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EDITORIAL

Italy and Abyssinia.

Contrary to the opinion expressed in the January number of this Journal, the Italians appear to have quickly completed the reorganization of their forces in Abyssinia, and to have achieved not inconsiderable success in the early part of this year. In January, the Abyssinians threatened the Italian lines of communication on the Northern front and, by the use of small raiding parties employing guerilla tactics, caused the Italian forces considerable inconvenience and some loss. The Italians took the offensive in Tembien on approximately February 10, and since that date claim to have annihilated the armies of Ras Mulugheta, Ras Kassa, Ras Seyoum and Ras Imru. On the other hand, the Abyssinians contend that their action has been nothing but a carefully carried-out retreat in the face of superior force, and that this retreat should cause an extension of the Italian forces over a wide front.

Whatever the true story of the recent operations may be, it would appear that the Abyssinians have to some extent abandoned the tactics that they originally adopted with success, and that the Italians have less to fear now for the safety of their communications in Tembien.

On the Southern front there has been little activity since an Italian motorised column advanced 120 miles north from Dolo on January 18, and inflicted heavy losses on Ras Desta; thus removing the threat to the left flank of General Graziani's army.

It would be rash indeed to attempt to forecast events during the next few weeks, but it appears that the Italian forces in the north will continue to endeavour to make as much ground as possible before either the rains intervene, or peace negotiations force them to call a halt. A recent feature of the campaign, that has caused much adverse comment, is the apparently deliberate bombing by Italian aircraft of Abyssinian and neutral ambulances. It is contended by the Italians that these have been situated too close to fighting troops or have been used for illicit purposes; but definite proof of this has not been forthcoming, and it is difficult to understand the reason for such a flagrant disregard of the Geneva Convention.

Of perhaps more interest are the efforts made by the League, and of certain Powers acting independently, to bring an unsatisfactory campaign to a conclusion. The Hoare-Laval proposals were unacceptable to the Italians as they did not go far enough, and to Abyssinia and other members of the League as they favoured a declared aggressor. They were consequently abandoned. It might have been expected that the policy of applying economic sanctions, including that on oil, would then have been fully pursued by the League; but the reverse has been the case. Apart from the declaration by Italy that she would regard an oil sanction as an act of war, its application has presented many difficulties owing to the virtual impossibility of preventing oil from reaching its destination from countries that have not agreed to sanctions, except by the use of force.

Peace proposals have been in the air since the beginning of March, as on the 3rd of that month an agreement was reached on the text of an appeal to both combatants, urging them to cease hostilities and open negotiations. Rumours of an armistice were published in the Press, but these were premature as Italian preparations for a further advance have not slackened. It would appear, though, that both Mussolini and the Emperor are now not averse to considering negotiations to achieve as favourable terms as possible. Recent events in Europe, however, have rather tended to put the Italo-Abyssinian dispute in the background.

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Germany and Locarno Pact

On March 7th, without any previous warning, Germany denounced the Locarno Pact and sent troops into the demilitarised Rhineland zone. The same day she presented a note to the Powers which are signatories of that treaty, which gave as the reason for her denunciation

the proposed (now concluded) Franco-Soviet Pact. She also expressed her readiness to agree to a new demilitarised zone providing France and Belgium reciprocated, and offered to sign various 25-year non-aggression Pacts. At the same time she brought up the question of the return of her colonies, and expressed her willingness to return to the League on certain conditions.

This step has created considerable consternation in the Chancelleries of Europe. France and Belgium were naturally alarmed and demanded a meeting of the League Council; at the same time steps were taken to occupy the French frontier fortifications. The British attitude was that, while condemning unilateral action on the part of Germany, it would be advisable to give due consideration to her proposals. This attitude was made all the firmer by the Foreign Secretary's statement to the effect that, if at any time during the period necessary for consideration of the new situation, any attack on France or Belgium should take place which would constitute a violation of Article 2 of Locarno, H. M.'s Government, notwithstanding Germany's repudiation of the treaty, would regard themselves in honour bound to come to the assistance of the country attacked. Suggestions that Germany should show her willingness to negotiate freely by a symbolic evacuation of the Rhineland appear to have been of no avail.

Since then, meetings of the Locarno Powers and of the League Council have been called in London to discuss methods of settlement of the problem. Germany has been invited to attend the Council meeting and has accepted in principle, subject to the conditions that her representatives should enjoy perfect equality with those of other Powers at the meeting, and that the Powers agree to enter forthwith into negotiations on her proposals.

At the time of going to Press it is impossible to attempt to prophesy what the result of the Council's deliberations will be. Germany's reasons for her action appear to be that she regards the Franco-Soviet Pact as a violation of Locarno, and that she is determined to settle once and for all the problems created by the Peace Treaty. She insists that all she desires is peace in Europe, and threatens to withdraw into isolation if her proposals are not favourably considered. There can be no doubt that the denunciation by Germany of a treaty that she signed of her own free-will has placed her in the wrong, she ignores the fact that France had previously offered to

submit the provisions of the Franco-Soviet Pact to the League Council for discussion. In all statements made by Herr Hitler since the crisis, he has stressed the fact that no pacts of any sort will be made with Russia. Not only does Germany appear to be extremely nervous of the intentions of the Soviet but, as in 1914, she appears to fear encirclement by other Powers and considers that her efforts to come to an understanding with France are of no avail.

There is not at present complete unanimity amongst the other Powers. Great Britain, in the words of her Foreign Secretary, says that co-signatories of Locarno and the Council can count on the fullest co-operation of the British Government in all endeavours to establish peace and understanding between the nations of Europe upon a firm and enduring foundation. France, rather naturally, demands evacuation of the Rhineland or at least a guarantee from Germany that no fortifications will be erected there, as a basis for negotiation. She is inclined to demand the imposition of sanctions, and refuses to consider any suggestion that discussion should be entered into on the German proposals before the question of the violation of the Locarno Pact has been settled. Belgium supports France in her condemnation of German action; and Italy, whilst agreeing to assume her responsibilties as a signatory of the Locarno Pact, is naturally against any policy of sanctions.

To reconcile the views of the various powers and to satisfy Germany's claims to equality of treatment is a task that will tax the ingenuity of the League to the uttermost. Time alone will show whether it is a body capable of dealing with a serious European situation, or whether it will collapse and there be a return to the old system of alliances.

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Collective Security.

It has often been stated that the basis of our foreign policy is the support of the principle of collective security within the League. One of the essentials of this principle is that members of the League should be strong enough to fulfil any demands made upon them in support of it. It is very doubtful if this has been the case up till recently as far as the forces of the British Empire are concerned. In our efforts to secure international disarmament we have set a solitary example of restriction of expenditure on defence. We feel that an extract from the recent speech of one of the Dominion Ministers for Defence is apposite. He said, "Defence is an imperative necessity, for the nation

which refuses to provide for its security lays itself open to attack from hostile and predatory elements of which the world has no lack."

In view of the disturbed situation in Europe and of recent events in the Far East, it is therefore satisfactory to note that the Defence Estimates of Great Britain have provided for a limited expansion and modernization of the three services, which should enable the Empire to play her part, if occasion should arise, with greater efficiency.

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The Naval Conference.

The demand for parity with Britain and the United States on the part of Japan met with no approval, and in January that country left the Conference. Her representatives remained, however, as observers.

Since then, discussions have continued on a nominal Four Power basis, with Italy tending to remain in the background as the result of the situation created by her dispute with Abyssinia and the League. A technical sub-committee has been at work and it appears that agreement has been reached as to the age-limit of battleships, qualitative limitation, and advance notification of building programmes. It is understood that it is proposed that the new Treaty should remain effective till 1942, and that the age of the battleship should be extended from 20 to 26 years. There is no reason to suppose that Italy will not sign the Treaty eventually, though it is to be regretted that Japan will be no party to it. She is now in the position, if her finances permit, to build without limit. It is to be hoped that the example set by the signatories of the new Treaty will have a moderating effect on the expansion of other navies.

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The War Block.

In the October 1935 number of this Journal, we drew attention to the fact that Major W. J. Cawthorn, 4/16th Punjab Regiment, was carrying out a tour of the Rhodesias, Nyasaland and Kenya at the invitation of the governments concerned, with a view to ascertaining the suitability of those countries for officers contemplating settlement in the colonies after retirement.

Major Cawthorn has produced a report on all four colonies, which has been distributed to units in India, and also to the Employment Bureau for retired officers at home by the Information Bureau at

Army Headquarters. The report goes into conditions in each colony very clearly and in great detail. Much valuable information is provided as to cost of living, climate, possibilities for profitable farming, and educational facilities in all four colonies. It also touches on possible causes of the present dissatisfaction amongst settlers in Kenya. Major Cawthorn is of opinion that all the colonies are suitable for settlement by retired officers and that the present time is likely to be opportune for those wishing to commence farming on a moderate scale. He considers that it is possible for any retired officer to augment his income by agriculture, but very wisely lays stress on the fact that, in addition to gaining experience before starting agriculture on an independent basis and possessing a genuine liking for the life, it is imperative that no portion of retired pay or pension should be commuted. Major Cawthorn is to be congratulated on producing a pamphlet that will be of great value, not only to officers retiring under the War Block scheme, but to those of any age who are contemplating settlement in East Africa.

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N.-W. F. P.

Captain Liddell Hart has written very fully on the subject of our criticisms of certain passages in his book "When Britain goes to War," which appeared in the July 1935 edition of the Journal. He quotes at some length from certain secret documents, which we are unable to reproduce, in support of the view which is expressed in his book; and still maintains that air action was the predominant influence in suppressing the tribal risings in Waziristan in 1930.

Our object in commenting on Captain Liddell Hart's book was to draw general attention to the chapter in question, in order that our readers might judge it for themselves. It was not to open a controversial discussion on the comparative merits of ground and air action on the Frontier, for we feel that it is in the appropriate application of the combined resources of all the forces which are at the disposal of Government, and not in an atmosphere of unhealthy competition between those forces, that the best results will be obtained.

THE CHANGING ASPECT OF OPERATIONS ON THE NORTH-WEST FRONTIER

By "Shpagwishtama"

Introduction

"By Jove how things have changed!" That remark was made by a rubber-necker from the Sloth Belt after a visit to last year's "Frontier War Zone." Unfortunately the statement, though true, was not further amplified.

The aim of these miscellaneous notes is to outline, under specific tactical and administrative headings, some of the changed conditions brought about in Frontier Warfare to-day through "modernization" on our part, and a determination on the part of the Pathan to keep level with us.

The remarks are based on observations made during the Loe Agra and Mohmand operations of 1935. They will, perhaps, be of interest to those who were not present but whom Fate and the Relief Programme may bring in "next time." Some tentative suggestions for the future are also included since it is now "the next show" which we ought to be preparing for; not "the last one."

Camp Protection

The size and complexity of the modern "perimeter" camp, compared with camps of even a few years ago, is one of the greatest surprises to anyone who has been off the Frontier for a spell. Most people can visualise the old-fashioned square perimeter containing probably brigade headquarters, four battalions, a pack battery, some cavalry, large numbers of camels and mules, a minimum of other ancillary troops and services and, generally, a minimum of comfort.

To-day it is not unusual to have to add some or all of the following:

Medium Artillery Mechanized Field Artillery	In fact a generally increased proportion of artillery of all natures.
Tanks and Armoured Cars	..
Sappers	.. In large numbers.
Signals	.. In vastly increased proportions.
Field ambulances and other Medical Detachments	.. In increased proportions.
Engineer Parks	..

Ordnance Depot	..
Lorry Transport	..
Dairies	..
Canteen Contractors	..
Road construction coolies	.. Possibly in a separate camp, but protection necessary.
Headquarters	.. Considerably larger than formerly.

Even if operations take place beyond road-head, some sort of mechanical transport track soon follows nowadays and up come all the vehicles. It must be borne in mind, in this connection, that mechanical vehicles require double their standing space to allow room for maintenance and manœuvre.

The net result is a vast camp whose size must be seen to be appreciated. It can be well imagined that the problem of laying out such a camp and arranging its protection—especially if fighting has taken place the same day—is one of considerable difficulty.

The extra area required invariably necessitates a very large number of camp piquets, whilst the length of the perimeter to be held becomes truly formidable. There is the additional difficulty that it is rarely possible to find sufficient suitable ground where one can fit in a camp of regular shape for a force of this size. In consequence there is a danger of troops firing into each other. An irregular shaped camp is also uneconomical as regards defence by automatic weapons.

The brunt of producing this defence falls on the infantry. It is pertinent to note that the proportion of this arm has not changed in a brigade or division. Hence the infantry are often hard put to it to carry out their task of camp piquet and perimeter defence, even with the best "co-ordinated framework of weapons."

It is surprising, but true, that on occasions a battalion nowadays finds it cannot produce sufficient automatic weapons to go round. Camp and permanent piquets take Lewis guns with them as the rule, not the exception, and many require machine-guns. These piquets have to be given preference and this leaves a shortage of automatics on the perimeter.

One solution would be to get up additional automatic weapons on the lines of "Piquet stores" which are often a Brigade or Force pool. But this is only a partial answer to the problem. The men of the regular machine-gun and Lewis gun sections are already

overworked on night duty and "minimum strengths" make it difficult to use reserve gunners from rifle sections already dangerously depleted.

The theory has recently been propounded that a continuous line of defence round a camp is no longer necessary, as the days of tribesmen attempting to assault by night are over. There was definite evidence in both the Loe Agra and Mohmand operations that this is not so. The writer has also spoken to educated pro-British Pathans who agree that, given the opportunity, the tribesmen will still act as they have done in the past and it would be the height of folly to ignore this fact!

The only really satisfactory solution in a situation where the camp is extensive is to attach more infantry to the formation as a temporary measure. Such extra infantry will inevitably be required if the force is to move out from camp on an operation and still preserve its normal tactical organization. Unless this is done the number of troops to be left behind for camp protection, in camp piquets and camp itself, is so large that either the formation or unit organization must be broken up.

One last point before leaving this question of camp protection. There seems no reason why, on occasions, the Light Tank should not take its share in the defence of camp by night. Rumour has it that this has been done, though the writer cannot himself vouch for the fact. After all it is merely putting down a machine-gun in a sniping-proof box as opposed to a similar gun in a sniping-proof hole in the ground: and the box is mobile!

Night snipers and anti-sniping tactics.

The mention of "sniping" brings back vivid recollections of the vast strides made by the Pathan in this particular branch of mountain warfare. Gone are the days when the odd round from a disgruntled man was countered by the casual "snuffing" of the Mess Tent lamp and further action was unnecessary.

Seriously, modern day sniping is a very definite problem. Heavy fire, by which is meant anything from 500 to 1,000 rounds pumped into the camp, cannot be ignored.

The following two examples give some idea of the tribesmen's methods as encountered last year:—

(*a*) Several parties (including at least one knife party) advancing from various sides on the camp controlled by lamp signals from a distant hill. According to the signals received

so did the various parties advance in turn under voice control of their leader, *i.e.*, fire and movement centrally controlled.

(*b*) A party of thirty to forty snipers in specially prepared fire positions on the forward edge of a deep, narrow *nullah*. On a given signal controlled " volley firing " commenced. This is now a favourite method of the Mohmands. Their positions are so chosen that it is hard to inflict casualties. On a given signal by the leader the gang crawls forward into position. Then comes the simultaneous volley and the party drop like a stone into the nullah, too late to open fire on the flashes.

