Fontenoy, the loss of guns in action was officially attributed to the cowardice of the civilian drivers (*Gazette* of 11th May 1745), and after much consideration it was decided to abandon the hired "waggoner" and to replace him by an enlisted soldier.

In 1794 this proposal was finally accepted and the Drivers Corps was formed "as an additional corps to the Royal Artillery."

Unfortunately the evil reputation acquired by the waggoners had so influenced the authorities that instead of enlisting drivers into the Royal Artillery they preferred to create a separate corps and to regard its personnel as of an inferior category to fighting men. Drivers (with their horses) from the Drivers Corps were, therefore, attached to artillery companies detailed to man "Brigades of Guns," but they served under their own officers and were in no sense a permanent part of the unit. Inevitably, in a newly formed corps which had the evil reputation of its predecessors to live down, the Drivers Corps did not attract the best type of officer, and as the men were always attached in small parties to different companies of artillery, matters concerning pay, stoppages, rations and clothing were too often neglected. As a result the discipline of the Drivers Corps left much to be desired and was the subject of bitter complaints. But the drivers could ride after a fashion and were therefore an improvement on the dismounted yokel who merely walked beside his team.

An exception must be made in the case of the Drivers Corps detachments allotted to troops of the Royal Horse Artillery. These men remained permanently with their units and were paid, clothed and administered by the troop, with the result that they were regarded as part of the battery. But with the field artillery it was very different. During the Peninsula War, Wellington was compelled to hand over his bridging train to the R. A. personnel though the unit was supposed to be manned entirely by the Corps of Gunner Drivers—a new designation which had replaced the original "Drivers Corps" in 1801. In 1806 the Corps was renamed "The Corps of Royal Artillery Drivers" and in 1807 it was placed under artillery officers. During the Waterloo campaign the Duke of Wellington asked for four companies of foot artillery for service as drivers, preferring this untrained personnel to that provided by the R. A. Drivers Corps. Under these conditions it was no wonder that the Corps was abolished on 1st January 1822 when its surviving members were distributed among Companies R. A. so that each unit received four gunners and five horses.

The system of having a separate corps to provide drivers and horses for the Horse and Field Artillery had definitely failed, and in 1821 it was decided to enlist all artillerymen as "gunner-drivers" instead of "gunners," thus introducing the principle by which the

regiment provided its own men and animals to draw and fight its guns. Unfortunately no adequate means of instructing artillerymen in mounted duties were provided, and the Companies R. A. were quite untrained in field artillery work. The despatch of the expedition to Portugal in 1827 showed the failure only too clearly, but nothing seems to have been done to improve matters. Companies were supposed to train as field batteries for a year at Woolwich in turn, and then to revert to garrison duty to make way for others, with the result that no company had time to become really proficient as a mobile field artillery unit. The Crimean War brought the matter to a head, and in 1858 drivers were finally separated from gunners and were enlisted with some regard to their physical fitness for mounted duties. With the amalgamation of the Indian artilleries with the Royal Regiment came the necessity for maintaining a large number of field batteries in the East and the provision of trained horse drivers became essential. Though in theory artillery units were still liable to be changed from field to garrison duties as required, it gradually became recognised that this was seldom a practicable proposition, and in 1889 all Batteries R. A. were definitely allotted either to field or garrison roles. With this change the artillery horse driver at last got a fair chance; specially recruited and trained, he soon acquired a very high standard of efficiency and the success of this system was clearly shown on many a South African battlefield.

During the war of 1914—18 it became necessary to provide heavy gun and howitzer batteries for mobile work in the field, and the equipment selected was too heavy for horse traction. When motor vehicles were therefore provided for these "Siege Batteries" it was decided to entrust the driving and maintenance of these tractors and horses to the Army Service Corps and not to the R.A. personnel. Just as a century before detachments of the Drivers Corps had been attached to Companies R. A. in order to provide the means of moving their guns, so in 1914 A. S. C. units were attached to Siege Brigades for a precisely similar purpose. In vain gunners protested at this reversion to a system which had been so clearly proved to be unsound in principle, and it was not until some years after the Armistice that Artillery Drivers I. C. displaced A. S. C. personnel in mechanised batteries. In 1925 it was

decided to abolish the rank of driver and to appoint gunners as horse drivers when required.

But to-day the march of progress has decreed the passing of the artillery horse driver—except in India where for some years at least the field batteries must remain horsed. But the army at Home will soon be unable to find horse drivers to replace the normal wastage of the Army in India, and the inevitable consequence must be the disappearance of the British horse driver and his replacement by the Indian horse driver. Such a step would in turn abolish the 80 years old custom whereby all gun teams in India have been entrusted to British rather than to Indian personnel. This custom is a relic of the Mutiny, however, and deserves little consideration to-day in view of the political changes already in progress and of the greater share of the burden of defence which is now being undertaken by Indians.

It was only natural that the example set by the Royal Artillery should have been followed in India as closely as local conditions allowed. In the earliest days of the British in this country, guns were drawn on the line of march by bullocks tended by non-combatant drivers seated on the yokes. In action, however, it was found more satisfactory to use man power and in 1770 twenty-eight companies of enlisted gun lascars were formed and attached to the five European companies of the Bengal Artillery. Each of these lascar companies consisted of two serangs, two tindals and one hundred lascars. It is noticeable that these lascars, though primarily intended merely to move the guns in action, were often employed on ammunition supply and similar semi-technical duties normally performed by British artillerymen. The Corps of Gun Lascars was considered to be separate to the Bengal Artillery and was in effect an auxiliary corps in the same way that the Drivers Corps at Home was auxiliary to the Royal Artillery. The men were invariably of low caste, and though the serangs and tindals were at first commissioned and ranked with subedars and jemadars (General Orders of 16th June and 18th September 1788) these privileges were removed in 1792 (General Orders of 7th September 1792) and their rates of pay were always much lower than those of equivalent status in the other regiments. But the gun lascars were subject to military discipline and in fact always behaved well in action, though they were regarded as menials rather than as fighting men.

In 1779, after a short period of disbandment, the Corps of Bengal Gun Lascars was reformed, the men were given arms and a simple uniform and were trained in "all the duties of the ordnance with the exception of pointing and loading guns and mortars." (Proceedings of the Governor-General, 3rd August 1779.) Yet they were still used as coolies to manœuvre the pieces in action. A battalion of 330 gun lascars was attached to each European company of artillery, there being ten battalions in all. It should be understood that at that time artillery companies had no fixed armament: guns were drawn from store according to the requirements of the particular service on which the unit was engaged. The organisation was indeed very much the same as that of the R. A. in Britain at that time.

In 1817, following on the undoubted success of the Horse Artillery both at Home and in India, an experimental field battery was formed in Bengal and in the following year sixteen more such units were equipped, of which three were given horses and the remainder bullocks. This reorganisation led to the reduction of the gun lascars, a few of whom were retained only for magazine fatigue duties (Governor-General's orders of 28th August 1822) while the field batteries were first given syces who led the teams on foot, and later were given syce drivers who rode their horses (Governor-General's orders of 2nd September 1824). The syce drivers were, however, not enlisted as part of the battery but were formed into lettered companies, one of such units being allotted to each field battery equipment.

The number of field batteries was gradually increased as time went on but most of them had bullock draught and syce drivers. In fact the bullock as an artillery draught animal did not altogether pass out of the Indian Service till after the Great War. After the Mutiny of 1857 it was decreed that Indian personnel should never again be permitted to act as drivers to field gun teams, and British drivers were introduced into the establishment. Later the need for economy brought about the present system whereby Indian enlisted soldiers of the Royal Artillery were trained as horse drivers for ammunition waggons.

It will be seen that as far as the artillery driver is concerned, India copied British methods as far as possible up till the post-Waterloo reorganisation. But the pernicious system of having a

battery's drivers organised in a separate unit of an "auxiliary corps" persisted long after it had been cast aside at Home. To-day the Indian soldier steps into the place vacated by the British horse driver and may be trusted to uphold the fine traditions handed over to him.

EDUCATION AND THE INDIAN ARMY—WHY, AND HOW, AND WHITHER ?

A Plea for an Indian Army Educational Corps

By Major E. I. G. Richards, Army Educational Corps

Part I.—"WHY ?"

"Educational Training, Indian Army, 1932" states sonorously, "Educational training is that part of military training in which such of the mental and moral qualities of the soldier as will be of most use to him as a soldier and a member of the community are developed by means of instruction in, and supervised study of, selected educational subjects."

The increasing complexity of the soldier's training demands a higher standard of education than is possessed by the raw material which enters the army. This is true of the British Army and, even more so of the Indian Army, which, while maintaining an equally high standard of training, has to work on less well educated material.

Indeed, the problem of illiteracy in India seems a permanent one. While secondary and university education provides more educated products than there are jobs for, primary education remains woefully inadequate. In India the total number of literates has increased in fifty years from 4.0 per cent. to 9.5 per cent.; this represents an additional literate 11 per cent. of the population every 100 years—a slow process.

Moreover, during the recent slump the numbers of boys in primary schools have actually decreased, the percentage of male scholars in 1928-29 being 7.49 per cent. of the male population and in 1933-34 7.05 per cent. But this is only part of the story. In England our six million scholars in elementary schools, will, with few exceptions, attain literacy. What happens in India?

"On an average only 21 per cent. of boys enrolled in Class I reach Class IV (when literacy may be anticipated) three years later." That is, only one-fifth of the $7\frac{1}{4}$ million boys at school ever become literate, and of these it is estimated that 40 per cent. relapse into illiteracy within five years of leaving school.

To sum up. On the one hand the increasingly complex demands of modern war require a sound standard of literacy and education. On the other hand the educational system of India cannot, for generations, provide recruits of this standard. Education in the Indian Army is thus not a scholastic luxury, but a vital necessity.

What is the percentage of literacy among the recruits of the Indian Army?

The percentage of literate males in India as shown by the 1932 census is 15.6 per cent. It is improbable that the average for recruits to the Indian Army exceeds this, for the towns where literacy is highest provide comparatively few recruits. On the other hand there are many classes enlisting in the army where the percentage of literacy is exceedingly low.

Yet during the seven years of a sepoy's service this 85 per cent. illiteracy becomes not less than 90 per cent. of literacy. Half of those leaving attain to a standard comparable to the Middle School in India. About a sixth reach Secondary School standard.

This represents an enormous educational effort, one of the greatest unified movements, in fact, in adult education in the whole world. The progress attained is sometimes amazing. There are cases of sepoys completely unable to read or to write when enlisted who have attained the excellent level of a First-Class Certificate in two years. There is the record of a Pathan who joined the army, not only illiterate but ignorant of Urdu, and within 18 months had secured his "First," which is comparable to an almost illiterate Danish immigrant to England passing his Matriculation within that time. When one realises that Urdu is as much a foreign language to the average sepoy on enlistment as Italian to a Frenchman, and that he has to learn everything in a completely strange script, one stands amazed at this extraordinary cultural achievement of the Indian Army.

Considering that the whole system has been built up from A to Z in the last fourteen years, the speed of the movement is in itself remarkable enough. Figures, it has been said, prove nothing (mention this to your banker next time he accuses you of having an overdraft!), still they are a useful guide and, making every allowance, those below are a remarkable record of four years' progress.

Educational certificates held in the Indian Army in 1932 *and* 1936

	Specials.	1st.	2nd.	3rd.	Recruits tested and uncertificated.
1932					
Numbers ..	83	4,364	20,723	29,588	70,609
Percentage ..	·06	3·4	16·7	23·6	56·3
1936					
Numbers ..	441	8,000	27,764	41,209	64,809
Percentage ..	·31	5·62	19·51	29·02	45·54

This is an increase in four years of 410 per cent. for the highest class of certificate, of 65 per cent. for the next highest, 17 per cent. for the second class certificate, 22 per cent. for the third and a raising of the general standard of literacy by 8 per cent., which is equivalent to seventy years of progress by the general population of India. Surely this is something to be very proud of.

Part II.—"How ?"

The system of education in the Indian Army is too well known to require detailed description. Briefly, it advances from the very elementary stage of the Recruit's Certificate, through the Third, Second and First-Class Certificates to the Special Certificate, which is in English, and is more than equivalent to the Matriculation. In fact we have known several B.A.s fail for this examination.

In addition there are the First, Second and Third Class English Certificate examinations.

The main work of the educational personnel of the Indian Army consists in teaching some 150,000 troops to pass these various standards.

The Teaching of English

There are 225 languages in India not counting dialects. Some key is necessary to this portentous Tower of Babel—some common tongue. The one we have adopted from the Moguls is Urdu—the "camp language." Hardly any recruits claim it as their mother-tongue. The form used in the army is called Roman Urdu; the graceful phonetic Persian script is replaced by an ungraceful, unphonetic Latin one, and much of the difficulty of teaching soldiers in the early stages is caused by the unfamiliarity of the symbols.

A question which arises in many minds is "Why Urdu?" Why not make English the *lingua franca* of the Indian Army? There is much to be said for this view, which is held by a number of thoughtful and intelligent officers. The Indian Army has to co-operate with British troops and one thing is certain and that is that "Thomas Atkins" will never learn proper Urdu. In the mix-up of a battle these two languages might be highly inconvenient. Again if heavy officer losses had to be replaced from the British Service, the language problem would arise again.

Also Urdu is a foreign tongue to a large proportion of the Indian Army, to the Maratha and all southerners, to the Gurkha and the Pathan, to many *Junglis* who know only their own patois; and even for the Punjabis there are many different words and new constructions to be learned. Then there are so few books printed in Roman Urdu that the sepoy has little chance of improving his education by reading; there is left him but the Training Manuals and the Fauj-i-Akbar—an inadequate cultural equipment. Besides English is the common tongue of educated India and a sepoy's chances in civil life would be much improved by a knowledge of the language. Most sepoys realise this and there is a very marked enthusiasm for learning English among them.

On the other hand opposite views are held by many equally thoughtful and intelligent officers—and the objections are very weighty. Firstly, it is harder for the sepoy to learn English than Urdu. Urdu is very much like all the Punjabi languages and its construction and words are far more like the non-Punjabi tongues than is English. Secondly, the officer will never really get to know his men on English alone; he must know an Indian language. Thirdly, it would be a very difficult matter to teach English to all the sepoys of a regiment and the time and transition would be particularly hard.

But is it possible to satisfy both these schools of thought? The writer considers that it is.

For both are at one on the desirability of sepoys learning English in as large numbers as possible and the writer considers that the difficulties of teaching English are exaggerated, and that a knowledge of English could be much extended without any great difficulty.

The sepoy in his ordinary work has to learn about 150 English words including some of the commonest. The specialist knows 250 words. Basic English claims that with a vocabulary of 850 words you can express anything you want to: novels have been written in basic. The ordinary villager only knows some 500 words. Would it be so hard then to organise a limited English vocabulary and a simplified grammar? Already most units have from 7 to 10 per cent. of sepoys who speak English, few falling below 45 per battalion. In the writer's opinion, with a definite policy and with an organised annual increase of English-speaking sepoys, it should be possible to have, in five years from its inauguration, about half of the Army speaking English well enough for general purposes. There are certain requirements to be fulfilled first. The first is that at least two instructors from the Belgaum Senior Instructors' Course per battalion or similar unit be provided; this will take about two to three years to do. The second is that every English-speaking sepoy should have an arm-band conspicuously marked "E," possibly in different colours for different grades. When the sepoy has that arm-band he should be encouraged to practise his English as much as possible. He should address his officers in English and speak English in barracks.

These measures will take time. There is nothing more wasteful in education than hurry, but they will mean that sufficient in the Indian Army will have learned English to obviate any difficulty of co-operation with British troops.

A really serious difficulty arises over the question of the time available. Will it be possible to find the time to teach both English and Urdu? This is the crux. A possible way out would be to have all educational certificates after the Third Class Roman Urdu Certificate taken either in English or in Urdu. Thus, the Second Class Certificate would incorporate the present Second Class English Certificate, until it would be possible to abolish all teaching in Roman Urdu after the Third Class Certificate.

This teaching of English is at present a very heavy strain on the educational organization. The British personnel of the A.E.C. are invaluable for the purpose, but even so their main work lies with the British Service and the time they can give to teaching sepoys is limited.

The Indian Cadet

This leads to the difficult problem of the supply of cadets of a suitable standard for the Indian Military Academy. Here education plays an important and, in fact, a vital part. Are the martial classes enlisting into the army to obtain their full opportunity of officering the Indian units of the future? It is highly desirable that they, the ideal material, should have such an opportunity. But the problem of education comes in very acutely. Teaching a class of sepoy aspirants for the Indian Military Academy is a revelation—keen, well-mannered, intelligent as they are, their lack of what one may call "background" is exceedingly noticeable. Compared with an English cadet his Indian opposite is very greatly handicapped.

One of the solutions is Kitchener College, Nowgong, another educational responsibility. It has had a very great success as a preliminary course for the Indian Military Academy, and now that the course is being extended to two years, this should be a considerable help.

But in addition much of the preliminary work must still be done in districts. There the best solution seems to be a central course ensuring that all Indian Military Academy candidates are collected where the most instructors are available. As a preparation for Nowgong such a course is essential.

The King George's Royal Indian Military Schools at Jhelum, Jullundur and Ajmer are schools for teaching the children of Indian officers and N.C.O.s and are another side of army education. There is a feeling that, well as they are run and successful as they are, they should be reorganised as Public Schools from whence the bulk of cadets of the Indian Army should eventually be supplied. This would be in every way excellent, but would be a very expensive thing to do really well.

Rural Reconstruction

In the last few years the Government of India has been making great efforts towards improving the village from within—a movement to which the term Rural Reconstruction has been given.

The soldier who lives under the very best conditions, sanitary, medical and educational, is too much inclined to revert to type when he returns to his village.

To avoid this it is necessary to instruct and to interest the soldier in the subject of village improvement during his actual service. Two objects must be kept in view—

1. Efficient instruction of the soldier during his service.
2. Some means of keeping the soldier up to this standard after his return to civil life.

Both these are essential but the second aim is the more difficult and the more important.

Though the looking after the soldier after he returns to the village is the more important matter, yet the teaching of methods of Rural Reconstruction in the village is hardly less so—and that should be an important phase of the work of army education. Before the cuts of 1922 an excellent course in agriculture was held for sepoys at Belgaum where modern methods of tillage and of dairying were demonstrated. This had to be abandoned owing to reasons of economy. It should be revived. Theoretical demonstration of rural uplift methods has not a tithe of the usefulness of practical teaching.

Mention of the school at Belgaum leads us to this, the last of the responsibilities of education in the army. In this school are trained the I.O.s and the N.C.O.s who will teach the army in the future. Altogether 360 are under training there for one year, 300 in the Junior Instructors' Course for those who will teach the sepoy in Urdu and 60 in the Senior Course. Through the needle's eye of Belgaum passes the whole thread of education in the Indian Army.

Part III—WHITHER ?

A plea for the formation of an Indian Army Educational Corps.

The following premises, which are fairly self-evident, have been stated:

1. Education is a necessity for the Indian Army.
2. The Indian Army realises this and has made one of the most remarkable advances in adult education that history records.

The responsibilities of the educational staff of the Indian Army are as follows:

1. The adult education of the entire Indian Army.
2. The teaching of English to the Indian Army.

3. The preparation of cadets for the Indian Military Academy both in districts and at Nowgong.
4. The staffing of the K.G.R.I.M. Schools.
5. The educational side of the Indian Military Academy.
6. The School of Education at Belgaum.
7. The teaching of Rural Reconstruction.

This represents an enormous task and it is worth while looking at the organization available for the purpose.

Organization

To be frank the present organization is inadequate for future progress. It has grown and lacks coherent design. It is insufficiently specialised.

There are—

11 officers (Establishment 13) who are earmarked for work with the Indian Army as a Continuous Service Cadre;

25 officers who are British Service officers whose tour of duty is five years and whose chief interests are with the British soldiers' education;

35 Indian officers who are detached from their units for educational duties and who are on the supernumerary list.

This is all the specialised organization. The duties of education in units are carried out by the educational jemadar who is seconded from his normal work for two to four years. He is helped by N.C.Os. All these are Belgaum trained.

After the war the formation of an Indain Army Educational Corps was attempted, but economy took a hand and the idea was knocked on the head; so the present organization grew rather than was designed. While it does its work quite well there is no doubt that to cope with increasing responsibilities it requires reorganization. To take the system bit by bit and to point out its weak spots is a thankless but necessary task.

1. *Officers*

As work has increased so has the number of officers in recent years been depleted. The establishment of officers originally designed to cope with the British Service only has never been enlarged to cope with the Indian Army.

In England there are 65 officers of the Army Educational Corps to deal with the education of 110,000 troops. In India 37

officers deal with 57,000 British and the 147,000 Indian troops. In 1929 the establishment was 47 officers which gave some 28 to districts and brigades—to-day there are only 14 officers in districts. One of the reasons for this is that six instructors for the Indian Military Academy have been found from the Army Educational Corps thus reducing the number available in districts. This was done at a time when economy was absolutely essential and can be well understood. The staff at Nowgong is also found from the Corps. The result is that it is getting more and more impossible for the education officer in a district to do all the supervision and administrative work he should do.

Often he has a district of anything up to 23,000 troops. In addition to his work with the Indian Army he has to supervise the education of British troops, prepare and correct examinations, supervise British children's schools, be in touch with units and inspect their education, himself to teach when necessary and to do a thousand and one other tasks. In addition, it must be remembered that of the fourteen officers in districts ten belong to the British Service and in their five years' tour they cannot be expected either to understand the psychology of the Indian or to know the language as well as can officers who spend their whole service in India.

The one Indian officer of the District Staff is completely occupied with teaching and supervising central classes and has in consequence little time to spare for other work almost equally important. This other work should include going round units and becoming thoroughly *au fait* with the educational state of that unit, assisting with regimental examinations, helping with the work of small units, co-ordinating instruction where needful, checking syllabuses and schemes of work, and doing all the major and minor jobs within his province.

The result of this shortage of staff is that there is not nearly enough supervision of the actual teaching done by unit educational jemadars and N.C.O.s who may, if unchecked, fall into bad habits of teaching.

The examination for Second and Third Class Certificates is run regimentally. Thus there is no common standard. The shortage of staff precludes the centralising of these examinations. Thus, while in the British Army, from Cape Comorin to Landi Kotal, there is a uniform standard of all examinations, in the

Indian Army the standard varies from unit to unit and from district to district. Thus little reliance can be placed on the unit figures of numbers of certificates as some units have a high, others a low, standard.

Then there are Assistant Instructors and Refresher Courses. The former are preparatory courses for Belgaum and ensure that practically every N.C.O. sent on a Belgaum Course has a certainty of doing well. There are usually three courses in the year each of from 20 to 30 students, each course lasting six weeks. But the staffing of these courses is a most difficult task and it is only by the kindness and help of units that instructors can be produced.

The latter are designed to furbish up the knowledge of those who have not been to Belgaum for some time and the same difficulty of staffing is experienced

The Educational Jemadar

In the British Service the W.O. or N.C.O. who corresponds to the educational jemadar is a professional teacher of the Army Educational Corps. In Indian units he is temporarily employed on the task. His primary interest lies in his work with the unit and not with education. If he is too long away from company, battery or squadron work he becomes rusty and useless. Thus he has not the time or inducement to become a really first-class teacher and to devote all his thought to education. In considering the applicants for the job of jemadar, the C.O. of the unit has to consider quite other factors than purely educational efficiency. The finest instructor, unless he is a good regimental I.O. as well, is useless to him. This system does not make for the best possible teachers.

2. *The Teaching of English*

There is a great and increasing demand for the teaching of English and an inadequate staff to deal with the problem. The only suitable instructors are personnel of the Army Educational Corps, who can be spared from the instruction of British troops, and army language teachers, who are very rarely adequate to the work.

It would be possible sometimes to secure British N.C.O.s to help in this task, but they cannot be expected to do a spare-time job for nothing and the funds for paying them are insufficient. Eventually the Senior Instructors' Course at Belgaum should provide sufficient instructors. But there is at present no means of

using these solely for teaching English and they are required by their units for other jobs.

The same shortage of instructors applies to the classes for Indian Army Special Certificates held in districts. It is most difficult to obtain sufficient instructors.

3. *Belgaum*

There are not sufficient officer instructors at Belgaum to carry out the work of a school of education ideally. There is one for the Senior Course of 60 and two for the Junior Course of 300. This is obviously not enough to carry on the important work of research as well as supervision. Yet research is essential where one is breaking new ground—and after all this education is very new ground. There should be separate officers for Citizenship and Rural Reconstruction particularly. There should be an exceptionally good linguist for Roman Urdu, an officer for mathematics and one for geography and map reading.

These criticisms of the present system are not intended as adverse comments on an organisation which, when all is said and done, works exceedingly well. Nevertheless the argument is not that the system is not good but that it could very easily be much better. And although adequate for its present tasks with a little strain, it does not provide for the inevitable increase and future development of education. In short the work has outstripped the organization.

There is only one satisfactory solution and that is an Indian Army Educational Corps.

The Indian Army Educational Corps

An Indian Army Educational Corps would cost comparatively little additionally provided the total establishment is restored to what it was in 1931 and the six instructors at the Indian Military Academy be in addition to the establishment instead of inclusive to it. The only other new expense would be for an educational jemadar for each brigade.

Establishment

Officers: The establishment would be—

(1) Chief Inspector of Educational Training alternately of the British and of the Indian Service.

(2). British Service (Army Educational Corps):

Commands	...	2
Belgaum	...	3
I. M. A.	...	8
Nowgong	...	1
Districts	...	11
Total	...	25

(3). Indian Service (Indian Army Educational Corps):

Commands	...	2
Belgaum	...	6
K. G. R. I. M.	...	3
Districts	...	10
Total	...	21

This is an increase of eight officers on the present establishment. It is considered by the writer that both Nowgong and the Indian Military Academy are best staffed by instructors straight out from home, who would have the latest ideas on teaching their subject.

From his experience at Sandhurst he would suggest that the longer their tenure of these appointments the better, and that they do duty with these establishments for the whole of their five years tour.

This establishment allows each first-class district to have two officers, one Indian service and one British service, while each second-class district would have one officer. Kohat and Waziristan would be staffed by an officer of the Indian Army Educational Corps and the other five second-class districts would have officers of the British Army Educational Corps.

(4). Indian Ranks:

One subadar or risaldar for each first-class district.

One jemadar for each second-class district.

Establishment of I.O.s for schools as at present.

(5). 33 jemadars for brigades and brigade areas.

(6). One jemadar or havildar for each of the larger units.

One havildar or naik for each of the smaller units.

All Indian Army Educational Corps personnel to be able to teach English up to the 1st class standard.

The organization could be introduced very gradually as finance allowed.

This is put forward with a certain amount of diffidence as the writer realises that there are many difficulties involved. Nevertheless it is the result of much thought and experience and of conversations with officers of the Indian Army. It has probably many defects but it does give a basis for that expansion of educational organization so badly needed at present. The achievement so far has been so great that it is worth any trouble to ensure its future development.

FROZEN MEAT FOR INDIAN TROOPS

By Major A. E. Swann, r.i.a.s.c.

The ration to which Indian troops are at present entitled in peace includes no issue of meat. The problem of meat supply to Indian troops, therefore, is limited to the devising of such arrangements in peace as will ensure the delivery of adequate and regular supplies to the troops in war.

The present system under which live animals are sent up to the troops and slaughtered in the field has many disadvantages. It is unhygienic. It requires a great deal of transport in addition to feeding and watering arrangements on the Lines of Communication and this causes congestion and impedes mobility. The quality of the meat is impaired by the long journey immediately before slaughter, losses are heavy and the disposal of offal is difficult. In a war of movement the difficulties inherent in the system would be such that the provision of regular supplies could scarcely be regarded as assured. Even if centralized slaughtering were resorted to at railhead the forward distribution of freshly killed meat would be a matter of great difficulty in the hot weather and the supply of meat to troops in an edible condition could hardly be guaranteed.