On other occasions heavy sniping was continued for several hours through the night.

The loss of sleep that this " organized sniping " entails to the Force is a serious factor: to say nothing of casualties, particularly those to the unfortunate animals. It is true that human casualties were remarkably few last year, considering the intense nature of the firing, but many were the lucky escapes, and good luck cannot hold out for ever.

With night operations in great favour, there is also a grave risk that the initial start of such moves may be jeopardised through heavy sniping. On the night of the Nahakki advance at least one camp was seriously sniped. Had this taken place a couple of hours later, as it might well have, when preparations for the move were in progress, the greatest confusion and delay would have resulted.

There are various ways of dealing with this menace. Some are old, some are adaptations of old ideas in a new shape. But whatever the methods employed, three points are essential for success :—

(*a*) Someone with a good eye for likely sniping haunts.

(*b*) A properly co-ordinated anti-sniping scheme for the camp, as a whole.

(*c*) Probably the most important for as quiet a night as possible—

The strictest fire discipline and control throughout all arms, both in camp piquets and camp, if, and when, the scheme is put into force.

As to the scheme. It will naturally include well chosen night lines for machine-guns. But a 1935 invention, which proved most effective, was a field gun at 400 to 800 yards. A couple of rounds

sufficed to procure a quiet night when the gun was brought into action on a shrewd night line.

The *chupao** is of course another well-known ingredient. In both the Loe Agra and Mohmand operations most successful *chupaos* were staged. But in mountain warfare it is above all necessary to ring the changes, and it is suggested that a Tank *chupao* on the lines of the disabled "Q" boat of the Great War might be tried as an alternative once in a while. Details will not be discussed here; the idea is put forward to show that in future campaigns we may still produce new schemes so as to keep the tribesman guessing.

A corollary to any anti-sniping programme is to send out a strong patrol next morning to see what they can find. There may be blood, may be only signs of a dead or wounded man being dragged away: perhaps a bagful of fired and *unfired* rounds; possibly tracks of the special *chaplis*† snipers often wear. These, if followed up, will often give a clue to the general direction whence the party came or will lead to alternative sniping positions. To obtain full value out of this search it is best to get a reliable Pathan, *e.g.*, one of the Intelligence Staff, to accompany the patrol. The results frequently have an indirectly beneficial effect in stopping further sniping as spies may see that their places are spotted. Local friendly villages, confronted with evidence that they have harboured snipers, can be dealt with, and fresh ideas for new night lines may be evolved.

Night Operations

Beyond the fact that night operations to-day are perhaps more ambitious in scope, there is, and can be, but little general change from the normal night operation of heretofore.

Tanks, and units such as mechanized artillery, motor-cyclist despatch riders, etc., appear at first sight to present a "silence" problem during any night advance; but thanks to the mobility they possess, good staff work can usually surmount the problem and "get them there by daylight," which is what is wanted.

The problem of heavy sniping causing loss and stampede in a camp prior to a night move has already been mentioned. It is worth noting that on one occasion a brigade knew where the trouble was likely to come from (low ground quite near camp) had a company told off to move out and deal summarily with the trouble with the bayonet. In the event, this was not necessary, but the idea is one to keep in mind for the future.

* Ambush. † Sandals.

It sounds Irish, but the writer's real aim in mentioning the question of night operations is to put in a plea for an occasional "afternoon operation." The same old principle of ringing the changes in mountain warfare. Such an operation as the seizure of a piquet position or some important point on the line of advance, *i.e.*, "a limited objective," might well come as a surprise if initiated in the afternoon—as opposed to the eternal early morning or night move.

It was done with success in the Burma Rebellion on a hot afternoon when a village, including dogs, suddenly found themselves surrounded and their afternoon siesta rudely interrupted. A well-thought-out plan which included some ruse such as a morning reconnaissance in force in an alternative direction to the ultimate afternoon's objective should succeed as well as any night operation. There are disadvantages certainly, but one big advantage over the night operation is that we retain the ability to use our superior armament of all natures.

Light Tanks

To see Light Tanks in action on the Frontier is to realise to the full the truth of our rubber-necker's remark with which these notes began. Many articles might be devoted to a discussion of "The Tank on the Frontier in 1935" (and probably have by this time). Here it is only intended to touch on one or two small aspects as they struck an envious "Infanteer."

The first thought to come to mind was, "By Jove, I only wish things had changed a bit quicker." Recollections of the long-drawn-out 1917 operations and a protracted stay in Waziristan a few years later were conjured up. The reply that Frontier roads were then few and far between and the present-day Light Tank did not exist anyhow, is only a "squashing retort," so far as the last portion of the answer! To the layman the performance of these A. F. V.'s along *nalas* is remarkable and surpassed expectation. Where one comes up against a formidable obstacle such as the Nahakki, it is equally surprising to see how soon Sappers and Infantry can construct a 7 ft. 6 in. Tank track. The Nahakki track took just one week, if memory serves aright, to convert from camel to tank passability. The writer was informed on good authority that this time could have been bettered if the Tanks' performance up and down *nala* gradients (as opposed to along the normal track alignment running round a hill with the possibility of a nasty drop over the edge) had been more widely known.

The thorny question of whether Tanks should always be used in companies and not in small packets will be gracefully skated over in this article ; except to mention *en passant* that, as the enemy have no Tanks and no anti-Tank guns, it seems logical and " economy of force " to employ only a section, or less, if that number of Tanks can safely do the particular job in hand !

Whatever the approved policy may eventually turn out to be, it can be stated without fear of contradiction that the infantry of advance guards and rear guards as well as those about to scale up the heights felt the greatest benefit from Tanks operating in co-operation with them.

The Gunner, on the other hand, is worried by the advent of the ubiquitous Tank. He says, and with some justification, " I dare not shoot, because I do not know where those confounded Tanks are now."

It is surely not really such a difficult problem to solve if we remember that the same general difficulty arose some time ago *vis-a-vis* the infantry. In their case the answer was screens and distinguishing flags which are in general use to-day.

With the Tank the particular answer will depend on circumstances. Sometimes it may be a line on the map beyond which the Tanks are not to go. At other times it can perhaps be done by R/T from the Tank Commander who merely says where he is ; again it may happen in certain country that, if it is a case of supporting the infantry, a decision will have to be given as to whether Tanks or Guns—but not both—are to be the infantry's helpmate. Sometimes the Tanks will be right away on a flank in the blue and will not worry the gunners at all.

In the future it seems that a Commander's task of reconnaissance will be greatly simplified with the aeroplane, and now the Tank, at his disposal. For instance, one can imagine piqueting and withdrawal of piquets being speeded up if the executive commander concerned is allowed a Tank in which to " see the country round the corner." This would enable him to appreciate the ground long before he otherwise could have done so, and thus save valuable time.

It is also suggested that when some particular operation is in view, photographs taken at close range from a Tank might be helpful in supplementing air photographs. It may be argued that if the Tank can get ahead in this manner, then personal reconnaissance makes photographs from the Tank unnecessary. The answer is that

photographs can be taken and studied later at leisure ; whereas, if the enemy are having pot shots at the Tank (I am naturally assuming the Tanks to be well ahead and no hills are piqueted), it is not so easy to get and retain a calm and collected mental picture of the ground. Remember, too, that one feels very naked wandering about *outside* a Tank on a reconnaissance in enemy-country with no nice infantry piquets on the heights above !

Whether the Tank will have such an easy passage in the future, it is impossible to say. The tribesmen had made anti-armoured car trenches and obstacles in expectation of their old friends. Luckily, we produced Tanks which were able to overcome the obstacles without difficulty. One may be fairly certain that the Pathan will make an effort of some sort to defeat the Tank. The country is hardly suitable for copying Abyssinian methods of digging pits, but perhaps he will evolve something equally ingenious.

Inter-Communication

Wireless.—In both series of operations it was interesting to notice how much we have come to depend on wireless as the means of communication *par excellence.* As an infantry man one could not help feeling that this reliance is ahead of the reliability of military wireless, at any rate it is ahead of such mobile sets, as for instance, the R/T or W/T pack set with which an Advanced or Rear Guard Commander is usually now provided. These are very valuable, but have definite limitations especially in hilly country. It still seems advisable to lay on an alternative method, whether visual, cable, mounted orderly, or other means. There appears a distinct danger of this precaution being neglected.

The new oil-cooker

While the Light Tank probably holds the field as the outstanding change in the fighting composition of the 1935 Force, there is little doubt that the new oil-cooker was, to the troops anyhow, the administrative *piece de resistance.* To anyone who remembers the miserable hours spent collecting wet wood and the smoky half-cooked meals which resulted, the sight to-day of a brightly flaring oil-cooker is good indeed.

At present about the only drawback to them is the noise and light which necessitate precautions being taken prior to any night operations. Otherwise the sleepiest of Pathan sentries on a cold night will be aroused; though he be far away and dreaming of tomorrow's prospect of " houris in Heaven !"

Even the Indian Langri took a liking to these machines with wonderful celerity. In the writer's unit the only passive resistance came from the mess cook who saw his rake-off on charcoal disappearing.

Clothing and equipment (Indian Troops)

Unfortunately the hills are still with us and have not changed, so the problem of how to reduce the weight carried by the sepoy and increase his mobility is as pressing as ever. The following list gives some idea of how certain units succeeded in easing the burden of clothing. These measures are unauthorised but highly effective. In fact, one might well use the word essential.

Light chaplies ..	.. In lieu of heavy boots.
Ankle puttees ..	.. In lieu of full length puttees.
Short puggree ..	.. In lieu of the weighty and cumbersome full length puggree.
Khaki cotton shirt	.. For hot weather in place of the grey flannel shirt.

Omission of hose tops.

This does not amount to a great deal, but it is sufficient reduction to make a wonderful difference on a long day in the hills : try it and see.

There were occasions also when ammunition could, with safety, be reduced. Admittedly one has to be careful on this point, but there are many instances where a needless amount of ammunition is carried. For example, when it is known that there are no actual *lashkars** in existence, road protection troops can surely move with safety carrying about fifty rounds on the rifleman instead of seventy or a hundred rounds. The balance of the ammunition to be carried in company or battalion reserve. This, combined with the reduced weight in clothing, gives the poor sepoy at least a sporting chance up or down a hill.

Conclusion

If these notes produce the germ of an idea for inclusion in a revised "Manual of Operations on the N.-W. Frontier" (or even for an eventual amendment!) they will not have been written in vain.

* Body of tribesmen.

THE "APEX" OF INDIA

(or "THROUGH CHITRAL, ISHKUMAN AND HUNZA.")

By "Percussion."

During the Hot Weather of 1934, T. and I (a Sapper and a Gunner) decided to spend our three months' leave as far off the beaten track as we could. The country North and East of Chitral seemed to offer interesting possibilities for trekking but we found, when it came to the point, that it was not at all easy to get permission to carry out our journey as we had originally planned it.

Finally, we settled upon the route shown in the sketch map as being the most interesting one we could manage in the time available. Before starting we obtained permission to travel as far as Mastuj, and it was a matter for conjecture whether we would eventually get permission to travel the rest of the way.

For the sake of economy we cut down our baggage to a minimum, basing our calculations on the "Light Scale, Winter" of Wana Column, and a previous 600 miles trek done by another member of our mess on a diet of *chupatties*, bacon, sugar and tea, with only one mule as transport. We estimated our requirements at four ponies, but when it came to the point we found we could not do with less than five.

At last everything was ready and the great day arrived. We left Wana on the 12th July by an old contractor's lorry and arrived in Dir, road-head for Chitral, four days later. Here we were fortunate enough to find a Sapper officer building a bridge and he kindly put us up for the night and procured transport for us.

The following day we rose early, eager to start our 700 miles march and relieved to think that the long and tiring lorry drive was over. The first day's march lay over the Lowari Pass (10,000′) and the second to Drosh, where the greater part of the Chitral garrison lives. We spent a pleasant night in the Lower Mess before continuing our journey to Chitral city. A detached company from the battalion at Drosh lives here in the historic fort and we stayed one night with the company commander. The next day, having received an invitation from H. H. the Mehtar, we went to his summer residence in Burmoglasht, near Chitral but about 3,000′ higher, and spent a very pleasant day there.

Another five marches brought us to Mastuj where we spent two nights with the Heir-Apparent, Shahzada Nasur-ul-Mulk, who entertained us very hospitably. At this stage we received permission to travel along the whole route we had planned. Had we not received it we should have had to turn to the East and cross the Shandur Pass into Yasin instead of continuing in a Northerly direction to the Baroghil.

As we left the post office at Mastuj to continue our journey T. remarked that it would be our last glimpse of civilization for several weeks; this proved to be the case, as we did not see another telegraph office for a month, or a post office for six weeks.

Six more marches and we reached the foot of the Baroghil Pass, which is on the boundary between India and Wakhan, a northern province of Afghanistan. Here the country opens out into rolling pasture land, which is a relief after the narrow gorges of the Yarkhun River, and the pass is therefore an easy one. We had now reached the beginning of the least travelled and, therefore, the most interesting portion of our journey. The Baroghil is visited practically every year by members of the Chitral garrison; and the Kilik Pass, in Hunza, is likewise visited frequently by members of the Gilgit garrison or by the Political Agent. Very few, if any, people have, however, travelled from one pass to the other by the shortest route. It was this route, which lies over the difficult Chillinji Pass, that we intended, if possible, to traverse.

At first our prospect of success did not seem too bright. The local greybeards said that at that time of the year the rivers we had to cross would be too full of snow water to be fordable and that there were no bridges. This was supported by a Yarkandi traveller who had just crossed the Karumbar Pass and who said that he had had the greatest difficulty in fording rivers, and that it would be quite impossible for *us*. In spite of these gloomy forecasts we decided at least to have a shot at getting over the Chillinji and, if we failed, to go over the Darkot Pass into Gilgit or down the Karumbar valley to Gupis and thence to Gilgit.

After four days' halt to allow T. to recover from a mysterious eastern disease, we continued in an easterly direction to a camp at the foot of the Shawitak Ailak Pass into Wakhan. We visited the pass on the way and were fortunately just able to discern the famous Oxus River in the distance, so were well rewarded for our climb.

The third day after leaving the Baroghil we crossed the Karumbar Pass (14,000′) into the state of Ishkuman. The pass was open and very easy, and on the top was a deep blue lake surrounded by a carpet of flowers. Shortly before crossing we were met by two guides sent by the Raja, and these led us to a small camp at a deserted shepherd's hut where we stayed the night.

According to the Chitralis the following day was the one on which our difficulties were due to begin, and there is no doubt that the route became much less easy than before, but fortunately the obstacles were by no means insuperable as we had been led to believe. The river, swollen by snow water, was deep and had to be forded several times with increasing difficulty, and two glaciers had to be crossed. The first of these was fairly narrow and was crossed without unloading the animals, but the second, named the Chashboi ("Destroyer"), was a mile wide and would doubtless have destroyed both ourselves and our mules had it not been for the invaluable help given us by the Wazir and several coolies thoughtfully sent to meet us by the Raja. These unloaded the mules and carried the loads to the further side themselves; but, in spite of this assistance, the animals had the greatest difficulty in keeping their feet. The next two nights were spent in Sokhta Robat, a shepherds' shelter occupied only in summer, where the Wazir had kindly prepared a camping ground for us.