The solution obviously lies in the centralized slaughter and freezing of mutton in one or more abattoirs, located where abundant supplies of prime sheep and goats are available. From these abattoirs, supplies of frozen mutton would be transported to cold storage depots capable of holding the necessary war reserve stocks and thence daily issues could be made to troops in the field and on the Lines of Communication.

The problem of the supply of beef to British troops is at present being solved in this manner by means of the abattoir-cold storage scheme, which has been described in the article "Cold Storage for India" in the January number of this Journal.

This scheme, which has been devised as the first step in the modernization of the supply service of the Army in India, is to provide for a central beef abattoir for British troops at Lahore, linked up with a series of cold storage depots in the principal military stations by a fleet of modern refrigerated rail and road

vehicles. The cold storage depots in the frontier areas will each provide space in separate chambers for the war reserve requirements of frozen mutton for Hindus and Mohammedans, and the arrangements to be made for refrigerated transport will include the necessary vehicles for the conveyance of Indian troops' meat in war.

When the scheme was first considered it was proposed to locate separate Hindu and Mohammedan abattoirs in close proximity to the central beef abattoir; but this proposal was subsequently dropped, mainly because the best beef and mutton areas do not coincide and it was realized that the mutton abattoirs would be more suitably located in some such area as Baluchistan or the North West Frontier Province where the quality of the mutton is far superior to that of the areas further south.

So marked is this difference in quality that if refrigeration facilities were readily available it was felt that mutton from the North must, sooner or later, find its way down to the markets of the large cities of the Indian plains, where, providing its price were not too high, it should have little difficulty in holding its own against the inferior locally killed product.

At first this may sound a little fantastic when applied to India, in view of the insistence of orthodox Indians upon eating only freshly killed meat, slaughtered in accordance with individual religious requirements. But the religious and caste susceptibilities could be protected by careful arrangements, and when this had been accomplished there would only remain the necessity that the Indian consumer should be educated into the acceptance of frozen meat which he was satisfied had been slaughtered in accordance with the requirements of the established custom of his particular religion.

When one considers the changes which have come about in India within the last decade or so, and the laxity of many of the present generation in matters which would have been sacrosanct to their parents and grandparents, the eating of frozen mutton begins to sound a little less of an impossibility. If that mutton can be produced very cheaply, and, once tasted, is found to be far superior to the local leathery joint, one can soon begin to visualize the Indian eating it almost as readily as he will purchase an ice-cream or a highly coloured drink from the street vendor in Bombay to-day, or puff a foreign made cigarette.

When the problem of the supply of frozen mutton for Indian troops in war was approached in the light of the above reasoning, there seemed room for hope that commercial interests might realize the feasibility of exploiting the opportunity which the first-class mutton from the north of India appeared to offer. It was thought that such commercial development on a large scale might still lie in the not quite immediate future, but that, with the development of refrigeration facilities in storage and transport the demand for an improved supply of mutton in the large cities would be certain to make itself felt; and thus, perhaps from quite a small beginning, the industry would steadily grow and eventually flourish.

The prospects were brightened by the fact that modern sheep or goat abattoirs return handsome dividends upon the capital invested in them, for the many by-products of slaughter, such as skins, horn and hoof meal, tallow, bone and meat meal and dried blood command a ready sale and enable the meat to be produced practically free of cost, so that it can compete on very favourable terms, even after storage and transportation charges have been met, with inferior locally killed meat, the by-products from which have not been scientifically dealt with in bulk.

The possibilities awaiting commercial enterprise are not necessarily limited to the modest demands of a gradually expanding Indian market. The quality of the frontier sheep being what it is there appears no valid reason why an Indian industry in frozen mutton should not enter the international market, where it would be well placed to compete with existing supplies from remote countries where the standard of living is much higher.

These were arguments which could not fail to appeal to commerce, as they did indeed to the army authorities. But the army was not free to invade the realm of commerce in order to develop this new industry. The matter was, after all, entirely different from the question of beef supply, which was to be solved by the inauguration of a military abattoir. For beef there was no commercial market worth mentioning in India, and Indian sentiment would not be likely to permit the commercialization of the sacred cow by means of a beef export trade; the army was, therefore, free to deal with its own problem, and its regular requirements in peace and war were such that a beef abattoir could be operated as an economic unit. For mutton there was a large potential civil

market whereas the army demands were negligible in peace; a mutton abattoir for purely military requirements could not, therefore, have been operated profitably by the army.

The obvious solution lay in the stimulation of commercial effort along the lines desired by the army, and the encouragement of the *early* development of the industry. If it could be brought into existence, on even a modest scale, in the near future the problem of the army mutton supply in war would be solved. It would be well worth while, therefore, to assist development by means of a subsidy, in order to secure this important item of war insurance. The subsidy could take the form of a guaranteed "off-take" of frozen mutton in peace from which issues could be made to hospitals and the remainder could be disposed of by payment issues, or, if necessary, could be substituted to a limited extent for the free issues of beef to British troops as an occasional variation of diet. In this way the subsidy could be provided at very small cost to army funds.

There are already encouraging signs that the possibilities of the frozen mutton trade in India are beginning to be realized and there are grounds for hope that at least one mutton abattoir may develop in the near future, from which the army supplies for Northern India will be obtainable. The problem of the war supply of frozen mutton for Indian troops is thus nearing solution, for the necessary separate transportation and cold storage facilities are already in process of being provided, concurrently with the arrangements to be made for the distribution of beef for British troops from the Lahore abattoir.

As an additional safeguard, however, it has been decided to arrange for the provision of extra refrigerating machinery in the cold store at Quetta, so that the daily kill of mutton for troops based on that area could be frozen, stored and distributed from Quetta, after being slaughtered under Royal Indian Army Service Corps arrangements.

The problem of supply and distribution is thus about to be solved, and the only remaining difficulty is to ensure that frozen meat will be acceptable to Indian troops without any offence to religious or caste susceptibilities. This is sometimes referred to as a problem which may well prove insuperable, but there appear to be few grounds to justify such an attitude of pessimism. On active service Indian troops have in the past shown themselves very

reasonable in matters of this nature, and both during the Great War in France and more recently on the Indian frontier they have eaten meat which has been centrally slaughtered in rear and sent forward to the troops for consumption. Their *ghi* ration —a very important article in the Indian diet and one about which the average sepoy is somewhat particular—is centrally dealt with at the Army Ghi Heating Centre at Agra and is readily accepted by Indian troops, because it is realized that the utmost is being done to ensure that the article supplied to them shall be pure and of good quality. Shakapara biscuits provide a further example of the reasonableness of the Indian soldier in matters concerning his food supply in war, and a proof that if things are explained to him and he is provided with the means of knowing that his religious scruples are being fully respected, he will not demur at arrangements which aim at giving him a more palatable ration.

Needless to say, if and when frozen meat is prepared for the Indian soldier's consumption, every possible precaution will be taken to safeguard his interests and to ensure that he realizes they are being so safeguarded. The arrangements for *halal* and *jhatka* meat will be entirely separate throughout, and the two different categories of meat will never come into contact with each other at any stage. This can be easily assured by the provision of separate slaughter halls, chill rooms, freezing rooms, storage chambers, insulated vehicles and containers, and by use of distinctive wrappings and labels to differentiate between Hindu and Mohammedan meat. The arrangements throughout would be supervised by representatives of the troops in conformity with the requirements of units, so that the troops would know that the meat they were eating had been properly prepared in accordance with their own custom, and would realize that what they were being offered was precisely the same article as would have been produced under other circumstances by their company cooks, kept fresh by the simple method of keeping it cold. If this were properly explained to them it should be no more objectionable—and no less gratifying—than the consumption of an iced drink on a hot day.

Much can assuredly be done by careful explanation to Indian officers and N.C.O.s who are never unreasonable when a subject is lucidly and logically explained and who will pass on the explana-

tion to the rank and file. But as the "proof of the pudding" lies in the eating, the explanations must be followed up by demonstrations in peace, and for this purpose the commercial abattoirs will be invaluable. It will be a simple matter to arrange for any unit which desires to do so to try out the system in peace time. If, as seems not unlikely, troops in plains' stations find that the frozen mutton is to their liking, the introduction of a small meat ration in peace—perhaps as a voluntary alternative to a portion of the ghi ration—should not be beyond the bounds of possibility.

Officers of Indian units can do much to prepare the ground for the new scheme by pointing out that its main objects are to improve the quality of the ration and to render its delivery in war more certain, and by explaining the care which will be taken to safeguard religious and caste requirements.* The precedents provided by the Great War will serve to illustrate that the existing system has already proved itself unreliable in war, whilst the Ghi Heating Centre and the Shakapara biscuit will provide analogies of the complete innocuousness of the proposed new system.

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*Arrangements were made for the feeding of Indian troops of the Coronation Contingent on frozen meat during the period of the voyage. Separate arrangements were made for *halal* and *jhatka* meat, and for supervision by unit representatives.

OBJECT ! !

By Major M. R. Roberts, 10th Gurkha Rifles

To begin with let me assure those who have lately attended the Senior Officers' School that this is not a dissertation on the difference between "object" and "objective," and I will add a further assurance for the benefit of harassed commanding officers that it is not a treatise on the hunting cry of the local audit officer.

A good article needs no explanation. I am going to start this with an explanation for even writing it, so that its object may be clear from the outset to anyone who may be tempted to read it.

At the Senior Officers' School, great, and I am afraid it must be admitted necessary, emphasis is laid on the difference between "object" and "objective." Now from the time we start studying the art of war, we are told that we cannot evolve a sound plan without having first appreciated the situation. Training Regulations tells us that the first thing we must do when making an appreciation is to decide on the "object." Field Service Regulations, Vol. III, 12, 1, contains the following words: "Therefore the plan for battle . . . is likely to spell the success or failure of the whole operation." In brief, success is dependent on the plan.

A sound plan is evolved from a good appreciation.

A good appreciation is based on a clear object. The connection between success and a clear object is obvious, and yet it is found necessary to teach officers with twenty to twenty-two years' service the meaning of the word "object." Surely there is something wrong? Everyone from the section leader upwards has to make plans, and, therefore, should be able to make rapid and sound appreciations.

In almost any T. E. W. T. when an appreciation is called for, the point over which there is usually the greatest divergence of opinion is the object. If one takes the trouble to analyse the various objects put forward, one is forced to the conclusion that a vague or incorrect object is often the result of ignorance, or at least an imperfect conception, of the meaning of the word. To my mind the deduction from this is that there is something wrong, or at least confusing, about the word itself; particularly to the young officer and the non-commissioned officer, and I suggest it is

possible to find a word which will give a very much clearer idea of what is wanted.

One of the most profound students of the art of war in modern times, the late Marshal Foch, in his lectures and writings on war, continually used the phrase, "What is the problem?" The object in an appreciation should be a clear and concise statement of the problem which has to be solved, and I suggest that no better word can be found than PROBLEM.

In case the criticism is made that the changing of a word will make little difference, I will relate an incident from my own personal experience which will illustrate the difference it can make. A junior officer had given an academically excellent order for an attack, but it was unsound because his line of advance took his troops into an area which would have forced machine-guns, supporting the advance, to stop firing. He was asked what his object was, and replied promptly, "To clear the enemy off that ridge;" which was the objective given him. It was no use saying that that was not his object, as it might almost have led to a brief and insubordinate reply, and the question was, therefore, put in a different way, as follows: "What is the problem confronting you now at this moment?" After a moment's thought he replied, "To get my men from here to that ridge with as few casualties as possible." That set him thinking and he very soon realised that his line of advance was going to put his troops in danger of being shot by his own machine-guns, or depriving him of their help.

I am not putting forward a claim that the changing of one word is going to revolutionise the junior leader's ideas on appreciations, but I do claim that it will simplify the process. Having simplified the process we must instil the habit of spending the first few minutes of the time allowed for reconnaissance and issue of orders in making a rapid mental appreciation. Much time is spent in teaching the proper sequence in issuing orders, but it is doubtful if enough time is spent in teaching junior leaders *how* to evolve a sound plan, *and perhaps the reason lies in the fact that our war manuals do not rub in the necessity for making appreciations.*

Appreciations are dealt with in Training Regulations alone, and it is perhaps not surprising that junior officers and non-commissioned officers are apt to look on them as an academic

exercise indulged in by generals for the edification of their staff, or set by examiners to see whether the candidate knows how to do it, instead of as a practical means of evolving a sound plan. As a result they are apt to plunge straight into framing orders as soon as they are given their task, hoping that the plan in their mind is an inspiration straight from above.

Not many years ago I heard a very distinguished soldier stress at a conference the danger of "inspirations" and the necessity for seeking information, and when it is obtained, thinking hard and rationally. "There are many," he said, "who, when faced with having to make a plan, 'hope for a sign;' my experience is, gentlemen, that on these occasions the Almighty is singularly reticent."

As far as Indian ranks are concerned the situation is much worse, as there is no mention of appreciations in any Roman Urdu manual. A translation of the section on appreciations in Training Regulations would not meet the case as it would be above the heads of the majority. What is wanted is a supplement to the Roman Urdu war manual of each arm, explaining the process of making simple appreciations and the framing of orders. It is to be hoped that the Secretary of the Board of Examiners can find a Hindi or Urdu word that will convey the meaning of the word appreciation; that alone would simplify to a marked degree the task of teaching tactics to Indian ranks.

Summarised, my plea is this—

The transfer of the section on appreciations from Training Regulations to Field Service Regulations, Vol. II.

The substitution of the word "Problem" for "Object."

The issue of a Roman Urdu supplement to the war manual of each arm, giving a very simple exposition of the process of making an appreciation and the framing of orders.

THE FINAL PHASE OF THE MESOPOTAMIA CAMPAIGN—12TH MARCH 1917 TO THE ARMISTICE

By Lieut.-Colonel J. E. Shearer, M.C., 1/15th Punjab Regiment

1. *Introduction*

These notes cover one of the Military History periods set for the Promotion Examinations from October 1937 to October 1938. They complete a series of lectures on the Mesopotamia Campaign which have already been published by the United Service Institution of India in their Journals for July and October 1934 and October 1936.

2. *Topographical, Climatic and Tactical Peculiarities of the Theatre of Operations.*

In the opening pages of the first of those lectures, and in Chapters VI and VII of the Staff College "Critical Study of the Campaign in Mesopotamia up to April 1917," the examination candidate will get some idea of the peculiar campaigning conditions in Lower Mesopotamia. It is very necessary for students of this campaign to get a good idea of these peculiar conditions or they cannot hope to understand the operations. But a glance at Sketch Map No. 1 will show that the topography of Upper Mesopotamia and of Persia varies very considerably from that of Lower Mesopotamia. The conditions on the Tigris between Baghdad and Tekrit, and on the Euphrates, still remain more or less the same as in Lower Mesopotamia, but the Jabal Hamrin consists of a wild tangle of bare rocky hills and nullahs just as forbidding as any on the North-West Frontier of India. Kurdistan is a very mountainous country. In Persia, the road Qasr-i-Shirin-Kermanshah-Hamadan-Kasvin runs along a chain of broad, high, fertile valleys covered in snow in winter, bordered on each side by a tangled mass of mountains, and cut into approximately 20 miles lengths by a succession of rugged mountain passes. From Kasvin to Enzeli the road runs mostly down a steep, thickly-wooded river gorge (ideal for the ambushes laid by the local Jangali tribesmen), and finally finishes in low-lying rice fields and sand dunes on the shores of the Caspian Sea. At Baku the terrain consists of rolling downs, well studded by oil-wells, stoutly-built workmen's tenements and many very large, oil-covered, undrinkable lakes (*i.e.* good country for defence).

We must remember these very varying conditions of terrain and climate as our study takes us from one part to another of the very large area covered by these last stages of the Mesopotamia Campaign.

The Turks, as usual, fought with the utmost courage and determination, but luckily for us, the tribesmen in Kurdistan and Persia were of inferior quality to the Pathans of the North-West Frontier of India.

3. *General Situation on Capture of BAGHDAD on 11th March 1917*

When General MAUDE entered BAGHDAD on 11th March 1917 the situation was as follows:

(*a*) *The British Force in the BAGHDAD area (total 45,000 Effective Rifles and Sabres) consisted of*:

(*i*) The Cavalry Division (6th and 7th Indian Cavalry Brigades).

(*ii*) 1st Corps (3rd and 7th Indian Divisions).

(*iii*) 3rd Corps (13th British and 14th Indian Divisions).

There was a well-organized and efficient L. of C. to BASRAH, but the Tigris Force had somewhat outrun its communications in its rapid advance from the KUT-AL-AMARA area. General MAUDE had only one squadron of aircraft which was badly in need of repair. No good or accurate maps were available of the country round BAGHDAD so these factors necessarily delayed the operations considerably at first.

(*b*) *The British EUPHRATES Force consisted of*:

The 15th Indian Division about NASIRIYA, some hundreds of miles from BAGHDAD.

(*c*) *The Russians*:

The Russian Revolution had just started, but the C.I.G.S. was unaware up to this time of its far-reaching effects, and was still counting upon Russian co-operation in helping General MAUDE to secure the BAGHDAD VILAYAT rapidly.

The Russians had had great successes in the CAUCASUS and CHERNOBUZOFF's 7th Caucasian Corps was at BANE (in the north-east portion of Sketch Map No. 1). It was snowed up there but as soon as the snow melted,

was to be reinforced by two cavalry divisions and was to move on MOSUL *via* ROWANDUZ.

BARATOFF'S Corps, containing a large proportion of COSSACK Cavalry, was at KERMANSHAH slowly but steadily pushing the Turkish XIIIth Corps along the road QASR-I-SHIRIN-KHANIQIN.

(*d*) *The Turks*:

(*i*) KHALIL PASHA'S Headquarters had moved to SAMARRA on the night of 10th/11th March.

(*ii*) XVIIIth Corps was retreating slowly up both banks of the TIGRIS, covering the withdrawal of stores. The 51st and 52nd Divisions (which included the remnants of the 4th and 45th Divisions) were holding a position on the right bank of the Tigris at MUSHAHIDA with 5,000 rifles and 26 guns.

The 14th Division and 37th Regiment on the left bank of the Tigris had split up, and a portion had retired on BAQUBA to link up with the XIIIth Corps.

The Turks were reported to be feverishly reinforcing the XVIIIth Corps, the leading Regiment of the 53rd Division being reported already *en route* down the Tigris.

(*iii*) XIIIth Corps, commanded by the very able ALI IHSAN (strength 800 sabres, 7,500 rifles, 1,500 Levies and 50 guns), was retiring with the 2nd Division, believed to be in touch with the Russians on the PAI TAQ PASS, and the 6th Division about QASR-I-SHIRIN.

ALI IHSAN hoped to rejoin KHALIL PASHA'S 6th Army near MOSUL, probably *via* KIRKUK, and had already sent a flank guard to BAQUBA to co-operate with the detachment of the XVIIIth Corps, mentioned above, to cover his crossing of the DIYALA River at QIZIL ROBAT.

(*iv*) The small Turkish Euphrates Force was withdrawing at full speed up that river.

General MAUDE, therefore, was considerably superior in number to any one of the Turkish detachments, and was on interior lines to them. With the help of the Russians he had every hope of destroying the Turkish

XIIIth Corps by driving it into the Russians whom he was led to believe would soon capture MOSUL.

As will be seen, General MAUDE acted with as much vigour and skill as the supply and transport situation would allow, but much valuable time and effort was wasted waiting for the Russians to co-operate, before the C.I.G.S. and General MAUDE realized that the Revolution had entirely broken the reliability of the Russian armies, and that their co-operation could no longer be counted upon at all.

4. *General MAUDE'S Task*

The orders which General MAUDE had received were to establish British influence in the BAGHDAD VILAYAT subject to the security of his force and the capacity of his communications. He had captured BAGHDAD and thus raised British prestige immensely in Afghanistan, Persia, Mesopotamia and all other Arab countries, but holding BAGHDAD against the determined Turkish counter-attacks which were to be expected was not a simple matter. Moreover, the flood season was approaching, so, unless he had control of the river bunds on the Tigris and Euphrates, the whole country round BAGHDAD could be flooded by the Turks, thus rendering BAGHDAD untenable.

General MAUDE'S immediate objects were, therefore—

(*i*) To control the bunds of the Tigris and Euphrates.

(*ii*) To drive the Turkish XVIIIth Corps out of the BAGHDAD VILAYAT.

(*iii*) In co-operation with the Russians, to destroy the Turkish XIIIth Corps.

(*iv*) To assist the 7th Russian Caucasus Corps to establish itself on the Tigris at MOSUL.

5. *Brief Outline of Operations for Consolidation of BAGHDAD.* (*14th March to 30th April* 1917.) (*Vide Sketch Map No.* 1).

These operations are at first somewhat difficult to understand as they were being carried out simultaneously on four fronts, so I shall give you a brief outline of them before describing any of them in detail.

(*a*) *Euphrates Front*

The Euphrates is on a higher level than BAGHDAD, so the whole country south of Lake AQARQUF can be flooded

and communication between BAGHDAD and FALLUJA rendered impassable by breaking the sluices at the head of the SAKHLAWIYA Canal. *On 18th March,* the 7th Infantry Brigade Group (3rd Indian Division) moved to FALLUJA *via* NUKHTA in order to prevent the Turks cutting the river bunds at SAKHLAWIYA. They arrived on 20th March after little opposition to find the bunds already cut, too badly for repair. The Brigade then remained at FALLUJA holding a bridgehead across the Euphrates there.

(*b*) *Tigris Right Bank*

(*i*) *13th to 17th March.* 1st Corps (less 3rd Indian Division) captured MUSHAHIDA R.S. after stiff fighting. 21st Indian Infantry Brigade remained in MUSHAHIDA area to safeguard the river bunds there and the rest of the force returned to BAGHDAD.

(*ii*) *5th to 8th April.* FANE's Column (7th Indian Division Group) captured the BALAD area after stiff fighting and constructed a pontoon bridge across the Tigris at SINIJA, near BALAD.

(*iii*) *20th to 23rd April.* General COBBE, G.O.C., 1st Corps (with the 7th Indian Division, 8th Indian Infantry Brigade and CASSELS Cavalry Brigade), captured ISTABULAT and SAMARRA R.S., and much stores and railway rolling-stock, after very determined fighting with the Turkish rear guards.

General COBBE then moved the bridge from SINIJA to SAMARRA.

(*c*) *Area between Tigris and Diyala Rivers*

(*i*) *13th to 25th March.* The Cavalry Division gained contact with the Turkish XIIIth Corps at DELLI ABBAS, supported by the 40th Infantry Brigade in DILTAWA area.

Meanwhile the remainder of the 13th Division concentrated under cover of the 40th Infantry Brigade.

(*ii*) *29th March to 5th April.* MARSHALL'S Column (13th Division plus 35th Indian Infantry Brigade and Cavalry Division) pushed the Turkish XVIIIth Corps through DUQMA to behind the ADHAIM river; and then returned immediately to the DILTAWA area to

meet the Turkish XIIIth Corps who were advancing down the KHALIS Canal to relieve MARSHALL'S pressure on the ADHAIM.

(*iii*) *7th to 18th April.* MARSHALL'S Column pushed the Turkish XIIIth Corps back to DELLI ABBAS, and left CAYLEY with the 39th and 40th Infantry Brigades and the Cavalry Division to contain the Turks there. General MARSHALL then returned to the ADHAIM, where about one-third of the Turkish XVIIIth Corps were in a strong position on the far bank. He defeated this detachment decisively and thus cleared the left bank of the Tigris of Turks.

(*iv*) *23rd to 30th April.* MARSHALL turned northwards to meet the Turkish XIIIth Corps, who were advancing down the ADHAIM and drove them back to BAND-I-ADHAIM. The Turks then withdrew north of KIFRI.

(*d*) *Eastern Bank of River Diyala*

(*i*) *16th to 23rd March.* KEARY'S Column (3rd Indian Division less 7th Indian Infantry Brigade) occupied BAQUBA and bridged the DIYALA there, then pushed on to SHAHRABAN, but was held up by the Turks in position in the JABAL HAMRIN.

(*ii*) *25th March.* Attack on JABAL HAMRIN failed.

(*iii*) *1st April.* 8th Indian Infantry Brigade occupied QIZIL ROBAT and gained contact with the Russians, but failed to prevent the XIIIth Turkish Corps from crossing the DIYALA at QIZIL ROBAT and escaping. KEARY'S Column consequently returned to BAGHDAD on 5th April.

(*e*) *General Strategic Lessons*

By 30th April the climate had become very hot indeed so active operations died down for some months, but by his prompt and energetic exploitation of his interior lines General MAUDE had quickly rendered all the approaches to BAGHDAD safe, in spite of the promised Russian help having proved a broken reed.

The outstanding strategic lessons of this period are—

(*i*) The great skill and grit displayed throughout by ALI IHSAN. His weak XIIIth Corps seemed to be doomed to destruction, but by keeping up a bold offensive with his flank-guard against Generals MARSHALL and

KEARY, and with his rear-guard against the Russians he successfully passed his Corps across the DIYALA and escaped. At the same time he managed to carry out two offensives to try to relieve the pressure on the Turkish detachment on the ADHAIM.

(*ii*) General MARSHALL's skilful use of his interior position between the KHALIS Canal and the ADHAIM for surprise strokes in either direction is also worthy of special study; as was also his very skilful crossing of the ADHAIM on 18th April, with little loss to himself and the almost complete destruction of the enemy.

6. *The Capture of FALLUJA*

This operation is of little interest, as there was practically no fighting. The easiest "cure" for the broken bunds at SAKHLAWAYA would have been ourselves to open the river bunds higher up and flood the Lake HABBANIYA area, but this was not done as it would have increased the hostility of the local Arabs whom it was hoped to pacify. These tribes did come to terms after a month's desultory fighting. No real harm was done, however, as the 7th Indian Infantry Brigade succeeded in keeping the BAGHDAD-FALLUJA road and the light railway to MUFRAZ Post open by constructing new bunds north of NUKHTA.

7. *Operations on Right Bank of Tigris*

I have no time to describe these operations in detail as they were the usual Mesopotamian type of fighting, with all the difficulties of mirage, dust-storms and lack of maps. As usual, the Turks fought with great determination and made many fierce counter-attacks. It was only the great bravery and determination of our troops under the most trying conditions, combined with a dashing charge at the psychological moment by CASSELS' Cavalry Brigade, which gained success.

The capture of SAMARRA and the construction of a bridge there gave General MAUDE a good outpost for the defence of BAGHDAD. The railway enabled reinforcements to be sent to SAMARRA quickly if necessary, and the bridge made it possible rapidly to outflank any future Turkish counter-attacks down the ADHAIM.

8. *Operations of KEARY'S Column east of River DIYALA* (*vide Sketch Maps Nos.* 1 *and* 2).

The above operations were necessary to safeguard BAGHDAD from inundations. We will now turn to General MAUDE's main immediate strategic object, which was to co-operate with

Baratoff and prevent the Turkish XIIIth Corps crossing the Diyala at Qizil Robat.

It is easy for us to criticise, as we now know the real facts, but the "picture" which presented itself to General Maude at the time was very far from the truth. The repeated telegraphic instructions which he received from the C.I.G.S. still counted on powerful and active help from the Russians, and still instructed him to base his plans on co-operation with them. General Maude had great difficulty in getting into communication with Baratoff, and it was not until after Ali Ihsan's Corps had escaped across the Diyala that it was really discovered that the Russians could no longer be relied on for any help at all. Moreover, the only maps available were inaccurate small-scale ones which were useless for tactical purposes. It was on this inaccurate data that General Maude based his orders to General Keary, which were—

(*i*) To defeat the enemy wherever met.