After our experience on the glacier, and on the advice of the Wazir who said that the Chillinji Pass was quite impassable for any animals, even yaks, T. and I decided to send the mules back over the Karumbar and Darkot Passes to a rendezvous in Hunza, carrying with them all the clothing and stores which could be spared. This we did, and it proved to be a most successful experiment in spite of our fear that we might never see our kit again.

A short but difficult march on the following day brought us to a camp at 13,000′ at the foot of the Chillinji Pass. We could camp no higher as it was the top edge of the tree line and there was no fuel higher up. T., always full of energy, went out with the Wazir in the evening and shot an ibex after a long stalk. It was not a big one, but this would appear to be promising ibex country.

Next morning, after a breakfast at 3 a.m., we started our 4,000′ climb to the pass. The first-half of the ascent was not particularly difficult and then we reached a gently sloping plateau on which a little snow was still lying. Crossing this plateau the ascent again became

steep, but there was no snow and it did not look worse than the first half. Appearances were deceptive, however, and directly we started climbing we realised that the rest of the climb lay over extremely slippery shale on which one slipped back one foot for every two one climbed. The remaining 2,000′ climb thus developed into a 3,000′ one and an exhausting one at that, so that it was with considerable relief that we eventually reached the top (17,200′) at about 9. a.m. Much to our surprise the coolies arrived only fifteen minutes later having climbed wonderfully.

After a short rest, during which we refreshed ourselves by tea laced with brandy, T. and I decided to climb one of the mountains flanking the pass in order to see what promised to be a magnificent view. Accordingly we sent the coolies on to the next camp and climbed the extra odd thousand feet by ourselves. We were not disappointed. The visibility was perfect and on every hand stretched a sea of snowy peaks to a distance of nearly a hundred miles. (See panorama photograph.) We saw mountains in Afghanistan, Russia, Chinese-Turkestan and Gilgit: the great chain of the Karakorum dominated the landscape to the South-East and the Pamirs to the North-West. We were now at a height of over 18,000′ by far the highest either of us had ever climbed, and this gave me a severe headache, but T. was apparently unaffected. Nature, on this day, appeared to be trying her best to amuse us and before we left the top we were treated to the sight of a very fine avalanche on the far side of the valley.

The descent, about two hours after the coolies had left, proved difficult. On the northern side of the pass lay a glacier seamed with narrow but deep crevasses which were concealed by a thin covering of snow. In the early morning, before the thaw had set in, the snow acted as a bridge but, by the time we started our descent, the snow had softened and one was in danger of falling into a crevasse. Before we fully realised this state of affairs, T. had once sunk up to his knees in one and I fell through up to my waist and only saved myself from a hundred years cold storage by flinging myself flat on my face in the snow. (We learned later that a coolie had also fallen through and had been saved by his load which wedged between the edges of the crevasse.) After these warnings our progress became slow and cautious in the extreme, and we prodded vigorously with our sticks before taking the next step forward. Luckily the Wazir became anxious about our non-appearance and, after we had travelled

two miles or so in this fashion, returned to meet us with two coolies and a rope. Thenceforward we were able to move more rapidly and safely till we reached the moraine. We finally arrived in camp at Buattar at 4-30 p. m., after a pretty strenuous twelve and a half hours.

We now regretfully said good-bye to our Ishkumani friends who had been so helpful as, having crossed the pass, we were now in Hunza. This would be a suitable place to write a description of the little-known state of Ishkuman. Unfortunately, however, we only spent four days in the state and during this time we saw no villages and very few inhabitants besides the Wazir and coolies who came to help us. With these we were much impressed; the Wazir was a very pleasant fellow who had a fair knowledge of Urdu and did everything in his power to assist us; the coolies with him were easily the strongest, most willing and most cheerful ones we met on the whole trip. We were also particularly struck by the fair colouring of the inhabitants we saw. This is probably due to the fact that nearly the whole habitable part of the country lies in a narrow valley which runs North and South and they therefore get very little sun.

At Buattar we were met by two guides sent by H. H. the Mir of Hunza. This was fortunate as without them transport would have been hard to obtain, the nearest village being a day's march distant. Directed by these guides we made our way along the Chaprusan valley, through Reshit, to the Kermin Pass (13,500′). Crossing this pass we were caught in a snow-storm and could not descend on the further side so had to climb along the ridge to a shepherd's shelter at Shilo-ki-Pari (15,000′) where we spent a most uncomfortable night.

Two marches from Shilo-ki-Pari brought us to the foot of the Kilik Pass (15,600′), the "Apex" of India, where we were surprised to find a polo ground which must be one of the highest in the World. Here also herds of yak, sheep, and goats and one camel, all belonging to the Mir, were grazing. While in this area we visited the pass and found it to be an open, easy one, somewhat similar to the Baroghil; and T., having obtained permission from the Mir, shot an Ovis Poli. We also climbed Kilik West mountain (18,020′) where we had a fine view of part of the Karakorum Range, and were just able to discern Mustagh Ata (24,500′), half-way to Kashgar.

Returning from the Kilik we camped at Murkushi, which is at the junction of the routes leading over the Kilik and Mingtaka passes, and visited the latter pass. (Our guide told us that in Chinese "Ming"

means "a thousand" and "Taka" means "ibex," but though we kept a good look out we saw none; on the way back, however we picked up a 45" head which looked as if it had been killed by a leopard.) The approach to this pass is not as easy as that to the Kilik because the path lies over the moraine of the Ghul Kwaja Unwin glacier and is very rough. We saw the corpses of several ponies which had apparently broken their legs on this bad going, but, in spite of this, travellers prefer this route to the Kilik as it is a few miles shorter and there is less danger from robbers on the far side. The top of the pass itself is flat and boggy and the northern approach is very open and easy. Although this pass is lower than the Kilik, being 15,450', we found the air to be extremely rarified and had as much difficulty in breathing there as we had had the previous day at 18,000'. This is an interesting fact but we could not account for it in any way.

The following day we reached Misgar, the most northerly village in India, where there is a telegraph office, and thus came into contact with civilization for the first time for a month. This was also half way in distance, but not in time.

From Misgar to Baltit, the capital of Hunza, is a distance of fifty-two miles and this we marched in four days. Between these two places there is a road theoretically fit for pack animals but, since the road lies through the Hunza gorge where the river cuts its way through the Karakorum Range, it is very narrow and it is safer to use coolie transport along the greater part of the route. A caravan from Kashgar, which was a short way ahead of us, lost two ponies on this part of the route through their loads hitting the cliff on the inside of the track and forcing them over the cliff on the outside and into the river. In winter, when the river is low, it is possible to walk along the river bed and thus avoid the road. Another obstacle on this bit of road is the Batura glacier which is nearly a mile wide and which animals have great difficulty in crossing.

A few miles North of Baltit is an interesting obelisk which commemorates the fact that this road was built in 1902 to enable Lord Kitchener to visit the Russian frontier.

Baltit, with its green fields, shady trees and white houses, seemed a paradise compared with the somewhat barren country through which we had come. On arrival we were welcomed by the Mir's sons and invited to stay in some palatial tents adjoining the palace. We gladly accepted, and spent a very pleasant evening with a hot bath

and good dinner, followed by an interesting conversation with the Mir.

Though pressed to stay longer we unfortunately could not spare the time and, the next day, continued our journey to Aliabad where we found Colonel and Mrs. L. staying in the Rest House. They had recently arrived and were proposing to spend a year or more studying the language and customs of the Burusho. During the course of an excellent lunch we learnt many interesting facts about the country through which we were passing. After lunch we walked the remaining few miles to Minapin where we proposed to spend the night. This was at the foot of the beautiful mountain of Rakapushi (25,500'), which dominates this part of Hunza, and we had a fine view of it in the evening light. On arrival we found to our delight that our mules had also arrived, having safely negotiated the Darkot Pass. We were secretly very relieved to see them again as their success had seemed problematical and it was a high test of the honesty of the Pathan muleteers. Incidentally these two muleteers, who hailed from Peshawar, accompanied us the whole way from Drosh to Bandipur.

Two days later we crossed the border into Gilgit, but before leaving Hunza it would not be out-of-place to record our impressions of this interesting state and its people. As in most mountainous countries the main population of Hunza live in the valleys and graze their flocks on the hills in summer. They are nearly self-supporting and spend the winter, when they are snowed up, making various articles of clothing.

It is noticeable that a large number of the people have very fair complexions and blue eyes and there is a theory that these are descendants of Alexander the Great's army.

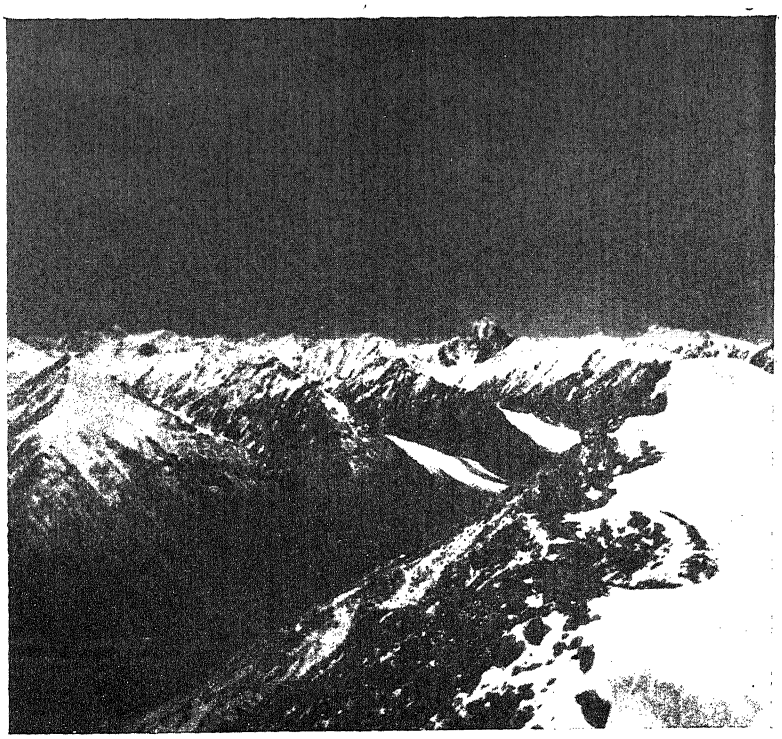
Another notable feature is the absence of watch dogs, there being, I believe, only two in the whole of Baltit and from this it may be assumed that there is very little crime in the state. In fact it is claimed by the Mir that there have been only two murders in the 40 odd years of his reign.

The women of Hunza appear to be much freer than their sisters in the rest of India. They work in the fields with the men and even play games with them and appear to be thoroughly contented. Polyandry is generally practised, and this is not inconvenient as many of the men are away on the hills during the summer, acting as shepherds.

Ghul Kwaja Unwin Glacier from near the Mingtaka Pass.

Part of the Hunza Gorges North of Baltit.

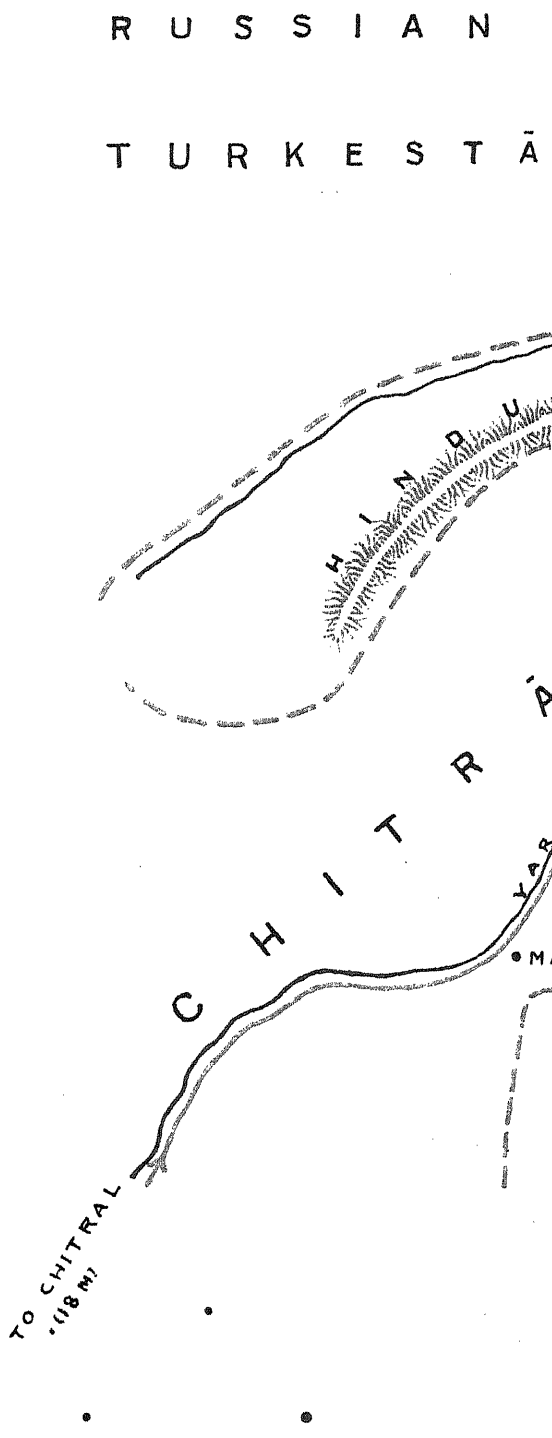
Coolies crossing the river near Sokhta Robat, Ishkuman.



View looking West from Kilik West mountain.

S

SOUTH


RUSSIAN
TURKESTĀ
HINDU
CHITRĀ
TO CHITRAL
(118 M)

The language is of great interest to the philologist since it has no apparent connection with any other language and has an extremely complicated grammar besides. Fortunately for travellers, however, at least one man in every village can be found who understands Urdu and it is possible to travel in the country without an interpreter.

Polo is the national game and is played in most villages throughout the winter. The road very often runs through the village ground which is from 200 to 250 yards long and 40 yards or so wide. It does not seem to worry the players if there is a ditch running across the ground or if there is a bog in the middle of it. One ground we crossed was curved and there was a small hill in the centre of it so that the ends were not intervisible. There are very few rules of any sort and none about crossing and dangerous play. Although six is the normal number of players on a side, more may play if necessary. No definite time is laid down for a game, but they normally play till one side scores nine goals or till the ponies are no longer able to stand. Such is the hardiness of the ponies that, though there are no intervals for rest and players have only one pony, games sometimes go on for as long as two hours.

We spent a very pleasant two days in Gilgit where we were most hospitably received by the Doctor and his wife. Unfortunately we could stay no longer as time was growing short. In Gilgit is the most northerly post office in this part of the world and the first one we had seen for several weeks.

A description of the rest of the journey is unnecessary as it is regularly performed by members of the Gilgit garrison and sportsmen in pursuit of markhor. The only diversion from the normal route was a two days march up the Rupal nullah along the southern foot of the Nanga Parbat. Here we had a magnificent and awe-inspiring view of the 16,000′ precipice whose foot is in the nullah. There can be very few finer views of a mountain in the world.

Finally we reached Bandipur, on the Wular Lake in Kashmir, on September 19th, after a journey of 710 miles covered, mostly on foot, in seventy days. Thus ended a most interesting journey, and one which we were indeed fortunate in having the opportunity to perform.

"F. S. R. 1740."

Just under two centuries ago, it was appreciated that "a cessation of arms for over twenty years must unavoidably have been attended by the loss of most of our old Generals and officers, and their posts at length fill'd with many who never served abroad."