(*ii*) To prevent him from crossing the Diyala and escaping towards Kifri; and

(*iii*) To drive him back on the Russians advancing from the Pai Taq Pass.

On the 14th March a small party of infantry from the 14th Division moved to Baquba in Ford vans. They found the bridge there destroyed and the far bank of the Diyala held by Turks. Keary's Column, consisting of the 3rd Indian Division (less the 7th Indian Infantry Brigade), and the 7th Cavalry Brigade, then moved to Baquba, where they skilfully forced the Diyala by means of a feint, and constructed a fresh bridge at Baquba. But they were again held up by the Mahrut Canal, near Shahraban, where the bridge had also been destroyed. (The main canals in this area of operations averaged only about 20 yards in width, but had a current running like a mill-race; and there were so many of them that it was difficult to obtain sufficient bridging material for them all.)

At this stage the 7th Cavalry Brigade was withdrawn by General Maude for operations at Delli Abbas, leaving only the 13th Lancers with Keary's Column.

On 23rd March the Turks evacuated Shahraban, and Keary's Column pursued them to the Ruz Canal, behind which the enemy were found holding a strong and well-prepared position in the Jabal Hamrin hills astride the Qizil-Robat road.

9. *First Battle of JABAL HAMRIN, 23rd to 25th March, 1917* (*vide Sketch Map No. 21*).

This battle is interesting and is well worth studying in detail as it is an example of mountain warfare against a modern enemy armed similarly to ourselves, and assisted by tribesmen. It is easy to be wise after the event, but many mistakes were made, from the study of which useful lessons can be learnt.

Briefly, the narrative of the battle is as follows:

On 23rd March General KEARY hesitated to attack because of the obvious strength of the Turkish position, which aeroplane reconnaissance had proved to be well-prepared and strongly held. He was, however, peremptorily ordered by General MAUDE to attack the Turkish left flank and push the enemy into the DIYALA.

In spite of the fact that the Turks could observe all our movements, General KEARY focussed the enemy's attention upon his intended line of attack by sending the 13th Lancers and mounted reconnaissance parties of the 9th Infantry Brigade out on that flank in broad daylight. It was discovered that the HARUNIYA canal would have to be bridged, but that the RUZ canal was dry and could be ramped.

The 9th Infantry Brigade then did a night march on the night of 23rd/24th March only to find that the Turks had meanwhile flooded the RUZ canal, bridging material for which had not been brought. But instead of the Brigade being brought back again in the dark and concealed, they spent all day on the 24th March between the two canals, while the RUZ canal was being bridged in full daylight.

On the following night the 9th Brigade crossed the second bridge, and made another night march and attacked at dawn. But partly owing to the attack being no surprise to the Turks, and partly through the Brigade having inclined too far to the left during the night march, and so failing to get round the Turks' flank, the attack was a costly failure, and General KEARY had the greatest difficulty in extricating the 9th Infantry Brigade at all when the Turks counter-attacked.

There was no adequate artillery support during the battle as the bridge broke and the artillery could not cross the RUZ canal.

This battle is an admirable example of the danger of attacking a properly-equipped and prepared modern enemy in mountain warfare when surprise has not been attained.

10. *Escape of Turkish XIIIth Corps across the DIYALA at QIZIL ROBAT*

On the following day, 26th March, the Turks withdrew, followed by the 8th Infantry Brigade, which reached QIZIL ROBAT on the 1st April after the last of the Turks had safely crossed the DIYALA there. On the same date the Russians also reached QIZIL ROBAT.

These operations are an excellent example of skilful rear-guard work by ALI IHSAN. He held up the Russians at the PAI TAQ PASS with two battalions only while he withdrew his 2nd Division and Corps Troop across the DIYALA. Meanwhile he delayed the British with his 6th Division by holding a series of positions at BAQUBA, SHAHRABAN and the JABAL HAMRIN, and after having inflicted a reverse on us at the latter place withdrew this rear-guard safely also.

11. *Operations of MARSHALL'S Column between the Tigris and DIYALA Rivers.*

As you will remember from the outline which I gave you of the complicated moves of General MAUDE'S forces at this time, while KEARY'S Column was operating at BAQUBA and fighting the first battle of JABAL HAMRIN, General MAUDE sent the Cavalry Division to DELLI ABBAS, supported by the 40th Infantry Brigade to DILTAWA, to cover the concentration of MARSHALL'S Column (13th Division, 35th Indian Infantry Brigade and CASSELS' Cavalry Brigade).

On 29th March General MARSHALL commenced his attack on the XVIIIth Turkish Corps and by the 5th April had pushed them across the ADHAIM near its junction with the Tigris.

Meanwhile ALI IHSAN advanced down the KHALIS Canal to help the XVIIIth Corps. General MARSHALL then left the 38th Infantry Brigade to contain the Turks on the ADHAIM and did a night march eastwards. At dawn, on 11th April, both sides surprised each other, as both had been night marching, and a very determined encounter battle was fought about half way between DELLI ABBAS and DILTAWA. Fighting continued under extremely trying conditions of heat and thirst until the 15th April, by which date this Turkish attack had been pushed back to the JABAL HAMRIN.

General MARSHALL then left General CAYLEY with the Cavalry Division and two Infantry Brigades to contain the Turkish XIIIth

Corps on the KHALIS Canal (where ALI IHSAN made yet another attempt of advance), and returned with the rest of his force to the mouth of the ADHAIM, which he crossed on 18th April, and practically destroyed the Turks there.

12. *Crossing of River ADHAIM on the night of 17th/18th April* 1917 (*vide Sketch Map No.* 3).

This is a very interesting little fight and is an admirable example of the correct exploitation of surprise in carrying out an opposed river crossing.

The river was at that time shallow and narrow, but had a treacherous bottom and so could only be crossed at the fords. It meandered about in a dry bed some 2,000 yards wide with steep cliffs on both banks. The Turks were holding the cliffs on the far bank.

CASSELS' Cavalry made a demonstration upstream at Ford 'A'. When the enemy's attention had thus been drawn to Ford 'A', a real crossing was effected, unperceived, at Ford 'B' and the cliffs opposite seized with little loss to us. This further attracted the enemy's attention to his left flank. Meanwhile two battalions had been ferried across at 'C' quite unperceived. At first light they rushed the cliffs above KABAJ village and took them almost without a casualty. A bridge was then built at 'D', and CASSELS' Cavalry, which had meanwhile concentrated there, moved across the bridge and rapidly cut the Turks' line of retreat up the Tigris.

The enemy lost heavily, including 1,200 prisoners, while General MARSHALL'S total casualties were only 73. It was a skilfully-planned and admirably executed plan.

13. *Action at BAND-I-ADHAIM, 30th April* 1917 (*vide Sketch Map No.* 3).

Meanwhile the stout-hearted ALI IHSAN once again appeared on the scene; this time he was advancing in strength down the ADHAIM to succour the battered remnants of the 14th Turkish Division.

General MARSHALL consequently turned north and advanced rapidly up both banks of the ADHAIM to meet this new threat. There was constant fighting, under very trying conditions of heat and thirst, right up to ADHAIM village, where the Turks were strongly entrenched.

Again General MARSHALL successfully employed guile. On the evening of 29th April he demonstrated at the Turks' extreme left with the 38th Infantry Brigade, but his real attack was carried out on the enemy's centre by an Infantry Brigade on each bank of the ADHAIM river at first light on the 30th April. This attack was entirely successful, but two battalions of the 40th Brigade went beyond supporting distance, while capturing 8 guns and many prisoners north of ADHAIM village, and they omitted to consolidate properly there. ALI IHSAN had started a general retirement when a very bad dust-storm commenced and entirely blinded our troops. He took immediate advantage of this to counter-attack the two detached battalions north of ADHAIM village. These had no chance whatever, as neither they nor the 38th Brigade could see anything until the Turks were swarming over them. Those two battalions lost very heavily and the Turks recaptured most of their prisoners and guns. ALI IHSAN then rapidly withdrew without further molestation through BAND-I-ADHAIM. All further fighting round BAGHDAD then ceased for the hot weather. General MAUDE and his troops had completed their task well and rapidly, in spite of very great heat and very trying physical conditions. The Turkish 6th Army was virtually destroyed and BAGHDAD was safe from enemy attacks and from floods, but ALI IHSAN had also proved himself to be a commander of the highest order.

(To be continued)

SKETCH MAP No 1.
UPPER MESOPOTAMIA.

Scale of Miles.
10 5 0 10 20 30 40 50

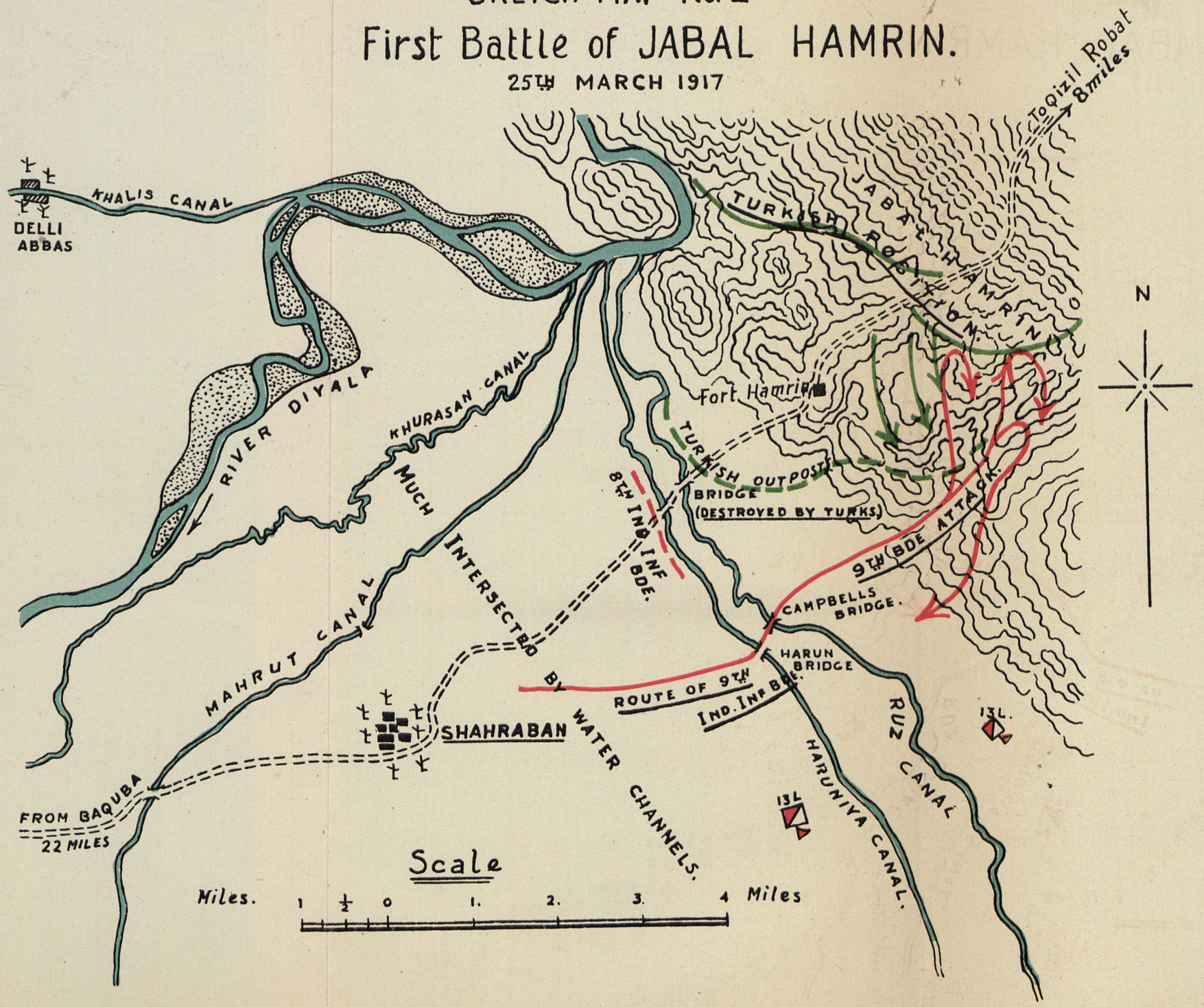
KEY
MOUNTAINOUS COUNTRY
MAIN ROADS
SECONDARY ROADS
PLAN FOR ATTACKS 24-29 APR. 1918 — A. Apl.

PERSIA
KURDISTAN
JABAL SINJAR
MOSUL
GREAT ZAB R.
RUWANDUZ.
ERBIL
BANE
ALTUN KOPRI
SHARQAT
LITTLE ZAB R.
JABAL MAKHUL
AINDIBS
KIRKUK
SULAIMANIYA
RENJWIN
TAZA KHURMATLI
FAT-HA
JABAL HAMRIN
DARB-AL-KHAIL PASS
AIN NUKHAILA PASS
SHURAIMIYA
R. TIGRIS.
TUZ KHURMATLI
A.
KIFRI
R. DIYALA
PERSIA
NORTHERN BOUNDARY OF BAGHDAD WALAYAT.
TEKRIT.
DAUR.
BAND-I-ADHAIM.
BU GHARAIB.
ADHAIM
D.
HAMRIN
B1.
NARIN R.
B2.
C.
QARA TEPE
AINLAILA
QALA SHIRWAN
QASR-I-SHIRIN
PAITAQ PASS
KHANIQUIN
To HAMADAN
KERMANSHAH
SAMARRA R.S.
SAMARRA.
SHATT-AL-ADHAIM
SUWANIYA
SAKALTUTAN PASS
QIZIL ROBAT
MANSURIYA
ISTABULAT R.S.
DELLI ABBAS
KHALIS CANAL
HARDARA R.
SHAHRABAN
BALAD R.S.
DUQMA
JABAL HAMRIN
SHAHVIE
MANDALI
PUSHT-I-KUH MOUNTAINS.
KHAN BAGHDADI
DILTAWA
RUZ CANAL
TEL IBAHAD
BALAD RUZ
SUMAIKA R.S.
BAQUBA
BOUNDARY OF MESOPOTAMIA & PERSIA.
HIT
MUSHAHIDA R.S.
R. EUPHRATES.
FLOODS.
LAKE HADDANIYA
RAMADI
SAKHLAWIYA
FALLUJA
KADHIMAIN
BAGHDAD
MUKHTA
DIVALA
R. TIGRIS
CTESIPHON
R. EUPHRATES
MUFRAZ POST

SKETCH MAP No. 2

First Battle of JABAL HAMRIN.