For the benefit of the young entry, a field service manual was compiled by Brigadier-General Adam Williamson, who, by publishing his work in 1740, adroitly anticipated, by a matter of weeks, the next Great European War.

A comparison of his book with F. S. R. presents several points of interest, and not a few of humour.

In the title pages and preface are a number of pleasing human touches which the modern volume lacks. General Williamson dedicates his work to the King in "an ardent desire to be deemed, even in the smallest degree, a useful subject to your MAJESTY." To-day, the sole reference to the Throne is the austere warning—"Crown Copyright Reserved." Nor were readers plunged without ceremony (as now) into a war of the first magnitude. The General politely, albeit pointedly, suggests that officers "should put this book in their pockets: it will take little more room than their snuffbox, and if as often look'd into will be of greater use to them."

It is unexpected to find Williamson quoting, as his chief authority, "the great Marshal *Turenne*." The victories of Ramillies, Malplaquet and Oudenarde were still fresh in the minds of the nation, and the Brigadier himself had served in Flanders.

This preference shown to a foreign authority substantiates Lord Milne's criticism that "for years past British soldiers have been nourished on the ideas of continental strategists." On the other hand, many of Turenne's maxims bear Marlborough's hall-mark, for, as Williamson tells us in foot-notes, the Duke not infrequently adopted them.

In order to retain the flavour of the original, it has been thought best to quote freely, and as nearly as possible *verbatim*, from selected passages, rather than attempt to give a general summary. It is but fair to add that only those orthographical eccentricities which lie between inverted commas, are debitable to General Williamson's account.

" *The Duty of a General.*"

" A General ought to be acquainted with History, Geography, but above all, Topography, or the situation of the country which is to be the seat of war; what it produces; the genius and disposition of the inhabitants, their government, and what sort of dominion they like best.

" For you preserve your conquests by ingratiating yourself with the conquer'd, and taking away their desire of revolting.

" Should you fall into misfortunes, do not lose time in complaining, but wholly apply your thoughts how to get out of them. Choose rather to be unjustly blamed than to excuse yourself at the expense of your friends; in short, be more intent in repairing your fault than in making useless apologies.

" Let not any pique or ill-will to your superior officer divert you from doing all the real service you can to your King and Country.

" Never let others perceive your fears or uneasiness; and appear more gay than the ordinary in the time of most imminent danger.

" Know well your officers, so that you may employ those on all important and bold enterprises who are the most willing to execute what you have projected.

" Never give the command of a brisk and important attack to a slow officer. The lives of men are lost oftener by the bad direction of an attack than by the fire of the enemy.

" Do everything for the good of the soldier, that is consistent with your service to your King and Country. Let none fear you but the enemy and the evil doers; yet see that there be subordination in your army; for obedience and discipline amongst the troops is one of the first means of obtaining victories: while an officer that knows not how to obey will not know how to command.

" Remotedly form your projects, revolve them a long time in your thoughts, and let nothing of it be spread abroad."

The quality of this advice compares favourably with that given in the equivalent passages of F. S. R. But the following admonitions to senior officers may be judged too outspoken for modern consumption.

" Distribute your bounty yourself, and let it not appear that any other person had a hand in it: but let punishments (though you order them) seem to proceed from courts-martial, or other courts of judicature.

"When a project of importance is to be executed, choose the commander you think best qualified for it; and as duty is done by seniority, send these officers who are before him on other commands, to prepare the way for the officer you have your eye on. Thus will your schemes prosper, and your officers jealousy of your partiality be prevented.

"General officers should keep the posts assigned them, or which their rank gives them: and not leave them, to go where their curiosity or a distant fire invites them; and to have it said in print, *such a one was everywhere:* when really they should remember, that he who is everywhere is nowhere; and that he is the best officer, who is found where the duty of his post requires his presence.*

"Instead of wishing for a war that you may make a greater figure, endeavour nothing so much as the good and tranquility of your country.

"A Commander-in-Chief should never be prevailed upon to drink to excess: that might give the enemy a terrible advantage over him."

Here the General possibly felt that young officers might despair of achieving the perfection necessary for high command. At all events, he encouragingly points out that "All military expeditions are attended with a variety of unexpected accidents and circumstances. When a man boasts of never having committed errors in war, it is a sign that he has not long been a general officer. He is the best General who commits the fewest faults or oversights."

The Principles of War

The broad principles of War are discussed in a section headed "The Disposition of an Army." As in F. S. R. we are warned that "In field expeditions it is impossible exactly to prescribe to an army or separate body how to govern itself in each action, because every different motion of the enemy, and the various accounts a man has of them, ought to make him alter his measures. There is no giving a commander other than general rules, the rest depending on his own conduct and behaviour of his troops."

The first rule given to commanders is, "Always endeavour to make your war offensive. As soon as there is an opportunity of giving

*One suspects that the author of this maxim may be Williamson, and not Turenne. The worthy General, while serving in Flanders, was A.D.C. to a notably active commander!

the enemy battle to advantage, do it at once. This gives spirit to the men and fear to the enemy, and prevents them intrenching."

Of the other principles quoted, pride of place is given to surprise. A capacity to mislead the enemy by means of ruses, subterfuges, feints, ambushes and the like, is held to be one of the chief characteristics of generalship. As a corollary, much importance is attached to secrecy for "the world is full of tattlers."

Commanders are cautioned never to "act by constant rules and methods," and the moral effect of surprise, even when fortuitous, is stressed. "Remember what the great *Turenne* often said, *viz.*, "*Qu'un sot l'embarroissoit quelquefois plus qu'un habile homme.*" Truly a comforting reflection for "blockheads."

Amongst the means suggested for disconcerting an opponent, is the study of meteorology. "Wind, dust, rain, the sun, foggs, are things which may be serviceable to you: but you must not trust them too far, they being liable to change."

It is here convenient to remark that an insistence on the power of surprise is the key-note of the book. Certainly the ruses recommended are not Machiavellian in conception. On the other hand they are of the type which, from Marathon to Megiddo, have so often proved successful in war. For instance, "You may surprise a place by sending in soldiers dress'd like the peasants of the country, or in the dress of women, merchants, or priests." Not so many years ago, Mahsuds collected some 60 rifles and 120,000 rounds of ammunition from a Waziristan post by means of this ancient strategem.

Characteristics of Fighting Troops

Cavalry.—The methods laid down for the employment of cavalry in reconnaissance or protection, differ little from modern practice.

Mounted action is strongly advocated. "Cavalry should always attack sword in hand: there is little hope for those who begin with the fire of their carabines."

Commanders are told to seek opportunities of using cavalry and infantry in co-operation, under circumstances which permit the former to exploit their powers of mounted attack. As an example, "Lay ambushes of foot in woods, posting likewise a body of horse near the place the enemy will be driven out; then the cavalry charge them in front, flank and rear; and you have them at a cheap rate."

But, while an exponent of the value of the "brisk charge," Williamson holds that the employment of cavalry unaided, in attacks against any considerable formed bodies of enemy can seldom be justified.*

He comments on their then lack of fire support and adds that "there is nothing so weak as the flank and rear of cavalry." "When horse are sent to attack the rear of a retreating enemy, let them, when possible, take foot behind them. They should not grumble at it, for they will find great use and comfort from them."

By "taking foot behind them," the General meant mounting them *en croupe*. This means of locomotion, common in the past, would nowadays make the infantry sore, let alone the cavalry. Yet in dire emergency, it might still solve the same vexed problem—that of quickly supporting mobile troops with infantry.

Artillery.—As might be expected, the passages relating to artillery are entertaining, rather than instructive. There are, however, a few modern touches. Cannon, for instance, are kept well up in a column, as "the order of march is best, that requires least time and movement to put an army into order of battle."

But it is difficult to believe that the General's views on gunnery can have been acceptable to artillerymen, even in 1740. In writing of laying for elevation he says, "it is fit that you should know, that if a cannon be fired horizontally, on a horizontal plain, one half of the range of its ball describes a right line, the other a curve or parabola." In a later section he has the temerity to discuss the founder's art, but covers himself by a footnote which reads: "But these proportions differ, inasmuch as every foundry, even in *France*, has its own proportions, and each founder thinks his own best."

There is a list of thirteen cannon, bearing such distinctive and attractive names as the Basilisk, Flying Dragon, Passwall, and Faulconet.† But the age of standardization had already set in for "our pieces of ordnance are now commonly called only by the weight of their ball, as a 42 pounder, 24 pounder, 18 pounder, etc., which are the natures of the several guns on board our line of battleships."

*Curiously enough he makes no mention of Marlborough's brilliant use of cavalry at Blenheim, though he twice criticises the enemy lack of reconnaissance which made this decisive intervention possible.

†Details of these pieces are—

Name	*Pounders*	*Feet lony*	*Weight*
Basilisk	48	10	7,200
Flying Dragon	32	22	7,200
Passwall	16	18	4,200
Faulconet	2	10	1,350

As regards performance, "A cannon pointed to hit the mark will carry its ball about 700 yards. Its force, fired at 200 yards from the mark, will drive the ball into solid earth about twelve feet, and into sand or loose earth some twenty-four feet."

General Williamson probably intends no discourtesy to the Royal Regiment by remarking that "In an army you must look on four-fifths only as military, either of men or horse: the rest serve for the baggage, sutlery, artillery, etc." At the time he wrote our Artillery had no trained drivers, and in war depended on hired teams and wagoners. In parenthesis, Fortescue remarks that the Gunners of that day "were a peculiar people, but their chief distinction was their superiority."*

Engineers.—In Williamson's time the Corps of Royal Engineers did not exist, but Pioneers are mentioned as forming an essential part of advanced and rear guards. The individual advisory engineer, however, was a man of great consequence in an age of frequent sieges, and much was expected of him. As a single example, taken from a section on mining, an engineer was required "to know well height, depth, breadth, thickness and slopes, by a plumb-line; what is parallel to the horizon, and what is not; to take levels of all earths, and to have the most perfect knowledge of all sorts of rocks, earths, sands; and to know the force of all sorts of powder."

Operations

Of the sections devoted to specific operations of war, rather more than half deal with open warfare; the remainder give rules for the attack and defence of fortifications.

Naturally enough, General Williamson attaches great importance to the part which fortresses may play in war. Thinking probably of Belgium, he remarks that "even a small state that has one or two well fortified towns, may defend itself for some time, till a neighbouring power, who sees with jealous eye the increase of a neighbour, may come to its assistance."

But the Brigadier is not blind to the limitations of fixed defences. "Fortified places, tho' strong, either without good troops, or provision for them, must surrender; and remember that there is no place impregnable, or that baffles the industry of man. Yet, for that reason do not neglect to defend them well, that your honour be not surrendered with a town."

*The Army and the Empire, p. 19.

In his avoidance of pedantry, Williamson sets an example to many later military writers. He introduces his chapter on Battle thus. "There are two sorts of battles, a general or particular engagement. But as they differ only in the number of troops engaged, the methods are the same." Moreover there is little—possibly too little—repetition in the book.

Night Operations.—Williamson claims (and who can gainsay him ?) that the cover of darkness is the best means of "outwitting the enemy, while preserving the lives of your own men."

"Near an enemy," he says, "it is best to move by night. To succeed you must consider well, and be very secret." After dealing briefly with the routine of night marches, such as the blocking of side roads, he returns to his main themes of secrecy and surprise. "Keep your gates shut till the moment you march, taking care that no spy slips out with the troops. Let your tattoo beat as usual, and detail a few men to remain behind to light fires. On your march forbid the showing of lights; choosing for secrecy and security, to go through woods, bottoms, hollow ways; avoiding all inhabited places as may be.

"Detail cavalry to secure all persons they meet, lest they should give intelligence of your march. Take several routes, and seem to march an indirect way to the place you aim at, in order to deceive the enemy and make them take wrong measures."

Of night attacks on field entrenchments he writes: "Seem to resolve to attack the intrenchments in the part you least design: let glaring preparations be made; and whilst the enemy is intent on the defence of that part, you march in the night, and slip into their line. They, not seeing your dispositions, will not know where the storm will fall.

"Reconnoitre well the enemy's lines, that you may know their situation, and the approaches to them, before you attack.

"Make a false attack, to favour the true ones; and let your attacks begin precisely at the same time. March briskly, with your infantry in lines, and keep your fire.

"Carry good store of fascines and hurdles with you: and direct your infantry, as soon as they have entered the lines, to open the barriers and level the line for the cavalry to go through.

"It almost always happens, that an army which thus attacks intrenchments in the field with vigour, and is well sustained, finds great advantage over those who defend. This method was practised

with success by the Duke of Marlborough, to the great saving of the lives of men, when he pass'd the *Geet*, and the lines at *Helishem*, and after that at *Arlieux*."

Retreat

" A fine retreat," General Williamson considers, " is the master-piece of a good general."

The temptation to quote his rules for withdrawals will be resisted, as interest mainly lies in their close resemblance to modern teaching. As usual he emphasises the importance of artifices. For instance—

" Leave three or four troopers and a trumpet, well mounted, at the entrance of a wood, close country, or road at the top of high ground. The enemy appearing, the troopers show themselves, sound their trumpet, and oblige the enemy to march slowly and with precaution ; and then at a certain distance they gallop as fast as they can, and join your army."

The interposal of simple passages, such as the above, amongst weightier material, is typical of the book. Whether unwittingly or not, the General is a master of the art of introducing that light and shade into writing which holds the attention of a reader. Nor does he lack an eye for a telling phrase, as when describing the value of a resolute counter-attack, delivered from ambush, on a too thrusting pursuer. " Draw up your troops in a cover'd place," he says, " and fall on the enemy with vigour, or as the *French* call it, *tête baissée*."

The sections discussing the measures which the commander of a retreating army may employ to turn the tables on his opponent are, in the light of later history, of peculiar interest. " You may get the advantage of the enemy," he writes, " by laying waste the country from whence they must draw their subsistence. Make the avenues as difficult as you can ; break down the bridges ; burn the mills ; cut the dikes, open the sluices, drown the country if you can ; drive in the cattle, and bring in the grain, forage, hay, and the other fruits of the earth. All that distresses the enemy may turn to your advantage." In order to reap this advantage, you must " make your own camp sure by good intrenchments and redoubts, which defend your avenues and communications ; endeavour to be *near the sea*, or a navigable river ; in a word, be master of your rear, and have wherewith to subsist your army."

One's mind instinctively turns to the Lines of *Torres Vedras*.

Curious Passages

Turning to the (to modern eyes) curious passages in the book, it would be interesting to hear a historian's, or ethnologist's views on this peculiar manifestation of a caste system in Europe:

"Keep your camp clean, and order the malefactors of each regiment to bury all dead horses, dogs, etc., that are found in front or rear of their regiment. But this method must not be ordered amongst the *Germans;* for he that does but touch one of these dead animals, or even the rope that draws it, is so contaminated in their opinion, that no officer or soldier will eat or drink with him everafter. Therefore there are persons appointed for this purpose, with whom the soldiery will have no commerce."

This next quotation recalls an entertaining article, written some years ago by a distinguished officer, on the important part played by Grape and Grain in military history. The author had a staunch supporter in General Williamson:

"If the assault be long and obstinate, and the fire smart, refresh the soldiers covered with blood, sweat, and dust with a dram. These little comforts re-animate their courage."

Passing from drink to food, it seems fortunate that in 1740 armies were not expected to march on their stomachs, for these organs were then but poorly cushioned to withstand the bumps of the road:

"Care must be taken that the soldier never wants his full allowance of bread, for the rest he can shift. You give to each soldier two pounds of bread *per* day." On such a meagre ration it was indeed necessary to "take care of roguery, corruption and treason, but above all that your bread waggons be not insulted by the enemy."

To supplement their bread, each regiment was allowed only "one sutler with a wheel carriage." It is no wonder that looting of live-stock was then viewed with a tolerant eye. The horses did much better than the men if, in fact, they received their daily allowance of "ten pounds of oats, twenty-five pounds of hay, and three bundles of straw."

Officers were allowed "three baggage-horses to each captain, and one to each subaltern, for the rest according to the pleasure of the Prince or General; remembering always that the fewer wheel carriages attend an army, the less it is encumbered: and that a superfluous number of baggage horses eats up the forage for the necessary ones." That this admonition was timely is shown by the following

samples of kit carried by an infantry C. O. in Marlborough's time.*

" Six new laced fine shirts.
Twelve new fine holland shirts with musslin
Five new fine musslin cravats.
A new scarlett cloake laced with gold lace.
Six perewigs.
A silver handled sword.
About five or six dosin clerett."

The romance of battle, as exemplified by the " silver handled sword," died, we are sometimes told, in the last Great War : choked with chemicals, and riven with explosives. But here are some of the other weapons used in the good old days :

" Bombs are of great use to destroy defences, and red-hot bullets to set a town afire.

" And number amongst your weapons, halberts, partisans, scythes set on a long staff, or reverse scythes, to cut off an enemy as they mount, and tumble them into the fossé, where it is easy to fire on them.

" Have good store of mortars, bombs, grenades, and hand-grenades ; old nails, bolts, and pieces of iron-chains, old iron and chain-bullets, as well as double-headed and grape shot.

" Also burning and bursting barrels, rolling, fires, fire darts and lances, fire pots, oil, lime, and boiling pitch, tallow, melted lead, and burning sand.

" Lay on your parapets great beams, stones, and fire-machines, to crush or burn those who may slip.

" To countermine, or blow up the mines of the enemy : petard them : and bury their miners ; or drive them out by the smoak of sulphur, or other suffocating stuff.

" Never omit to try any water or provisions left by an enemy, lest they be poisoned.

" In short, never neglect anything your imagination can suggest for the annoyance and destruction of the enemy, and your own preservation."

But this, we suggest, is mainly official ruthlessness on General Williamson's part. To take leave of him on a kindlier note :

" You should post good marksmen, to take off the General or principal officers of the enemy. But this murdering manner is seldom followed, and should have no place in a generous war."

* Taken from a lengthy list quoted by Fortescue.

APPRECIATION OF THE SITUATION AT THE OUTBREAK OF THE RUSSO-JAPANESE WAR

By Colonel A. H. C. Kearsey, d.s.o., o.b.e.

I. Objects *to be attained*

(*a*) The object for the Japanese was to secure Korea, to regain Port Arthur, to prevent the Russians from controlling southern Korea, and to check the Russian advance.

(*b*) The Russians wished to gain an ice-free port in the Far East and to control the sea communications from Vladivostok.

II. Considerations *affecting its attainment*

(*a*) *Strength and location of the opposing forces.*—The Japanese with their population of approximately forty millions could bring 150,000 men into the field at once out of their total field troops available at the outbreak of war; namely, 208 battalions, 55 squadrons, 726 guns. The Russians in spite of their population of some two hundred million could not hope to be in superior force until August 1904. In the East they had the following field troops; namely, 86 battalions, 35 squadrons and 196 guns. Their available field troops to meet the Japanese field armies would not be more than 60,000 rifles, 3,000 cavalry and 164 guns.

Their local weakness would, therefore, force the defensive on them.

As to locations the Russians were in a salient. Japan possessed a re-entrant frontier from Vladivostok round to Port Arthur.

The Russians could, therefore, carry out the principles usually adopted by an army in a salient, either to act on interior lines by containing one of the opposing convergent forces and striking the other; or by massing at the base of the salient, so that they could gain the necessary time to collect their scattered forces.

(*b*) *Topography.*—The Korean peninsula is 600 miles long and 150 miles broad.

It is bounded on the north and north-west by Manchuria, which was the main theatre of war. Korea possessed the advantage for the Japanese, that through it there would be a comparatively safe line by which supplies and reinforcements could be forwarded from Japan to Manchuria. It would also form a convenient base to which

the Japanese army could fall back if required until reinforcements arrived from Japan.

Korea was of political importance as its occupation and future management were among the main points of dispute between the Japanese and Russians.

There were few good harbours in the 2,300 mile coast-line of Manchuria and Korea except in the south of Korea, where the coast is not shelving. On other parts of the coast the shore is muddy and slopes gradually for a great distance out to sea, so that even at high tide it is hardly covered with water.

The Korean peninsula contained only the one road 140 miles long from Seoul to the Yalu.

From the Yalu this road is continued 180 miles to Liao Yang by the Motienling Pass and Fenghuangcheng.

The roads in Manchuria being few and bad would cause considerable dispersion of force for the Japanese in their advance, which was intended to culminate in a decisive battle at a definite point against the Russian main field army.

(*c*) *Communications.*—The Japanese possessed four naval bases, of which the most important was Rikaho. They landed troops in Korea in order to draw off part of the Russian field army from Port Arthur, and they also landed troops in the Liao Tung Peninsula for the siege of Port Arthur. They subsequently made a converging movement against Kuropatkins' field army. Therefore, their communications both in Korea and in the Liao Tung Peninsula up to Liao Yang must be considered.

The road from Port Arthur to Liao Yang *via* Chin-chou, Fu-chou, Kaiping, Tashihchiao, Haicheng, Anshanchan to Liao Yang is 220 miles. From Wijiu on the R. Yalu to Liao Yang is 180 miles by the road east of the R. Yalu to Shuitien, then north-west to Kuantiencheng and Saimachi, then west through the Motienling to the Tang Ho, then north-west again to Liao Yang.

This road meets the Imperial road from Pekin and Mukden at Saimachi, seventy miles south-east of Liao Yang.

The coastal road between Antung on the Yalu and Port Arthur *via* Takushan is 230 miles. As the Fourth Army landed at Takushan between the 19th May and the 9th June, it is necessary to consider the route from this place to Liao Yang.

A road 160 miles long joins Liao Yang and Takushan *via* Hsiuyen, Huanghuatien, and Langtzushan.

During the winter only were these roads passable with ease. The roads in Manchuria being so few and bad considerably affected the Japanese plan of campaign. The Japanese had to accept the risk of defeat in detail by superior numbers when their armies were dispersed on the available roads leading up to their assembly positions in front of the Russian field army at Liao Yang.

The Yalu and the Liao rivers were navigable when not frozen, and then they could be crossed by sleighs.

The railway from Port Arthur to Liao Yang was a single five-foot gauge line. This single-track line ran six thousand miles from St. Petersburg to Vladivostok with a branch to Port Arthur.

During this period of the campaign the quickest journey between Warsaw and Mukden was fifteen days.

There were sidings every ten miles, by which the engines were returned.

The empty wagons on arrival in Manchuria were mostly used either as huts or were burnt as fuel. Coal was available in Southern Manchuria but not further north.

Thus the Russians' means of reinforcement and supply was inferior to that of the Japanese, whose sea-transport enabled them to reinforce their field army more quickly than the Russians could with their railway which, until the 25th September 1904, did not run round the southern end of Lake Baikal. By the end of 1904, however, 410,000 fighting men, 100,000 non-combatants, 1,000 guns complete with transport and 93,000 horses, had been sent from European Russia to Mukden.

(*d*) *Weather was an important factor, as it affected the mobility of both sides.*

During a thaw, troops had to march round the southern end of Lake Baikal, supplies being shipped across. Troops were able to march across it when it was frozen. During a thaw the roads, which were all unmetalled, became almost impassable, carts sinking up to their axles in mud. The rainy season in Manchuria is from July to September. From October to March the roads remain hard and frozen. The climate, though hot in the summer and very cold in the winter, is healthy.

(*e*) *Supplies.*—Coal was obtainable in the mines at Fushun and Yentai. In Mongolia, millet, Indian corn, pigs, fowls, rice and vegetables could be procured.

Rice was the staple food for the Japanese. This facilitated their supply system considerably.

(*f*) *Morale and Armament.*—In the Japanese army the morale was excellent. The men were keen and intelligent. The infantry were well-armed with modern rifles. They were trained in fire-action and in the use of ground both in attack and defence. Their artillery was armed with an improved breech-loading weapon, most of which were quick-firing.

Their battleships, though equal in number to those of the Russians in the Far East, were superior in quality. In all other vessels Japan had the advantage. This was an important factor as the Japanese had to rely on a decisive naval success, so that they would be able to transport and land troops in Korea, at Takushan and Talion Wan, unmolested.

Their supply and transport organization was carefully considered. Their medical arrangements were adequate.

It was Kuropatkin's opinion that the Russian army was inferior in every military quality to that of the Japanese.

The Russian army was not fitted for war. The infantry were untrained in musketry. They were taught to rely on massed bayonet attacks unsupported by adequate fire. Initiative was discouraged, protective duties were neglected. The defence was encouraged at the expense even of local counter-attacks.

Yet defensive positions were occupied without attention to concealment, observation, and field of fire.

The Japanese were inspired with patriotic sentiments and unselfish devotion to the cause of the war.

The Russians were indifferent, and their morale was at a low ebb.

In fact the Japanese successes may be said to be due more to morale than to strategic skill. For this morale their Commander must be given his share of praise, as well as for his bold leadership.

Oyama also encouraged initiative in his subordinates. Kuropatkin on the other hand did not display the same gifts of generalship.

He was immersed in detail, he interfered unduly with his subordinates. His policy was hesitating. The many errors he

committed finally enabled the Japanese to defeat the Russian army at Liao Yang.

These errors included the detachments sent under Zasulich to the Yalu, and under Stakelberg into the Liao Tung Peninsula. Then in allowing the dispersed Japanese armies crossing the mountains into the Liao valley to concentrate against his position passively held at Liao Yang.

Oyama on the other hand rigidly maintained his objective with unwavering determination, and thus he inspired his subordinates.

Admiral Togo, Commander of the Japanese Navy, admirably co-operated in the Japanese plan of campaign realising that loss of sea control would mean ultimate and inevitable defeat. It was essential for Japan to secure the passage of transports to Korea and Southern Manchuria.

(*g*) *Time and Space.*—The Japanese calculated that in six weeks from the outbreak of war a force capable of dealing with the Russian Far Eastern combatant troops could be landed in the area of operations, and that this force could be more quickly reinforced than could the Russian army.

This calculation was based on the figures that the Russian field troops available in February 1904, would be 3,000 sabres, 164 guns and 60,000 rifles, posted near Vladivostok, Port Arthur, and Harbin.

The Japanese had thirteen active divisions, two Cavalry and two Field Artillery Brigades, thirteen reserve Kobi Brigades.

Local conditions favoured the Japanese. The Russians would have to be reinforced by the Siberian single track line, 6,000 miles from St. Petersburg to Vladivostok. The quickest journey was fifteen days between Warsaw and Mukden.

From Sasebo in Japan to Chemulpo on the west coast of Korea is four hundred miles, to Gensan on the east of Korea is four hundred and fifty miles, and to Dalny six hundred miles.

Therefore, speed in mobilization and concentration of troops was vitally important for the Japanese in order to take advantage of the local weakness of the Russians.

III. COURSES

(*a*) *Open to the Japanese.*—(*i*) To land at Gensan and advance in a north-easterly direction in order to cut off Vladivostok.

(*ii*) To land at Chemulpo and advance towards Port Arthur and the railway north-east of it.

(*iii*) To land at Gensan and advance Westwards.

(*iv*) To land a force in the Liao Tung Peninsula for the siege of Port Arthur; with a combined movement of a force landed in Korea and also in the Liao Tung Peninsula, to advance in a northerly direction against the main Russian army. With reference to these suggested courses a landing in force near Gensan or Vladivostok would not have helped the situation at Port Arthur. A land force besieging Port Arthur must be protected from a Russian field army advancing south from Harbin.

The course suggested in paragraph (*iv*) would be the best one to help the Japanese to carry out their objective of driving the Russians from Korea and Manchuria, and of destroying their naval and military forces in the Far East before they could be reinforced from Europe.

The destruction of the Russian fleet in a fortified harbour by their fleet alone would not be easily or quickly accomplished. Therefore, they considered that troops must be landed in the vicinity to invest Port Arthur from the land side. In addition it was decided to occupy Korea and to converge on any central Russian field army in co-operation with troops landing at Takushan or in the Liao Tung Peninsula. In that case it would be better to land on the west side of the Korean Peninsula than the east side at Gensan, especially as the Vladivostok coast was ice-bound until April. It was more important for the Japanese to deal with Port Arthur than with Vladivostok, although in both harbours there were ships that would threaten Japanese communications. In Vladivostok, however, there was only one squadron. The Russian forces in these two places were out of touch with each other; whereas the Japanese armies advancing north against a Russian field army on the Harbin—Port Arthur line—would be in touch with their troops in the Liao Tung Peninsula. Therefore, as the Japanese were pursuing the double objective of capturing Port Arthur and operating against the Russian field army, they acted wisely in disregarding Vladivostok and in operating with all the troops that could be spared from Port Arthur against the Russian field army, which was their other objective.

Japan's first problem, however, was to establish superiority at sea, so that their transports with the necessary troops, munitions, war materials and supplies could be safely brought to the seat of war. They would then gain the advantage of their proximity to the area of operations and of the superior organization, which their war prepara-

tion had given them, of being ready to act before the Russians could operate in force either in Korea or southern Manchuria. Their first step would have to be to land troops in Korea. These troops would act as the right wing of the forces converging on the Russian field army by the Imperial road leading from Wijiu towards Liao Yang. This was the main idea underlying the Japanese land strategy. To carry this out their troops must be deployed in southern Manchuria in such a way that they could envelop the Russian field army. Another reason for landing first in Korea was that the control of this province was one of the main points in dispute with Russia. In addition Korea was the nearest part of the mainland to Japan. It was, therefore, the safest line of supply from Japan to troops operating in Manchuria. In the event of a reverse the ports in Korea would form the most secure bases on which a retreating army could fall back to be refitted and reinforced from the home ports.

(*b*) The courses open to the Russians were (*i*) to collect troops for the defence of Vladivostok, Haicheng and Port Arthur while their main field army was concentrated further north on the trans-Siberian railway near Liao Yang, Mukden or Harbin.

(*ii*) To retire altogether out of the salient and to wait for the advance of the Japanese.

However, the difficulty for the Russians was that their local weakness and the rapidity of Japanese mobilization and early movement of troops would force them on the defensive. Admiral Alexeiev, the Governor of the Far East, and supreme commander in Manchuria and in the Kuan Tung Peninsula, decided that Port Arthur must be protected to the utmost extent of General Kuropatkin's power. General Kuropatkin, on the other hand, considered that the best course would have been to retreat slowly in front of the Japanese armies without fighting land battles until the Russians were strong enough to strike in superior force. It would not be possible to carry out this policy as it did not coincide with Alexeiev's plan. The preservation of sea-power for the Russians depended on the safety of Port Arthur and Vladivostok.