25TH MARCH 1917



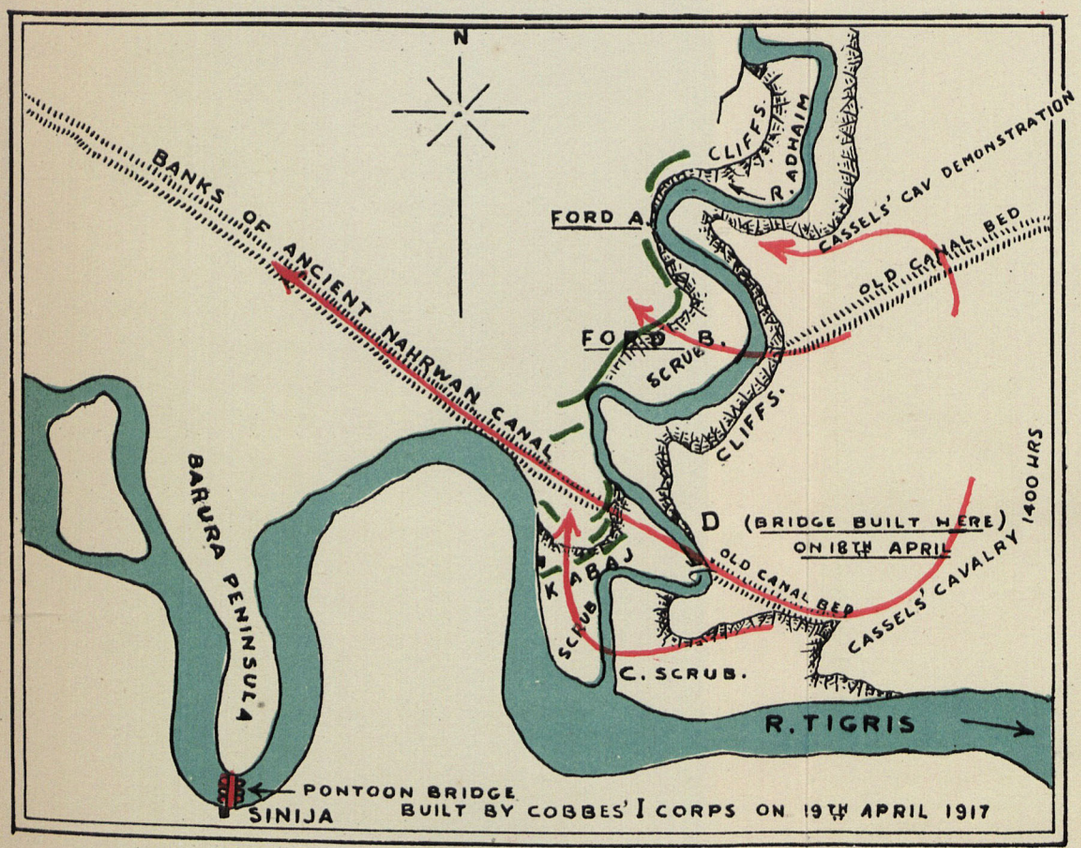
SKETCH MAP No.3.

PASSAGE OF THE RIVER ADHAIM.

18TH APRIL 1917

Scale

Miles 1 ½ 0 1 2 3 Miles



KEY

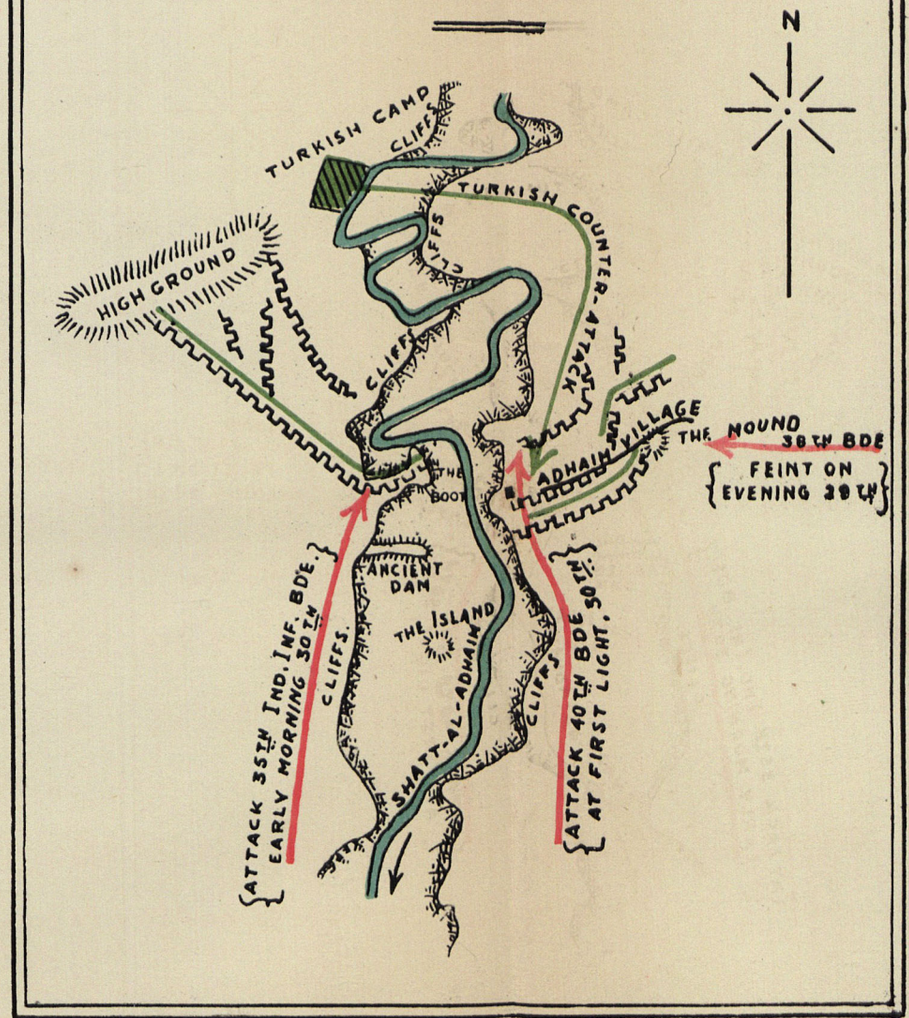
TURKISH POSITIONS IN GREEN.
BRITISH MOVEMENTS IN RED

ACTION AT BAND-I-ADHAIM

30TH APRIL 1917

Scale

YDS 1000. 0. 1000. 2000 3000 4000 5000 YDS



MAHSEER FISHING—I, "THEORY"

By Captain J. R. Morris, 9th Gurkha Rifles

1. *The Movements of the Mahseer*

It is a fact, of which anglers and village netsmen take full advantage, that at the beginning of the rains there is a large run of fish from the main rivers to their tributaries. The object of this movement would appear to be that of spawning. In both India and Burma the small rivers and streams, though often but trickles in the cold and hot weather months, become large rivers during the monsoon period. When in flood the rivers offer security from attack by reason of the discoloured water, adequate flood time feeding and a free path of deep water to suitable spawning grounds. My personal experience is that the only occasions on which fish full of milt are taken occur just before the monsoon breaks. It is extraordinary also that mahseer are seldom observed in the act of spawning. Should this occur when the rivers are low and clear such observation ought to be of frequent occurrence.

After the rains, apart from a few fish which remain in the small rivers which have large deep pools throughout the year, there is a general downstream movement towards the big rivers. Later during December, January and early February when the weather is colder the mahseer tend to collect in the deepest pools seeking always the warmer water. At the end of the cold season when the weather becomes hotter the mahseer move to the faster flowing water and rapids. Here they remain until the melting of the snows brings down the snow water and renders, in most cases, fishing and observation impossible. To avoid this cold water, some of the mahseer move into the smaller rivers not affected by the melting of the snow, whilst the remainder appear to lie in the vicinities of the junctions of these small rivers and the snow affected waters. There they wait until the break of the next monsoon when the cycle of movement begins again.

2. *Fishing Seasons, Weather and Water Conditions*

The best fishing occurs during the hot weather. In the monsoon, if the rivers have time to clear during a break in the rains there will be excellent chances of sport. After the rains the fishing is only good for a comparatively short period and the angler should try to reach the rivers as they begin to clear. The cold weather

usually offers the poorest chances of good fishing. This is a general rule but there are exceptions and the novice must seek local guidance. In the waters of the Ganges and Jumna and their tributaries, during November, December and January, very little fishing is done. In some parts of Upper Burma, on the other hand, these are quite good months and the local records show that fish of 84, 64, 36 and a number of 20 and 15 pounds have been caught.

The best weather often consists of those bright, sunny days when conditions are really settled. The mahseer appear to sense a coming change of weather some time before it occurs and are usually off their feed at such times. A full moon is sometimes coincident with bad fishing periods. Thunder too has a bad effect, and yet on rare occasions it makes the fish go mad and seize any and every description of lure.

There seems to be no rule as to the best times of the day, sometimes the morning, sometimes the afternoon. I have persuaded myself that the very early morning and the hottest part of the day are bad times. Numbers of anglers disagree with me and attribute this to laziness on my part. Of the early morning I still have a few pricks of conscience, but of the hour between one and two none. By this time one is tired and so fishing badly; and, if one intends to fish keenly until dusk and later, a good rest is essential. I have rarely done much good with the spinning rod when fishing after dark, though the trout rod often affords good sport.

3. *Food*

It is generally accepted that the mahseer is largely a bottom feeder. Examinations of the contents of the stomach have shown, more often than not, a mixture of green weed and slime and grit. At times, traces of small fish fry are to be found, more frequently perhaps in the hot weather than at other times. The mahseer is also known to feed upon crickets, dragon flies, frogs, grasshoppers, locusts, mulberries, atta and gram. With the exception of atta and gram, these feeds which are also used as baits are limited to particular rivers and particular seasons of the year. Each calls for a technique of its own.

The main purpose of this article being to consider the mahseer as a predatory fish it is necessary to return to this subject. The movements of the mahseer already described are not confined to this species. Many others, such as the chilwa, stone loach, kalabanse and barillius bola, follow a similar course; similar except

that judging from observations made at a fish ladder, the runs of these species commence earlier. During these runs the mahseer prey upon the small fry and it is at these times that the cream of mahseer fishing is to be found.

We may conclude, therefore, that the mahseer is a bottom feeder with a decided preference for a seasonal change of diet and that, as far as spinning and big fly fishing are concerned, he becomes a game fish when his predatory habits or recollections of these habits are aroused.

4. *Reasons for taking of Lures*

Anger, high spirits, jealousy, curiosity and hunger have all been suggested as reasons. Any discussion of the first three must be largely speculative. There remain the reasons of curiosity and hunger.

Curiosity appears to be more worthy of consideration. When casting a spoon into a clear still pool, the small mahseer are sometimes seen to follow this without endeavouring to take it. The larger mahseer more rarely do this and when they do, one can, as often as not, rely on that pool yielding at least one fish; on other occasions, however, under apparently the same conditions, the fish will either scatter in all directions or remain in their lies oblivious of the lure. If it is concluded that curiosity is, at times, responsible for a mahseer taking a lure, the deduction must be tempered with the thought that this curiosity may be but an enquiry as to whether the lure is or is not fit to eat.

When using dead bait, live bait, and the other natural foods, there can be no doubt that hunger is the main incentive. The artificial baits that are used for mahseer fishing do, to some small extent, represent the small fish fry on which mahseer feed. I am inclined to believe that the success of these baits lies in this representation. The most difficult lure to reconcile with this theory is the spoon. The chief characteristic of the spoon is that of flash; in this it resembles the flash made by a small fish during movement, and so, the spoon's attractiveness may also be attributed perhaps to the appeal of hunger.

5. *The Choice of a Lure*

This and the following three paragraphs deal mainly with the larger mahseer and the heavier of the two tackle outfits described later.

Phantoms, devons, and many other types of baits, have all on occasions caught mahseer. These baits are merely copies of those that are used at home for salmon and trout fishing and, with but one known exception, have not been designed for mahseer fishing. In practice one very seldom sees phantoms and devons being used and a beginner is advised to content himself with spoons, dead bait mounts and the bait described below. The known exception is the chilwa nature bait of Messrs. Percy Wadham's Specialities, Ltd., Newport, Isle of Wight. Over a number of seasons when the chilwa fry are running, this bait has been more successful than even the natural fry used on a neat dead bait mount. The chilwa can be easily recognised. They are three to four inches in length with flat bodies and silvery scales, and when caught they have a pale green tinge which quickly fades. Apart from the chilwa, therefore, the novice has to decide between using a dead bait and one of the three types of spoons illustrated in Plate I.

The spoon is the more blatant lure, its flash advertises its presence more decidedly, and it is a cleaner and more simple lure to mount than the dead bait. The latter is obviously the more natural lure, and it can be fished deeper in very fast water where the pull on a spoon would force it close to the surface and often right out of the water. The spoon, therefore, is better for high water and the dead bait for low water conditions and for exceptionally fast waters. Subject to these considerations the use of the spoon is generally recommended on account of its cleanliness and simplicity. There remains the selection of a spoon from the various patterns and sizes that lie in the tackle box.

The hog-backed spoon is well suited to deep, still pools with little flow. In fast waters this type produces a tremendous pull on the line, swims very high, and is not so suitable as the other types.

The Norwegian spoon is long and narrow and is good for fast waters. It has, however, the disadvantage of not spinning so well, with slow winding of the reel, in the quiet eddies and back waters at the near side of the rapid water.