Their policy must, therefore, be to conserve their forces by sea and land until they were strong enough to take decisive action. Their difficulty, then, was that the safety of their land forces could be ensured by withdrawal until they were strong enough to take the offensive ; on the other hand the preservation of sea-power depended

on the safety of Port Arthur and Vladivostok, for which purpose troops would have to be left to defend these places.

It was vitally important to the Russians to gain command of the sea. Russia had strong enough navy and army to ensure the defeat of the Japanese only if command of the sea was obtained, so that sufficient land force could be transported and maintained in the Far East.

Russia's land successes would have been of little use in gaining ultimate victory until sea power enabled her to utilise the ports for the invasion of Japan.

At the decisive point, however, the Russian eastern detachment was not numerically superior to the Japanese fleet. Therefore, the Russians were anxious to conserve their resources in the Far East until they could ensure the defeat of the Japanese navy when their own European navy arrived.

Therefore, to carry out this policy their two harbours, Port Arthur and Vladivostok, were of paramount importance to them.

Of these two, Port Arthur, being the base of the larger portion of the fleet, and being ice-free, was the more important.

Therefore, Kuropatkin's suggested plan of complete withdrawal to a position on the trans-Siberian railway could not be carried out.

The Russian plan, therefore, might have been to strengthen and prepare adequately their fortresses for siege warfare, and with the other forces available to manœuvre in such a way as to contain the Japanese field armies until the arrival of sufficient forces from Europe to enable them to take the offensive with every prospect of success.

Actually the Russian operations were a series of half-measures. Their strategy and their tactics were dictated to them by the Japanese. Kuropatkin hoped to be able to win victories by taking no risks and by waiting until he had complete information on which to make his plans and dispositions.

The result was that the Japanese acted while he was waiting, and he was always conforming to the operations of his enemy.

The force necessary to defeat the Japanese was underestimated.

Before peace was signed in favour of the Japanese, Russia had brought into the field three times their original force.

IV. PLANS

The Russian plan was—

(*a*) To concentrate their main field army on the trans-Siberian railway in the vicinity of Liao Yang.

(*b*) To send forward detachments to delay the advance of Japanese forces converging on Liao Yang.

(*c*) To garrison Port Arthur and Vladivostok and prepare them for a siege.

The Japanese plan was—

(*a*) To besiege Port Arthur and to contain the Russian fleet in its harbour.

(*b*) To send a force into Korea.

(*c*) To make a concerted movement with the troops landed in Korea and in the Liao Tung peninsula against the main Russian field army.

This plan, owing to the roads in Manchuria being few and bad, would lead to considerable dispersion of force.

There was, thus, the risk of any of their converging armies being defeated in detail. Having decided to besiege Port Arthur, however, it was wise to operate actively with every available man not required for the siege against the Russian field army.

Of their thirteen available divisions, four might have operated against Port Arthur; nine divisions would then have been available for field operations. There was only the imaginary danger of a landing by the Russians from Vladivostok that caused the Japanese to retain two divisions for home defence.

Time was an important factor for the Japanese. The Russian army was daily being strengthened. It would have been advisable for them to have brought to bear every available man before the Russians could concentrate adequate force to deal with their local superiority in numbers.

However, by advancing from the R. Yalu against the left flank and communications of the Russian field army at Liao Yang, the army under General Oku was saved from an attack by the whole weight of the main Russian army.

It was important for the Japanese to occupy Korea from a political point of view, as its possession was one of the causes of the war.

In addition, until Dalny was captured, no satisfactory harbours existed except in Korea. The Russians moving south to relieve Port Arthur could not afford to neglect a Japanese army advancing north-west from Korea.

The Japanese were right in disregarding Vladivostok, as troops operating there would not assist either the capture of Port Arthur or the operations against the Russian field army. However, by leaving two of their thirteen divisions in Japan the Japanese jeopardised their cause, as they did not possess superiority either in front of Port Arthur or against the Russian field army at Liao Yang.

The drawbacks of a converging advance made by the Japanese by isolated forces separated by intricate and mountainous country were to some extent reduced by the landing of their 10th Division at Takushan and its subsequent advance in a northerly direction between the First and Fourth Armies, by the care and skill with which their numbers and dispositions were kept from the Russians, by the immobility and lack of enterprise on the part of the Russians, and finally by the determined leadership and the effective combined efforts of the component parts of the whole Japanese army.

"THIS 'BRAINSLACKNESS'; ITS CAUSE AND CURE"

By Major H. R. K. Gibbs

A charge frequently laid at the door of the modern officer is that of sinking into a state of brainslackness, and a stagnation in general education. His military instinct and leadership are also subject to serious criticism. It would be idle to try to controvert the truth of this indictment, since report after report on promotion and Staff College entrance examinations contains the same stricture. Loose thinking and slip-shod deductions from known facts are also among the complaints preferred by examining boards. Such being the symptoms it will be wholesome to diagnose the disease, ascertain the causes and, if possible, prescribe remedies to effect a cure.

Old traditions die slowly. William of Orange, on becoming King William III of England, had a poor opinion of English officers. He considered them far below European officers in their professional skill and knowledge of war. He considered Marlborough even, only "good in spite of his extreme youth and lack of experience." So it is that we find the chief commands were given to his Dutch generals; Schomberg the elder and then his son, Waldeck, Ginkel and Solms. His Dutch Guards and Danish Infantry were the patterns held up to the rude English soldiery.

For many years birth, patronage and money were the essentials which governed appointment to and promotion in our army. Merit *per se*, was not yet the touchstone for success. The exigencies of war in distant parts of the growing Empire slowly opened the gates to the keen professional soldier and the abolition of the purchase system further improved his chances. But for long, social position was the more potent factor. The fool of the family was considered fit for the army provided that he came of a "Family." His more gifted brothers went up to the university and graduated into politics or a diplomatic career, while for him a scanty education was sufficient. It is interesting to note that Lady Mornington had but a poor opinion of her younger son, the future Iron Duke. His education was entirely the result of his own keenness and deep reading during his early service. Moore and the Napiers were students of war and training, but they were exceptions in their time.

It has only been during the last fifty years that military education has really assumed an importance in the British Army. The Napoleonic wars in the Peninsular, operations on the Indian Frontier, in Egypt and the Sudan, gave rise to a band of enthusiasts who encouraged the study of military matters. Early mistakes in the Boer War further pointed the lesson, and the leaders of military thought began to make themselves felt, until the outbreak of the World War in 1914 found us with as fine a professional army as the world had ever seen.

This army was, however, a very small one, and so the leaders of thought were but few in number and unable to make themselves felt outside their limited circle. The nation as a whole knew little and cared less about its army other than as a picturesque adjunct in State processions and celebrations. On the continent it was not so. The armies of France and Germany constituted a large part of the people, and consequently their officers assumed a correspondingly greater importance in the public eye and more attention was paid to their education by the government.

The years 1914-1915 saw the virtual extinction of the British Regular Army. That period and the succeeding four years, moreover, had other far-reaching effects. The nation in arms emptied the schools, colleges and universities of the best scholars. The baneful effects of this were apparent for several years immediately after the war in all walks of life. This applied in considerable force to the army. Military education from 1914 to 1919 was thrown completely out of gear. The Staff Colleges closed down, all Military Colleges and Schools of Instruction became purely technical. Fighting, training raw recruits and assimilating new equipment left no time for the higher forms of study. This state of affairs continued for some time after the Armistice. Small wars in India, Iraq, the Sudan, and disturbances in Palestine, Egypt and China claimed the attention of the Regular Army, while the great upheavals consequent on demobilization had not subsided.

With peace and demobilization the civil machine, never wholly stopped, began to function again. The universities reopened, the learned professions recommenced their studies, the man of business returned to his office. The system carried on on familiar lines much as before 1914. On the other hand the army found itself in a different position. The shattered pieces of the old regular army had to be collected while the new armies dissolved. The war had left

it in a welter of new ideas. Changed weapons, equipment and conditions raised innumerable problems. Who was to face them?

Casualties had claimed the best part of a generation of instructors, and the years of war had not allowed of others being trained to fill the gap. Military instinct must be fostered and developed in young officers by the instruction and example afforded by the seniors. The writer submits that for several years after the war this was not done. Possibly this was not altogether the fault of the senior officers who were distracted by events then in progress.

The reduction in the strength of the army meant, among other things, that many officers who had been in command of companies and battalions during the war now found themselves relegated to work in less exalted spheres. The excitement and glamour of war was replaced by prosaic and monotonous peace-time training. This was but an insipid brew after the intoxicating draughts of war. Promotion blocks, "axing" processes, and financial stringency all added to the feeling of disillusionment. It was in these circumstances that the post-war commissioned officers were posted to their units. Furthermore, the breakdown of the system of education during the war years had other psychological effects. A spirit of unrest and a disinclination for concentrated mental work was conspicuous in the rising generation. A lack of sound education, moreover, meant a lack of knowledge as to the best methods of tackling a problem.

Let us for a moment examine the training of a doctor or a lawyer. He leaves school at the same age as the youngster entering the army, but he goes up to the university for three or four years where he continues his general education. He is in the company of men of different ages and in an atmosphere of study. Then follows the more detailed study of his profession. The doctor is usually occupied for six years learning his work before being "qualified," and the barrister, if "called" in his fourth year, must spend some years "devilling" for an established senior. The training of both is more arduous than that of the soldier, but the prizes are the more obvious. The incentive for progress is keener, if more selfish. Their promotion does not depend on a time-scale or a limited number of vacancies. A further spur is provided by necessity. The man outside the army or navy, unless the possessor of considerable private means must work hard for his daily bread and butter, and still harder for the cakes and ale. The very nature of his work is changing daily; he must

keep up to date. His normal life brings him into contact with a greater variety of people and so enlarges his mental horizon.

In comparison, the early training of the army officer is sketchy. His technical education comes when his general education has hardly begun. The Army Class at school, often followed by a spell with a crammer, spells a narrow education. The course at the R. M. C. or R. M. A. cannot be compared with the curriculum of a university, though attempts have been made since the war to improve it. When he joins his unit he is to a large extent segregated from other types. This is the more so on foreign service, especially in India. Indifferent facilities for reading and study, and the lack of variety in the society he comes into contact with do not make for intellectual freshness.

That the spirit of leadership is present is proved by the events of the Great War and the campaigns which followed it. Junior officers then shouldered responsibilities that had never fallen to the lot of their predecessors, and on the whole the responsibilities were well-discharged. Leadership thrives on opportunity. Do we provide this in our training now ? Not nearly enough ; too often the desire to " put up a good show " is allowed to override the necessity of letting the junior officer assume full control. Provide this opportunity and allow full responsibility, and the quality of leadership will develop naturally. Mistakes will be made, but they will bring out the lessons which can never be taught by undue interference and supervision. The improvement in general education and military instinct must be the result of study and personal effort. Encouragement and direction from higher authority will ensure this.

Now for the cure. The courses at the R. M. C. and R. M. A. have been modified in recent years. This is all to the good, as it means that the Cadet's general education is carried on while leaving more of the purely technical work to be taught after he has passed out. During these early years a desire for intellectual accomplishments may be instilled. A broad foundation of history, which is so often neglected at school, may well encourage wide reading ; the study of foreign languages still further opens up the field of literature besides being of obvious use to the soldier ; the study of political economy will open fresh windows on the world. Such matters too, will insure against hours of boredom in the inevitable spells of duty in lonely outposts and small cantonments.

There is one other matter about which much ink has been spilt ; the question of administration, accountancy and office routine.

The writer would emphatically state that an altogether undue proportion of a regimental officer's time is spent in the office. That this side of an army's existence is important goes without saying, but it should be the secondary part of a regimental officer's duty. His main object is the fitting of himself to lead men and train them, not to carry out the duties of a junior clerk.

Travel nowadays is faster and cheaper than ever before, and much can be made of this facility even though the long spells of leave that were available before the War no longer come in the way of the modern officer. Travel, coupled with reading, will enlarge an officer's ability to express himself if he is encouraged to write down his experiences and impressions.

The stereotyped "Subjects for Study for the Hot Weather" might with advantage be diversified. Matters outside purely military history and administration can be introduced. For example, the development and history of the province or district in which an officer is stationed might form the basis of reading and discussion; some of the problems of the day such as international trade and empire development and settlement are equally worthy of attention.

Brainslackness is often the result of monotony; vary the fare and interest is created and the mind will thrive on a better balanced diet.

MOHFORCE SIGNALS IN THE NAHAKKI OPERATION

18th September 1935.

By Captain L. R. Hall, m.c., Royal Signals

The road built during the 1933 Mohmand Operations stopped short of the ridge of high ground which divides the great Kamalai plain in the north from the narrow valley of the Gandab Khwar to the south. The most important event of the 1935 operations was the extension of the road over this ridge of high ground by way of the Nahakki Kandao (or pass).

The object of the following article is to describe the part played by Mohforce Signals in the operation for the capture of the ridge.

* * * * * *

By the 17th September, the 2nd (Rawalpindi) Brigade having taken over the protection of the L. of C. behind Ghalanai, Brigadier Auchinleck had a force of three infantry brigades and attached troops available for a further advance. Of this force, Nowbde and attached troops were at Katsai and the remainder at Ghalanai.

The Signal situation was as follows—"A" Corps Signals had taken over the Force H. Q. Signal Office at Ghalanai, thus relieving Mohforce Signals from all responsibility to the rear. They had also extended their 5-wire permanent route as far as Katsai. The whole of the resources of Mohforce Signals were therefore available for the internal communications of the Force itself. These resources consisted of five wireless "C" set detachments, a pack cable section, an R. A., H. Q. section and sufficient office staff (including despatch riders) to man the main signal office and a small temporary signal office. There were also R. A. F. radio telephone sets for communication to the machines in the air, and of course the infantry and artillery brigade signal sections. The work of these latter sections does not come into the scope of this article.

The country described in this article is illustrated by the sketch map facing page 153. It is formed on a larger scale than that about Dand and the Karappa Kandao through which had been our earlier advance. For the first three miles out of Ghalanai the nala bed and the road built in 1933 are alternative routes. The nala bed is broad and flat-bottomed with a surface quite tolerable for a four-wheeled motor car. It is in the centre of the valley with

the hills at convenient piquetting distance. The water pipe-line and the telephone route were both constructed in it. To the left, that is south-west of the nala, is the 1933 metalled road, at this time none the worse after two years in the hands of the Mohmands. About a mile short of Katsai camp, the road turns north to cross the nala. Katsai camp was then on the right or east of the road, tucked into the side of a high hill.

Not far from Katsai the valley bifurcates, the left fork running nearly due west up what is generally called the Toratigga valley. The right fork starts north-east and then turns sharply to the left at Shati Khel, thence running past Wucha Jawar on a line nearly parallel to the Toratigga valley. The 1933 road followed this route, but it was known that soon after the turn at Shati Khel, where it crossed the nala bed, it degenerated into a track. The ability of this track to take M. T. was one of those uncertain factors which caused us anxiety. To the north of the Wucha Jawar valley is the formidable Khazana Sar feature which gradually flattens out as you move up the valley until you reach the Nahakki Kandao, which is a climb of only 600 feet, though the broken surface and steep ascent make it dangerous for a loaded mule. From the Nahakki Kandao there is a magnificent view over a new world with the great Kamalai plain creased by innumerable nala beds; and beyond that the high mountains. In the foreground is Nahakki village with what looks like a large Sussex dew pond.

The object of the operation of the 18th September was to secure the Nahakki Kandao so that a road could be built over the pass unmolested by the tribesmen. The objective included Nahakki village to the north, Wucha Jawar to the south and the nearer hill features each side of the pass.

The plan of the Force Commander shows the apprehension he felt for his left flank. The roles of Nowbde and the 3rd Infantry Brigade were respectively to close the Wucha Jawar valley and the Toratigga valley from that direction. Peshbde was then to seize the main objective.

The inter-communication paragraph of the Operation order is important for our purpose. The main artery was laid down as the nala bed where the road crosses it to turn north, thence the road itself to its end about Point 2652 and so by the track over the pass to Nahakki village.

H. Qs. of infantry brigades were to be as follows—

Peshbde Point 2652, thence to Nahakki Kandao. Nowbde house 354354 (about half a mile north of Wucha Jawar).

3rd Infantry Brigade spur 358313 (at entrance of Toratigga valley).

H. Q. Mohforce was to close at Ghalanai 05·30 hours and open Point 2652 same time. After the capture of the Nahakki Kandao, Mohforce was to move to the house 354354, an advanced Headquarters being temporarily formed in the Kandao itself.

The Signal plan for this operation falls into three parts :

1. The extension of the main artery to keep the Staff in touch with the rear as they advanced. This task was allotted to a mechanized cable section of " A " Corps Signals under Major Schofield. His order was to lay two pairs D8 cable from Katsai post to the house 354354. He was to move behind Nowbde.
2. Communications for Force H. Q. at Point 2652 from 05·30 hours ; and later for the temporary Advanced Headquarters at Nahakki Kandao. This was the rôle of Advanced Signals (on pack) under Major Collin, O. C. Signals.
3. Communications for Force H. Q. at house 354354 while Advanced Headquarters was at Nahakki Kandao. This was the rôle of the M. T. portion of Signals under Captain Hall. The party was to leave Ghalanai at 05·30 hours and advance *via* Point 2652, which it was anticipated it would reach while the forward party was still there.

The extent to which Mohforce Signals had been mechanized will be noticed. In addition, the whole of the administrative echelon and also the " A " Corps wireless sets for communication to the rear were M. T. (10 lorries in all). The anxiety of O. C. Signals as to the nature of the track beyond Shati Khel will be understood. This mechanization of Mohforce Signals was largely extemporised. It was made possible because we were fighting for the most part along the road which had been constructed in 1933. In the next operation undertaken by Peshawar District Signals we may very likely find ourselves on a pack basis once again.

The wireless plan requires explanation. Of the five " C " set detachments, four were pack and one was in a lorry. Pack sets were

allotted to Nowbde and 3rd Infantry Brigade, and the other two to the forward party under O. C. Signals. The lorry set moved with the M. T. echelon. For the first phase, that is from 05·30 hours when Force Headquarters was at Point 2652, one of the pack sets with the forward party was to work from this point to Nowbde, 3rd Infantry Brigade and Ghalanai. The second pack set at Point 2652 was to remain closed. On the renewal of the advance by the forward signal party, the second set was to accompany it and on arrival at Nahakki Kandao to open up communication with the motor "C" set with the rear echelon of H. Q., which by that time should be at house 354354. The set working to Nowbde and 3rd Infantry Brigade was not to advance with the forward party beyond Point 2652, but to be taken on by Captain Hall and retain its rôle until it should reach house 354354, when it would be required to communicate with 3rd Infantry Brigade and Ghalanai only; Nowbde and the rear echelon of Force H. Q. being now together.

The cable plan was as follows—

The pack cable section and the H. Q., R. A. section were both to go out with the forward party under O. C. Signals. The pack cable section was to extend the main artery by a pair of D8 cable from the house 354354 over the Nahakki pass. It was then to maintain the line it had built.

The H. Q., R. A. section, an operating and cable laying unit which had been extemporised from the draught cable section and men made available from the 4th Field Brigade section, was allotted to the C. R. A. who was in direct control of 4th Field Brigade (less two batteries) and the 15th Medium Battery.

The office personnel were divided into a small forward office and a main office (in two reliefs). The former was to serve Force Headquarters at Point 2652 until the arrival of the main office, and later to form the temporary Advanced H. Q. at Nahakki Kandao. The main office was to close at Ghalanai 05·30 hours and move to Point 2652. Here it was to serve Force H. Q., later moving to house 354354.

It may seem strange that a large section should be allotted solely for the communications of the C. R. A. when no such section exists in the war establishment of a divisional signals. It is an example of the improvisation which is continually occurring in an operation of this kind. In the earlier part of this campaign, the whole of the

cable resources of the unit were used for the construction of the main cable artery from Subhan Khwar to Ghalanai. Later, "A" Corps Signals took over communications on the L. of C. In the operations based on Ghalanai and Wucha Jawar, headquarters of infantry brigades were usually close to the main artery and such extensions as were required could conveniently be made by the pack cable section. At the same time it was desirable both for the Staff and the C. R. A., that the latter should have his own lines to artillery brigades and batteries under his direct control for the particular operation in hand. Such artillery brigades and batteries would normally be near the road or nala bed, and so the draught cable detachment was suitable and became the C. R. A.'s section. When the force began to withdraw, both pack and draught cable sections were required for dismantling the main cable artery. The C. R. A.'s section therefore ceased to exist.

We must now follow the fortunes of the three signal parties.

Major Schofield with his section in four 30-cwt. lorries moved forward to Katsai camp on the afternoon of the 17th, his intention being to give his men a short night's rest there before the operation. However, on arrival at the camp, he was told that Nowbde was starting out in the middle of the night and thereafter the camp site would be unprotected. He therefore turned to Katsai Post, a battalion post on the L. of C. constructed to take the place of Katsai camp and situated about a quarter of a mile along the road. But the accommodation of this small defended locality did not include an M. T. park; and the section had to remain outside the perimeter.

Major Schofield set out in the small hours of the next morning and started to lay his two pairs of cable, keeping well behind Nowbde so that the noise of his lorry engines should not give away the advance. The section was therefore working alone and in the dark. When he reached the road and nala crossing at Shati Khel, Major Schofield was met by the D. A. P. M. who forbade him to advance any further by the road because Nowbde had turned left into the nala bed, and so the road itself was not covered by our own troops. Major Schofield was therefore obliged to depart from his original orders and to lay his route up the nala bed after Nowbde; and so Major Collin on his arrival at Point 2652 found no cable there. This, as will be told later, caused delay in establishing line communications for Force Headquarters. A deflection from the main artery laid down in the

Operation Order may be dictated by the tactical situation ; but it is a serious embarrassment to Signals.

Major Schofield continued his two cable pairs up the nala bed and thence across country to the house at 354354. He then laid one pair back *via* Point 2652 to the road and nala crossing at Shati Khel, thus providing an alternative path for the forward portion of this route. In the event, as will be told later, it was this line that failed, a fault occurring in the rear portion of the route where the circuit was not duplicated.

Advanced Mohforce Signals with the C. R. A.'s section moved out of Ghalanai camp at 02·30 hours and covered the six miles to Point 2652 in a night march of 2½ hours. Here wireless communication was opened to Nowbde and 3rd Infantry Brigade, but of course there was no sign of the cable. However, at first light the pack cable section were sent out to the nala bed to look for it, and having found it they built a short spur to connect it to the new Force Headquarters.

Meanwhile, the advance was proceeding more rapidly than had been expected, the enemy having withdrawn without resistance. At 06·30 hours, Major Collin was informed that the Staff were moving forward to Nahakki Kandao. The pack cable section, the pack signal office and the wireless set, which had so far remained closed, were therefore immediately despatched to the Nahakki Kandao. It will be remembered that the wireless set working to Nowbde and 3rd Infantry Brigade was to revert to Captain Hall's party, which fortunately arrived at Point 2652 as Major Collin was about to leave.

The pack cable section picked up the cable route at house 354354 and laid forward to Nahakki Kandao. It had to keep off the mule track in case it should get in the way. So it laid straight up the face of the hill roughly along the route afterwards followed by the water pipe-line. The mules with their heavy loads of D8 cable just managed the climb with the aid of a good deal of encouragement from behind. Telephone communication back from Nahakki Kandao was established by 07·10 hours. The rest of the party was delayed by congestion on the track, but the wireless set was erected and working by 08·30 hours.

Meanwhile Peshbde advanced to Nahakki village. Communication forward was first by visual, but the pack cable section having

laid a route to Nahakki, telephone communication was established by 10·30 hours.

Headquarters Advanced Mohforce moved to Nahakki at 15·15 hours, and a small office was erected there for the night. Some delay was caused by the necessity of digging down for protection. The party spent an uncomfortable night.

Now to follow the story of the M. T. echelon: The tactical portion consisted of a lorry "C" set and two lorry-loads of office personnel proudly led to war by the new Ford V8 van. The party left camp at 05·45 hours just before dawn, its place in the order of march being directly behind the 18th Cavalry. As the cavalry moved by the nala bed and Signals by the road, the latter moved in a considerable gap.

After the road and nala crossing at Shati Khel, the road rapidly deteriorated and then ceased to exist, the lorries bumping along a bad track. One of the vehicles was an old Albion four-wheeler and its struggles began to cause anxiety. At several places it was necessary for all the men except the driver to get out. Having reached a point beyond which further progress was clearly impossible, the O. C. party was relieved to see the pack echelon and realise that this was Point 2652. It was now 06·45 hours and the Staff had already gone on. O. C. Signals therefore handed over to Captain Hall the wireless set which was working to Nowbde and 3rd Infantry Brigade, and hurried on.

There was no object in the M. T. echelon remaining at Point 2652, but every reason to push forward to the house 354354 where the rear echelon of Force Headquarters was to be established. But some little delay was caused while the wireless set was getting rid of urgent traffic left on its hands. At 07·10 hours the office was closed at Point 2652. The pack wireless set was despatched direct across country to house 354354. The M. T. portion had to retrace its route back and move *via* the road and nala crossing at Shati Khel and the nala bed itself. It was considered impossible to move the lorries by the track as laid down in the Force Operation Order.

House 354354 was found to be a ruined village about 150 yards from the nala bed. Here headquarters Nowbde was already installed and its wireless set erected. There was no way for M. T. from the nala bed to the village, so the alternatives were either to establish the Force signal office at the village and use the Nowbde wireless set,

or have it in the nala where the lorry set could be used. It was decided to move to the village. The motor "C" set was left closed in the nala bed and the Nowbde set was taken over for communications to Advanced Mohforce in the Nahakki Kandao. This communication was established at 08·30 hours. The decision turned out to be fortunate because, as will be seen presently, it assisted the maintenance of communications during the subsequent move into the camp.

The pack wireless set which had been sent forward across country from Point 2652 arrived at about the same time as the M. T. It was erected and opened communication to Ghalanai at 08·32 hours, and to the 3rd Infantry Brigade at 09·10 hours.

The line situation was found to be well advanced. One of the two pairs laid by "A" Corps Signals was through from Katsai to Nowbde, and the pair laid by the pack cable section was through from Nowbde to Advanced Mohforce. So that was really all that mattered. As has already been said, the second pair from Katsai was found to be disconnected. "A" Corps Signals found the fault right back beyond Shati Khel where a dozen yards of cable had been chewed up by a tractor. The line was put through at 10·00 hours. It was this line that was looped back from the ruined village *via* Point 2652 to Shati Khel. This return pair puzzled our linemen at first. The lines were transferred from the Nowbde signal office to the Force signal office which was set up about a 100 yards away, the two being connected by a line. Telegraph sets were superimposed on both pairs working to the rear.

In the meantime, the ten lorries containing the "A" Corps Signals wireless sets and the administrative details had arrived in the nala bed, together with scores of lorries belonging to other arms. All were waiting to move into the new camp, the site of which was about half a mile distant from the ruined village. The nala bed had the appearance of a busy London street during a traffic block, and the supply convoy was due to arrive in a short time. It was fortunate that the enemy was not equipped with artillery, or worse still bombing aeroplanes. These concentrations of M. T. on the Frontier where every road is a defile would present an ideal target for a civilized enemy.

The R. E. had been hard at work since early morning, and by about 13·30 hours they had completed a rough road from the nala bed into the new camp. The problem was now to move Mohforce Signals

into the camp without dislocating communications. It was here that the third wireless set proved so useful because it allowed two sets to work while the third was on the move. The first to move was of course the motor " C " set lying closed in the nala bed. It was not well placed in the queue-up for the camp. It was not even facing the right way. However it was soon turned round and then, when the new road appeared passable but before the general rush of M. T. had been released, a Signals N. C. O. was decorated with a blue and white armband and told to take the motor "C" set down the nala past the waiting traffic and to try to get into the camp before the rest. It was not possible for Captain Hall to leave the signal office to go with the lorry himself, and he watched its progress with some anxiety. However, the police were helpful. It was seen to turn into the new approach road and presently up went the masts in what was to be Wucha Jawar camp. This was one of the many occasions on which Signals had to ask for right of way on the road. They were always given it, but it was clear that often the troops wished they were somewhere else.

The motor " C " set erected in Wucha Jawar camp opened up communications to the 3rd Infantry Brigade and Ghalanai at about 14·00 hours, thus relieving the Force H. Q. pack set at house 354354. This set in turn closed down and moved into the camp. Here it reassumed its rôle of communication to the 3rd Infantry Brigade and Ghalanai, the motor " C " set taking on Advanced Mohforce in the Nahakki Kandao. Thus, for the first time, both these sets were carrying out the duties allotted to them in the original order.

It was now about 15·00 hours, and the Officer Commanding Nowbde wished to move his headquarters into the camp. Fortunately the Nowbde wireless set which had done such useful work for Force Headquarters could now be released. So much for the movement of the wireless sets.

For moving the line communications two office reliefs were available. While the first relief was maintaining communications at house 354354, the second relief was given three ringing telephones, and at about 13·00 hours they moved across country into the camp laying a line of cable as they went to extend the Nahakki line back to the new signal office. Major Schofield arrived at an opportune moment to lay two spurs to connect the main cable route in the nala bed to the camp. The three telephones were put on the ends

of these three lines in Wucha Jawar camp, that is one line forward and two lines to the rear. As soon as these three lines had been tested through, the Force H. Q. telephone exchange at house 354354 was taken out of circuit, and the forward line joined straight through from Wucha Jawar camp to Nahakki Kandao. The line to Nowbde was also temporarily tapped in to this forward line. This made a nasty omnibus circuit, but Nowbde was just about to move into camp.

By this time members of the Staff were arriving in Wucha Jawar camp. Communications were maintained for them by the three telephones while the telephone exchange and telegraph equipment were man-handled the short distance from house 354354 to the camp. The telephone exchange and telegraph sets were working by 16·00 hours.