The ordinary spoon lies half way between the above spoons. It spins quite well in slack water and in rapid water is almost as good as the Norwegian spoon. I have for a number of years used these ordinary spoons to the exclusion of other types. This is,

however, a matter of personal convenience and suits the rivers I usually fish.

For all normal river conditions the 2-inch spoon is recommended. For high waters the 3-inch spoons should be used. For simplicity I have omitted the $2\frac{1}{2}$-inch spoons which are very popular on many rivers and the $1\frac{3}{4}$-inch spoons which are occasionally used.

Whether an all silver, or a copper and silver, or any other type of spoon, is selected, is of no great importance under normal water conditions. Time and time again, under normal conditions, I have purposedly fished a colour not being used by other anglers and neither they nor I have had the advantage. For other water conditions the principle of using the bright all silver spoon for high water and the more dull coloured spoons for low water is, I think, sound. No advantage has ever been found in the spoons with "scale" markings on the convex side.

6. *Fishing the Pool*

Probably the most difficult part of spinning lies in the control of the bait as it swings across the stream. Whilst it is impossible to lay down a definite rate or place, the aim should be to spin the bait as slowly as possible over the anticipated lie of the fish. When the strength of the current is not suitable, line can be paid out or reeled in to achieve this object. To some lies it is necessary to cast upstream, particularly when fishing the slack water above a junction. Even in quite fast water, by moving the rod and by winding the reel quickly it is, in most cases, possible to keep the bait spinning.

The novice is usually advised to cast across and downstream at an angle of 45 degrees to the rapid water of a pool and, taking two paces between each cast, to continue until the shallow water at the tail of the pool is reached. Later he should adopt the more interesting system of radial casting. By fishing the pool by bounds and making from each stage casts of various lengths, beginning naturally with the short casts, until all the water of the present bound has been covered, he will cover the water equally well and will also present the lure to the mahseer at different angles.

When there is a long length of river to be fished, it is more enjoyable to confine one's self to casting, twice or thrice, to likely

lies. As judgment of where fish lie develops, one attains, at least on some days, a feeling that each cast is covering a fish.

7. *Lies*

Sometimes it is easy to ascertain the whereabouts of the mahseer. When a run of small fish fry is taking place the mahseer will be found near all places where the fry tend to collect. On the majority of occasions, however, no such evidence will be available, and one has to fish all the lies judging them from the surface of the water. On some rivers the actual lies of the fish can be seen. By studying such places the novice can learn the effect of the variations of the bottom of the river on the surface of the water. Changes in the speed of the current, eddies, a small hump of water or a small wave, are often the only evidence of a likely lie. With conditions varying so enormously no exact data can be given. All I can hope to do is to illustrate where and when mahseer have been found, trusting that this may help a beginner to think out these problems for himself.

As a general rule mahseer avoid places where the river bottom is covered with sand and prefer stretches covered with rocks, boulders or stones. Under normal water conditions mahseer have been found: Throughout the length of a pool in the shelters provided by rocks and boulders; in the eddies and backwaters at the sides of a rapid; at the foot of the rapid near the edges of the smooth pool water; at the point where the white water ceases and becomes smooth; in the still whirlpools, bays and backwaters, so beloved by the red mahseer of Upper Burma; at the tail of a pool just before the water shallows *en route* to the head of the next rapid; and, towards dusk, in those shallow waters to which the mahseer move in search of their prey.

It must be emphasized that the angler will find rivers and occasions when the mahseer will upset all calculations. For example, in the Sinan of Upper Burma, mahseer up to 50 pounds are caught in the slacker water of the deep, still pools, the fast waters rarely yield a fish.

8. *Playing a Fish*

To illustrate the theory of playing a fish two extreme cases will be given. The first case will consider the more normal conditions when all is clear.

The mahseer practically always takes the lure with a dash, followed at once by a turn and that glorious downstream rush of

many yards, without even a pause in which the angler can check his gear and see that all is clear. During this run the fish should be allowed to take out, against the check of the reel, all the line it wishes. The reel should not be braked either by placing a finger (or thumb) on the exposed rim or by using any additional brake the reel may possess. The more the fish runs the quicker will it tire and the sooner will it be landed.

The angler's first object is to get to that position of advantage just below the fish, from which the fish has to fight against both the strength of the current and the strain of the line as applied by the angler. To exert the maximum pull on the fish, side strain is now applied. This upsets the balance of the fish, forces it closer to the angler's bank, and is much more effective than the strain applied with the rod held more or less vertical and pointing towards the fish. The latter merely attempts the impossible task of trying to pull the fish's head out of the water. The method of using side strain is to hold the rod almost horizontal and pointing downstream and to apply pressure by moving the rod in an inland direction. Then, reeling in line at the same time, the rod is brought back towards the water until it is again pointing downstream. This is repeated until the fish, which will not stand much of this, dashes off once again. At each dash the fish is allowed to take all the line it wishes, until it stops, when the angler again manœuvres into a position just below the fish. When tired the fish may turn its head downstream and float slowly down on the current. To counter this, side strain is again applied but this time the rod is pointed upstream which usually results in the turning of the fish.

In the next case let us imagine that there is a snag which, if it be reached by the fish, will spell failure; or that the river is so high in flood that it is doubtful, if the fish is permitted to run, that control over it will ever be achieved; or that, for the angler, movement downstream is impossible. Here, of course, the reel is braked as hard as the strength of the tackle will permit. If, in spite of this, the fish is now approaching close to the snag, the rod point should be lowered until all the strain has been taken off this and the reel jammed completely. With the rod in this position the maximum strain, which is equal to that of the strength of the line and trace, is exerted. This is contrary to the popular

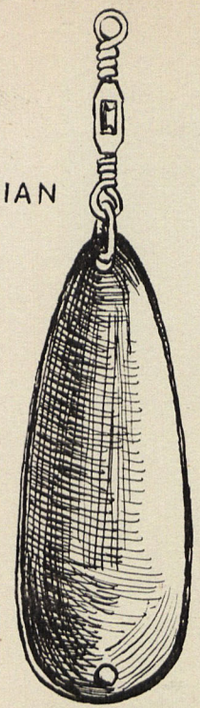
fallacy of butting a fish; a simple experiment with a spring balance will, however, show that the minimum pressure is exerted when the rod is held vertical, and that the pressure increases as the rod is lowered to a position pointing directly at the fish. If all is well the fish has now been stopped; if not the line will be broken, but with the rod in this position it is more than probable that the break will occur at the end of the line nearest to the fish. Having stopped the fish, the angler should walk a considerable distance upstream, slowly step by step without winding the reel, and then return downstream winding in line. It is extraordinary how a mahseer can be marched upstream, whereas even one wind of the reel seems to irritate the fish and off it goes. Where the lie of the land does not permit of walking upstream, the last resort is to pump-handle the fish. Without for a moment relaxing strain, the rod is raised and line then wound in as the rod is slowly lowered. By repeating this again and again, the fish will be gradually brought upstream to the most favourable landing place.

9. *Landing the Fish*

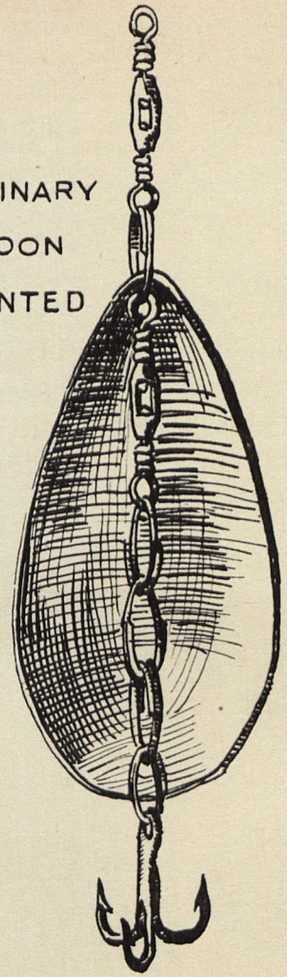
On the rivers I have fished in India it is very rare for a net, gaff, or tailer to be carried, although in Upper Burma a gaff is fashionable. The practice is for the angler to play his fish to a standstill, bring it to shallow water, and hold the fish at the edge so that the coolie can wade in and seize the fish with both hands behind the gill covers, and so carry it ashore. Even if the fish cannot be brought into shallow water, provided the coolie can get right down to the water's edge, this method can be used. It does, however, require a coolie with experience and, if he has not the requisite knowledge, one must teach him by landing the first fish one's self. This with a spinning rod of 11½ feet and a trace of 1½ yards is a practicable proposition. When the fish is really played out, the rod is transferred to the left hand and held with the point as far inland as possible, stooping down, the fish is seized with the right hand below the gill covers and if the fish is of great weight the coolie now called to one's assistance.

When using a gaff the scales of the mahseer are so hard that it is difficult to drive home the point. It is not advisable to use the method that is employed for salmon. Instead of gaffing the fish over the back it is better to place the gaff under the fish and

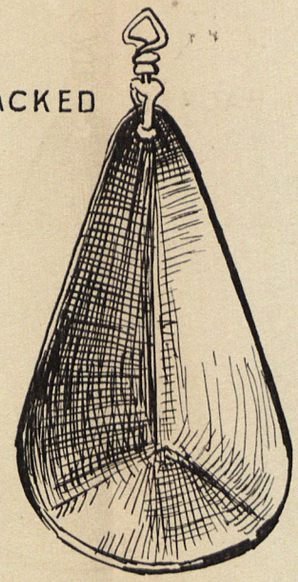
PLATE I



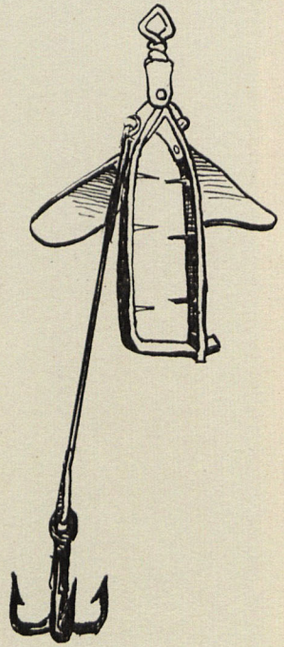
NORWEGIAN



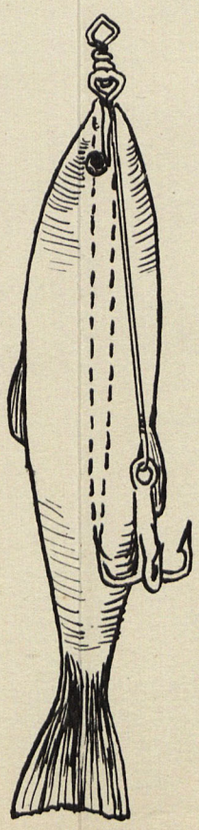
ORDINARY SPOON MOUNTED



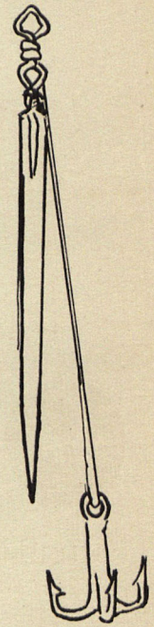
HOGBACKED



CROCODILE SPINNER

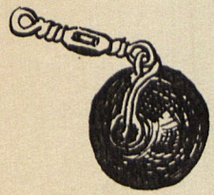


WOBBLER MOUNTED



WOBBLER

JARDINE LEAD



HILLMAN LEAD

to drive in the point with a sharp inward and upward movement. After one or two efforts the fish is usually secured. Though these misses are very frightening, they are not so serious as they would be in salmon fishing, as the mouth of the mahseer offers a much firmer hook hold. As before, it is better (for a right-handed man) to hold the rod with the left hand and to use the right for the gaff. The reel and line must be clear so that, should you miss and the fish plunge away, the reel will give freely to the fish.

Finally, if one has the misfortune to hook and land a gounch, do not adopt the method described in the first part of the paragraph. If you do, either you or your attendant may get a badly mangled hand. Instead of this seize it by the tail which nature has kindly fashioned so as to afford a good grip. The gounch is exceedingly ugly, is of dirty green to brown in colour and has a mouth full of uncommonly sharp teeth.

10. *The Small Fly Rod*

Except that the amount of force used must be moderated, the tactics advocated above should be followed. A gut cast is now being used and, even when applying the utmost strain on a fish, a portion of this strain should be taken on the rod by holding it slightly upwards. When using both the fly and fly spoon, these are cast downstream in a manner very similar to that of the spinning rod. After casting, the rod is raised and held up so as to keep as much line as possible out of the water. The rod point should follow the lure across the stream keeping a little behind it. In rapid water there will be but little opportunity and no necessity for working the fly. In more slowly flowing water movement should be given to the fly by gathering in the line, by jerks, with the left hand. As a means of controlling the movement of the fly, the waving of the rod point up and down is not recommended; with a long cast it has but little effect on the fly and adds a sort of drowsy rhythm to the proceedings which is not conducive to alert angling.

REVIEWS

Europe in Arms.

By Captain Liddell Hart

[(*Faber and Faber Ltd.*) 12*s.* 6*d. net.*]

Captain Liddell Hart disarms criticism to some extent by the explanation that this new volume is composed largely of material contributed to various periodicals and journals during the past two years. However carefully material of this nature is revised or supplemented, allowance must be made for some unavoidable lack of continuity; minor contradictions and repetitions are only to be expected and it is difficult to avoid the impression that some at least of the material, however pertinent at the time it was written, is now included for no better reason than that it was available.

The basic idea underlying the book is the author's conviction that the power of the defence in modern warfare has increased to such an extent as to render the attack to all intents and purposes impotent and that any objective study of warfare cannot fail to lead the scientific observer to this conclusion. The increase of fire-power conferred by the multiplication of automatic weapons, the increased efficiency of anti-tank weapons and even the growth of mechanization which permits the rapid reinforcement of threatened areas has given the defence such overwhelming advantages that the next shock between two modern armies must result immediately in a deadlock; any future attempt to mobilize a nation in arms will merely ensure that the deadlock will not persist but will break down in chaos brought about by the paralysing effect of attack from the air. The possibility of restoring to the attack its lost powers is hinted at, but the author is more than doubtful of the ability of the professional soldier to rise to the level of the new technique involved. This new technique embraces the "masked attack," the "baited offensive," the "luring defensive," and the "dispersed strategic approach." These expressions are new and there may be behind them a new conception although at first sight it would appear that the advantages of the "luring defensive," for instance, have been appreciated and acted upon since man first began to use his brain to supplement his animal strength.

Arguing from this basic conviction, Captain Liddell Hart puts forward two main secondary conclusions. He would relieve our land forces of any possibility of being called upon to intervene in a war on the continent of Europe (with the saving clause that there might under very particular conditions be some value in employing on the Continent a small and highly mechanized force), and would leave to the Air Force alone any such intervention if it should be called for by our obligations. As a corollary to this suggested definition of policy he casts doubt upon the basis upon which the whole of Britain's new armament programme is framed. Not even the programme of naval rearmament is excluded from this latter criticism and, challenging the value of the capital ship, Captain Liddell Hart suggests that the nation may be committed to a vast amount of useless expenditure through the failure of its naval, military and air advisers to survey the problem scientifically, objectively and from the widest point of view.

These views are interesting and undoubtedly have their adherents but it is one thing to theorize and quite another matter to frame the policy of an empire not in the face of theory but of hard facts. Armaments, or a programme of rearmament, must admittedly be based upon policy and any reduction in the many various tasks which our military forces must be prepared to carry out would be welcomed, but "splendid isolation" is not a new phrase in our history and however much we may criticize the strategical employment of our Expeditionary Force in 1914, we must bear in mind that political considerations must sometimes carry greater weight than purely military wishes. The enormously increased power of the defence is apparent even to the non-scientific student but to assert that defence is now impregnable and will always remain impregnable and to base policy upon that assertion is to assume that the science of war is a dead science and that two thousand years of change, of development and of growth have suddenly solidified and that what was alive is now petrified and inert. Captain Liddell Hart may be right and the many other keen enquiring minds at work to-day in Europe may be wrong, but that is a question which must be left for the individual reader to decide for himself.

"Europe in Arms" touches upon many other subjects and does real service in throwing the torchlight of criticism upon

certain obscure corners of our military administration. It contains much of interest as regards the progress and tendencies of rearmament in other European countries, deals concisely with the recent Italian campaign in Abyssinia and with certain problems which may affect the British Empire as a result of the success of that campaign, and brings a fresh outlook to bear upon many of our difficulties of training, of recruiting and of organization. It is all the more regrettable, therefore, that the author's remarks upon many of these subjects are too often coloured by his prejudice against the professional sailor and soldier in favour of the non-professional but scientific student of war. It is difficult for a soldier to comment usefully upon this prejudice, but as an example of the scientific method of studying war, we may make one quotation:

"Soldiers may go into action at any pace between 3 m.p.h. and 30, while from overhead they may be attacked at 300 m.p.h. Is it not possible, *even probable,* that when these differing rates of movement are added together the sum may be zero?"

The portion in italics is the reviewer's.

A. V. A.

The East India Company's Arsenals and Manufactories

By Brig.-Genl. H. A. Young, c.i.e., c.b.e.

[(*Oxford University Press*), 12*sh.* 6*d.*]

"The East India Company's Arsenals and Manufactories" fills a definite, though perhaps little realised, gap in the bibliography not only of John Company's days but in that of the history of the Army in India. The fact that the subject has never been fully dealt with before is possibly partly responsible for the fact that "the very existence of any military manufacturing establishments in India seems to be unknown to modern writers"—and "the ignorance of the officers of the Indian Army concerning the factories, in which so much of their equipment was made, and the arsenals, from which they drew their supplies of military stores, was, in my time, simply amazing."

Though present ignorance amongst the officers of the Army in India in respect of their arsenals and factories may not be so complete as it was in those days, yet there is no doubt that even amongst the factory and arsenal officers themselves there is an

almost entire ignorance of the earlier establishment under John Company from which they are descended.

The manufacture of powder seems to have been the earliest of the Company's war-store manufacturing activities, and it will come as a surprise to many that gun-powder was made in the Company's powder mills as early as the third quarter of the 17th century.

General Young gives a complete review of the manufacturing activities of the three presidencies from the earliest days, connecting them with the existing up-to-date manufacturing establishments.

The book is packed with interesting facts concerning the many vicissitudes through which the old-time factories and arsenals went. There are details and anecdotes of the officers and artificers who were employed in them, together with many quaint sidelights on the ethics pertaining in the days of John Company and the latter's administrative methods.

A glance at the bibliography shows the immense care that General Young has taken to consult every source of information and the result is an authoritative and very readable account of a little known side of the Company's activities.

The book can be thoroughly recommended to that somewhat limited public who will be interested in this "by-way" of history.

C. S. T.

" History of the 5th Battalion (Pathans), 14th Punjab Regiment. (Late 40th Pathans.) "

By Major R. S. Waters, o.b.e.

(*James Bain, Ltd.*)

The history of the Forty Thieves could be nothing if not interesting. The Black Mountain, Tibet, Hong Kong, France and Belgium, German East Africa and Addis Ababa (to select only a few of the Regiment's campaigns and peace stations), all help to add variety to the story of a unit whose history requires no embellishment.

The author, who is a retired officer of the Regiment, traces its history from its raising in 1858 up to the present day. Indeed he goes back further than 1858, and attempts to link up the Regiment with a pre-Mutiny 40th that disappeared in 1857—and this is the reviewer's only quarrel with him. The Regiment's authentic

history is sufficiently absorbing and it is unnecessary to try and claim for it a greater antiquity than is warranted by the Army List.

The story of how the Regiment, which was one of the many units hastily raised during and after the Indian Mutiny, developed from an experimental Frontier Corps into the famous unit that we all know is a fascinating one, and the detailed history of its class composition is one that holds a number of lessons for Indian Army officers. The book brings out well the impossible handicaps, lack of officers, inefficient arrangements for reinforcements, etc., under which the Indian Corps laboured in France. In April 1915, the Regiment lost 20 officers, British and Indian, out of a total of 30, and 320 Indian other ranks, out of a total of 650, and from then until its return to India in 1918 it never reached full strength.

Perhaps the most interesting part of the story is the account of the Regiment's experiences in East Africa from 1916 to 1918. Although the concentrated hate of the Western front and the monotony of trench warfare were not in evidence in this theatre, the climate, the terrain and the almost complete absence of *bandobast* balanced the account. For long spells at a time no rations were forthcoming and the troops lived on the country, that is to say, on mealies when they could get them or on roots, and at one time the Regiment failed to muster 50 men in possession of boots. The Germans were in no better case, for it is recorded that "an odd sight was that of beer bottles with the bottoms knocked out serving as insulators for the German telegraph lines"—truly a war of improvisation!

The author is to be congratulated on his material and the use he has made of it.

D. F. W. W.

The Last of the Gentlemen's Wars

By Major-General J. F. C. Fuller.

[(*Faber and Faber*), 12*sh.* 6*d.*]

This is a book of personal reminiscences on the Boer War. General Fuller, as a newly joined subaltern, landed in South Africa with his regiment on January 13th, 1900, only to be evacuated almost immediately to England with an attack of appendicitis. He returned on Novembr 4th. The book is based on diaries written between that date and the end of the war.

The author missed the heavy fighting. His experiences were confined to the rounding up operations carried out in 1901 and 1902. His descriptions of life in charge of a number of block-houses, or in command of a small detachment of Kaffir scouts, are entertaining.

An inspired account of the outspanning of a regular cavalry column, as resembling the entrance of the Israelites into the Holy Land, cannot fail to delight the heart of any infantry officer.

As might be expected, General Fuller, with one important exception, has little good to say of our regular army for these operations. The exception was that our army fought cleanly, and as gentlemen. For this, and from the successful peace that followed, General Fuller finds a moral. In his title, and his preface, he stresses the fact that war must be waged by gentlemen, if it is to be successful. He holds that massed, proletarian conflicts, such as the "first cads' war of 1914—1918," should be avoided. His watchword is quality, not quantity. With the last statement one naturally sympathises, but General Fuller's arguments in linking it with a so-called "Gentlemen's war" are thin. Can war ever be gentlemanly? It seems highly doubtful. And it is amusing to find that the one military operation, for which General Fuller reserves unqualified praise, was the action of a scout in telling a deliberate lie to an old woman.

"Minor operations of war depend for their success far more on . . . the skilful manipulations of a lie in place of a truthful application of the drill book." True; but hardly gentlemanly!

Moreover, was the "unsportsmanlike war of 1914—18" the first cads' war? Admittedly, Versailles was not a shining example of a peace treaty, but it was a hundred times better than that which disgraced the end of the American Civil War, in spite of Lincoln, Lee, Jackson, Grant, Sherman, Ashby, etc.; all of whom General Fuller would, presumably, class as gentlemen. The moral, if there is one, seems to be that peace should be made by the soldiers who fought the war. They alone will have retained enough humanity to be able to confirm their efforts by a statesmanlike peace. In other words, the Boer War was the last of the gentlemen's peaces.

After all, General Fuller stands condemned out of his own mouth. He states, quite definitely, that he saw only one really attractive girl during all the rounding up operations. And that, surely, is no war for any gentleman.

G. W. W.

Official History of Australia in the War of 1914—18, Volume V

THE A.I.F. IN FRANCE 1918

BY C.E.W. BEAN

[(*Angus and Robertson, Ltd., Sydney*) 21 *s.*]

The winter months of 1917-18 found the Australian divisions, their strengths seriously depleted by the casualties of the Third Battle of Ypres, employed in a defensive role at Messines. It is at this point that the fifth volume of the Official History opens, in order to follow the fortunes of the A.I.F. up to the early days of May 1918, when Ludendorff's great offensive had wasted away before Amiens and Hazebrouck.

The complicated operations of this period present a problem of no little difficulty to the historian, who must ever be dependent upon a mass of conflicting information. For this reason alone the compiler of the new volume may well be congratulated on the industry and care with which he has produced such an accurate and readable account. There are moments, however, when the continuity of the narrative is disturbed by over-attention to detail, and the main issue is lost in a recital of individual achievements. A brief general account of each phase of the battle would undoubtedly help to produce a clearer picture. On the other hand, the numerous extracts from private documents and regimental records reproduce vividly the spirit and outlook of the Australian troops.

The opening chapter refers to some domestic problems of the A.I.F.—an urgent need for reinforcements, the formation of the Australian Corps, political struggles in Australia over conscription, and an attempt to introduce the death penalty.

After a short description of the winter campaign in the Messines sector, a résumé of Ludendorff's appreciation and plan for the spring offensive is contrasted with the mutually destructive efforts of Allied leaders to reach agreement. In particular Mr. Lloyd George is criticised for his failure to provide reinforcements on the Western Front.

When the March offensive was launched, the Australian units were soon withdrawn from Flanders and ordered South. On their way up to the line, the Australians were genuinely shocked at the dispirited condition of the British divisions which had borne the brunt of the initial attack and the misery of the ensuing with-

drawal. The official historian makes no attempt to disguise this impression, but he does very fairly stress the fact that Australian forces first took part in the battle on the morning of the 27th March, by which time the German advance had been brought to a standstill by tired and disorganised British divisions. Whatever comparisons may be made, none could begrudge the Australian soldier his warm welcome from the French population, or the fighting reputation which he earned in the anxious days to follow.

Accounts of the almost continuous fighting in March and April are full of stirring incidents: Hébuterne, where the 4th Australian Division first made contact with the advancing Germans; the fighting for Derlancourt on the 28th March; then Morlancourt; the 9th Brigade flung across the enemy's line of advance on Villers—Brettoneux; the immediate counter-attack staged by the 36th Battalion on the 4th April, after the 18th Division had given way. In the latter action the brevity of the battalion commander's orders is in itself an epic. Equally valuable in tactical lessons is the more elaborate counter-attack at Villers—Brettoneux later in the month. German infantry and tanks captured the village in the early morning of the 24th April. That evening the 13th and 15th Australian Brigades under Generals Glasgow and Elliott carried out a thrilling and successful counter-attack.

The Lys offensive, which broke the Portuguese sector, is well described and, perhaps because the facts are less obscure, the narrative appears to flow more easily.

The volume includes a chapter on "The Truth about the 'Fifth' Army," and a discussion on the results of the German offensive. It is interesting to note that approval is accorded to Lord Haig's original distribution of his scanty reserves. And here too we find what must be the final comment on Australian discipline, made by a French peasant woman, watching some French infantry transport on the march.

"Francais soldiers, good soldiers like the Australians. Not much salute, march all over the road, officers talk with the men, like Australians, but good soldiers."

The operations of the Australian Corps during this critical period of the war bring out the essential characteristics of the "Digger"—his pre-eminent fighting qualities: adaptability, self-reliance and independence of thought allied to teamwork of a high order.

The achievements of the A.I.F. in 1917-18 go far to justify General Monash's contention that "individualism is the best and not the worst foundation upon which to build up collective discipline."

The appendices to this volume deal with such varied subjects as the death of Richthofen, the Australians in Mesopotamia, and a history of Dunsterforce.

Richthofen crashed on April 21st, 1918, near Vaux-sur-Somme. Credit for his downfall has been claimed both by the Royal Air Force and by certain ground units of the Australian Corps. In this appendix full evidence is set out, and the reader may draw his own conclusions.

The Australians in Mesopotamia were mainly technical personnel. The appendix describes their experiences from 1916 until the last Australian unit to fight in the Great War—"D" Signal Troop from Kurdistan—reached Australia in December 1920.

As in the case of some previous volumes, the lack of one or two more general maps is very apparent. The numerous small sketch maps serve to break up the text, but do not always help to explain its meaning. It would be a great asset if the compilers of the Australian official history could see their way to publish a collection of suitable maps in a separate volume.

G. R. B.

Lieut.-General Sir Arthur W. H. M. MOENS, K.C.B., C.M.G., D.S.O.,
Quartermaster-General in India.