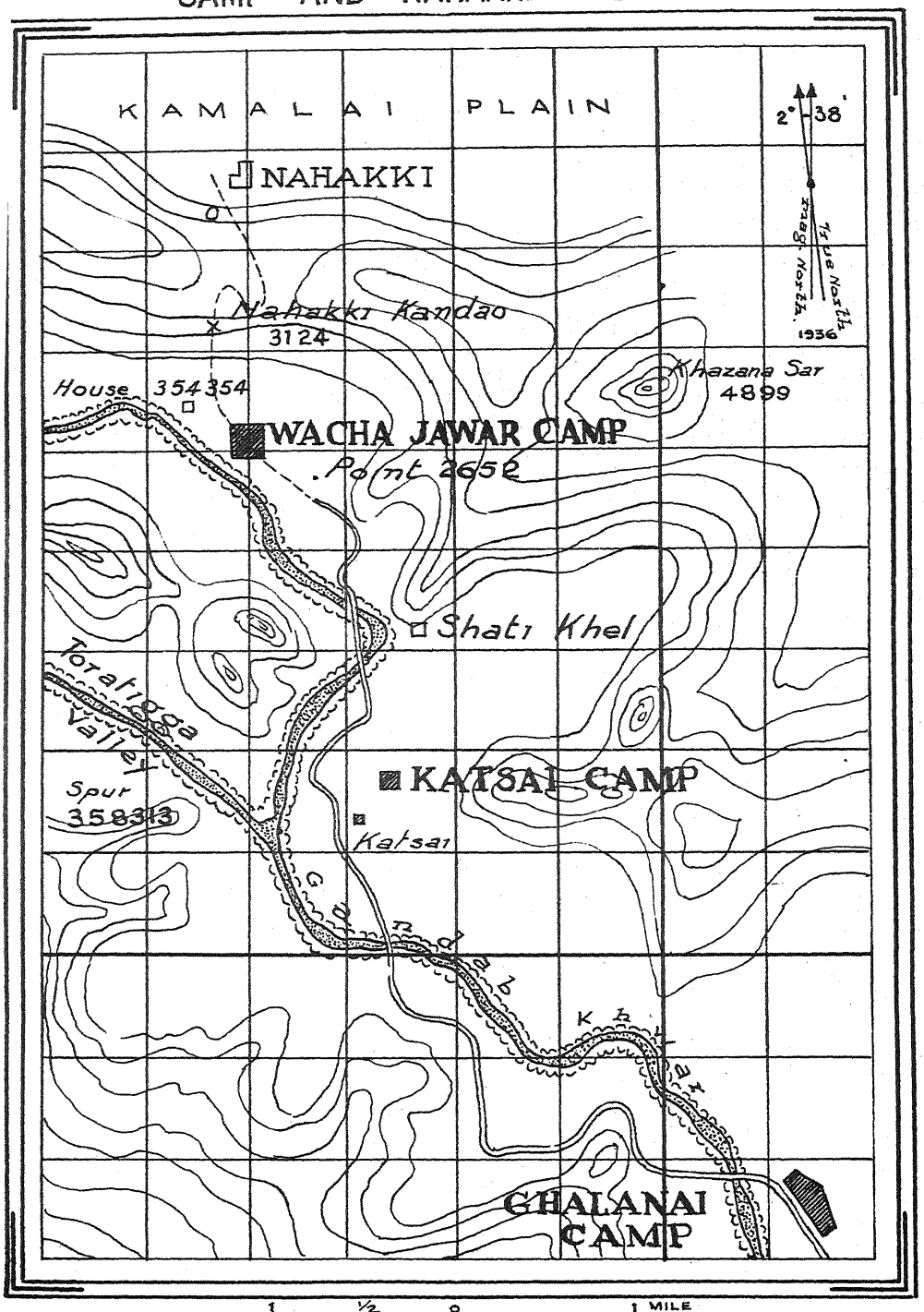
For the move from house 354354 into camp everybody carried something ; and the share of the O. C. party was the D. R's despatch from Peshawar which had recently been dumped on the temporary signal office. Captain Hall carried these packets *via* the nala bed as he wanted to make sure that all the Signals M. T. had got away. He was surprised at the weight of the packages and glad to get a lift for the few hundred yards into camp. He noticed one substantial cover bearing the name of a famous Service Journal. Signals have sometimes to appeal to the Staff to cut down the number of despatches to go by D. R.

The foregoing account in an example of the arrangements made to move a signal office without interrupting communcations. It is not possible to foresee just how this can best be done. The ground was a very important factor for Signals in this operation, as it necessitated three successive positions for Force Headquarters all well within one square mile. Had the nature of the track through Point 2652 been known before the operation, it is probable that Force Headquarters would never have gone there at all, but moved by the nala bed. The problem would then have been much easier, but it would have been far less representative of the situation that Signals must expect to meet in a war.

The rest of the day was spent in clearing the traffic and establishing the camp. The two-line telegraph circuits were working back, and all traffic was cleared both ways by 03·00 hours 19th September.

It was an interesting day's work.

SKETCH MAP OF COUNTRY BETWEEN GHALANAI CAMP AND NAHAKKI VILLAGE



SOME NOTES ON THE UNIFORM OF THE INDIAN SEPOY

By "Yufuf."

This is a subject of which it is difficult to discover accurate details. Accurate sketches and first-hand descriptions are few and far between. Though many thousands of British officers have passed through the Indian armies in the last 150 years, they have recorded little on this subject.

Four wars have each affected considerably the organization and also the uniform of the Indian Army. They are the Mutiny of the Bengal army in 1857; the Afghan war of 1878-80; the South African war of 1899-02; and, of course, the Great war. Although Indian troops were not directly engaged in the South African campaign, nevertheless the great reorganization under Lord Kitchener in 1903 was partly inspired by lessons of the Boer war.

I shall therefore divide these notes into the five periods bounded by these wars.

Period prior to 1857.—During this early period it was the custom to dress the sepoy so as to resemble closely Thomas Atkins. The reason appears to have been two-fold: firstly, it had probably not occurred to Authority that an Indian soldier need be dressed in a fashion different to a European one; secondly, it was considered by many that a British regiment was capable of defeating a number of native ones. It followed that it was not good policy to advertise the strong and the weak parts of the line, and the sepoy was accordingly made up to resemble at a distance his British confrére.

He was dressed in red cut-away coat, and later in coatee, and wore white cross-belts and knapsacks like the Europeans.

While cocked hats and round hats were in vogue by the British infantry, the sepoy wore a type of turban, which from a distance resembled the former head-gear. A sketch of a Bombay grenadier in 1801 shows him wearing a fur-crested affair on his head, while his long hair is plaited and turned up in a loop at the neck, "Grenadier fashion."

An order issued about this time reprimands certain commanding officers for letting their sepoys wear their hair "cut and turned down,"

and goes on to direct that it should be worn "long, turned up, and tied in a knot on top of the head."

During the eighteenth century and first two decades of the nineteenth, the sepoy's close-up resemblance to the European ceased at the waist, for his nether garment was a pair of white shorts, usually finished with vandyked trimmings. This garment, both comfortable and inexpensive, did not, however, contravene the principle of making native soldiers look like Europeans, for at a distance, the white shorts and long black bare shanks bore a distinct resemblance to Thomas Atkins' white pantaloons and black splatterdashers!

When the British soldier took to trousers the sepoy followed suit and, similarly, when the Europeans adapted the "shako," a corresponding head-gear had to be devised for the sepoy.

Originally these were simple affairs, made of black cloth on wicker or iron frames and had no peak.

One hundred years ago the sepoy was well dressed, judged by the standard of the day. Contemporary prints show him wearing a shako ornamented with ball-tuft and badge, and dressed in red coatee with collar and cuffs of regimental colour and laced in the British fashion. His trousers were of dark blue or white, according to the season. In addition to cross-belts he wore a white waist-belt, an article not then worn by British infantry. He was also furnished with a flat topped forage cap with band of regimental colour. The Light and Grenadier companies wore "wings," and the bandsmen, following the French fashion of the day, were often attired like hussars or lancers. Bare feet thrust into sandals or native slippers came rather as a climax!

At the time of the Mutiny the sepoy was still dressed like this, except that the forage cap was now "pill-box" shape.

After the Sikh wars each Bengal battalion was ordered to enlist one hundred Sikhs. We have never discovered what head-covering these men wore. His religion requires a Sikh to wear a pagri. Brahman, Rajput, Hindustani Mahommedan, and Sikh, stood in the ranks, shoulder to shoulder; there was no class-company in those days. Did the Sikhs wear pagris next to the shakos of their fellows, thus spoiling the parade appearance of regiment; or were they made to bundle their long hair into shakos—as Greek priests pull theirs into chimney-pot hats?

We do not know if the sepoys wore numbered pewter buttons earlier in the century, as was done in British regiments. In 1857 the normal buttons in use were brass die-struck ones, made in England, bearing "the regimental number within a broken ring, surrounded by a laurel wreath." The 66th B. N. I. (now 1st Gurkhas) had in addition, above the number the word "Goorkhas." Thus it would appear as if they were looked upon as differing from the other regiments of the line, amongst whom they were numbered. Curiously enough this old "John Company" design was later used by both the 21st Punjabis and the 108th Infantry.

The breast-plates on the cross-belts were of brass, and an eighteenth century order directed that they should have the regimental number engraved upon them—nothing else.

Ackerman's prints, published in the 'forties, show more elaborate affairs with embossed badge, similar to the type then popular in the Queen's regiments. We really have no information on this subject, for, though many of the officers' plates exist in collections and museums, we know of no single specimen of sepoy's breast-plate.

Information again as to the clothing of the Punjab Irregular Force is very scanty. Khaki drill, as we now know it, did not exist in Mutiny days. It is probable that the "Piffers" were clad in some drab cotton material or *puttoo* (grey homespun), fashioned in native style, and brightened up by the addition of gaily coloured facings, pagris, kullahs, and putties; perhaps using the afore-mentioned brass numbered buttons.

Period—Mutiny to 1880.—After the Crimean war it was the fashion of the British army to copy all things French. In finding a substitute for the sepoy's coatee and trousers, it was perhaps therefore natural for the authorities to seek inspiration from the garb of French colonial troops. The result of this was an issue to the Bengal and Madras infantry of that extraordinary garment—the "zouave jacket"! This jacket was made of red cloth, very short, and had shoulder-straps, slashed cuffs, and a five inch strip down the front of the colour of the regimental facings, piped with white. It buttoned up to the neck (there was no collar) by eight brass buttons. With it blue plus-four knickerbockers with scarlet welts were issued.

The Bombay regiments, however, were given short red jackets with five buttons and coloured collars.

Drab clothed Punjab infantry had tunics, and Gurkha Rifles dark green jackets.

Native infantry was now administered on the "Irregular System," so, except for the jackets and knickerbockers, all clothing was provided under regimental arrangements.

The Hindustani, Gurkha, and Bombay regiments usually wore circular forage caps with brass numeral in front, other regiments pagris of various colours and patterns. Some of these forage-caps were jaunty little affairs, for example those worn by the 23rd Bombay Light Infantry, who had white (later black) ones with a strip of white and green diagonally-striped muslin wound round them, and a brass french-horn badge fixed in front.

The white spat-gaiter, also copied from the French Zouaves, was a popular leg-wear, though the blue puttie was coming into favour in the north.

The pre-mutiny brass numbered buttons were probably still supplied on the jackets, and brass numerals on the shoulder-straps.

We must not pass on without mention of the cherrry-red Zouave-like "bags" affected by the Baluch regiments.

Now as regards the "Working kit." The cloth clothing was unsuitable for work in very hot weather, or for marching or fighting in any except cool weather. British troops had white cotton clothing for this purpose, which they had found it convenient to dye brown when attacking Delhi in '57.

It is certain that Indian regiments provided the sepoys with cotton clothing. This was made up in the regimental bazaar to regimental pattern, and worn for most of the duties, which were performed later in khaki drill.

This was probably originally white, but the tendency was to adapt a working kit of more drab coloured stuff, such as the Punjab Irregulars found so useful. Multani mull (or mutti) was a favourite material. It was a reddish brown hue and the dye was tolerably fast. No doubt other locally produced materials such as *dasuti* were also available, and possibly even English manufactured khaki drill was in use before 1880.

This working kit was usually made up in loose native style, and unadorned by metal buttons or badges.

White buff belts and black or white pouches were worn by red-clad infantry, and brown or black equipment by regiments wearing drab or green uniforms.

Period 1880—1903.—The Afghan war was fought by British infantry in red tunics during the cold periods, and in white drill

uniforms, dyed mud-colour during the hot seasons.

The Native infantry wore, for the most part, their "khaki" clothing with coloured regimental pagris or forage caps.

After this war khaki became the working dress of the whole army in India—British and Indian.

Native regiments had to provide their men with a khaki head-dress, either pagri or forage-cap cover, and uniform made of khaki drill, which was now available, though of poor dye.

This khaki clothing was still made up regimentally, and each battalion had its special pattern. Some regiments wore jackets and others blouses. Small details such as type of cuff, pockets, cartridge tubes, number and type of buttons, collar, etc. etc., were never the same in any two corps.

Loose knickerbockers were much favoured; some regiments, notably the 20th and 26th Punjab Infantry and the Baluchis wore most voluminous affairs.

Brass numerals could be obtained from the clothing factories for use on shoulder-straps, and universal buttons bearing the Crown and Imperial Cypher were issued in place of the numbered ones.

As regards full-dress, the chief change was in the replacement of the forage-cap in favour of the pagri, though the Gurkhas retained the cap.

In the Bengal army several regiments were issued with red tunics somewhat similar to the British pattern, while the 32nd B. I. received long red blouses. An improved pattern zouave-jacket, having a longer skirt and a high collar of regimental colour, was also provided for the Bengal army.

Regimental badges now began to make their appearance. Quite a number of corps adapted metal brooch-badges, which were worn either pinned in front of the pagri or else fixed to a coloured pagri end at the side. This latter fashion was very popular in the Madras army.

Collar badges were also worn by several of the Madras regiments; and shoulder badges bearing, in addition to the number, the title or initials of the regiment, were used by most regiments of the Coast armies, in preference to the official brass numerals.

Some corps also had regimental buttons manufactured for use in the sepoys' khaki jackets or blouses.

Both khaki shorts and "slouch" hats are reputed to have originated during the Tirah campaign of '97. The Gurkhas, who wore tight leg-wear like Thomas Atkins, found that trousers split at

the knee when climbing up to piquet crags. They therefore cut them off—hence shorts! The khaki covered Kilmarnock cap also was found poor protection from a summer sun on the plains. Result, a canopy round the cap, giving shade for the eye and protection for the neck; next step a puttoo hat, and later a felt "wide-awake!"

After the Afghan war the white buff equipment was replaced by a serviceable brown leather one. The belt-lockets on these were plain brass, though some regiments, like the 21st Madras, seem to have worn ones with their number in the centre, probably salved from the discarded white belts.

There was at this period no question of the sepoy looking like the British soldier. He differed in practically every single article of dress and equipment.

Period 1903—1914.—Following the formation of a single Indian army from the components of the old Presidency armies and other regular forces, came a considerable change in the full-dress of the infantry. A long loose blouse was introduced, made of scarlet, green, or drab serge, with shoulder-straps and piping on the cuffs, collar, and breast-opening, of the colour of the regimental facings. The idea of this may have come from the cavalry, or from a similar garment worn by the 32nd (Sikh) Pioneers, or it may have been suggested on account of the popularity of the khaki drill blouse.

The Frontier Force regiments, with the exception of Coke's Rifles and the Guides, however, wore tunics cut more to British pattern, as did the Gurkha Rifles.

The Carnatic regiments continued to wear zouave jackets for many years; in fact it is questionable if some of them ever received red blouses.

The clothing factories still only issued full-dress blouses or tunics and knickerbockers. If regiments cared to add further embellishments —there was no objection. A list of those articles, which regiments did provide under their own arrangements, is as follows—

Coloured pagri	Regimental buttons
Do. kullah	Pagri badge
Do. putties	Collar badges
or spats	Title badges
Do. kamarband	

Probably no regiment wore all these articles, though the best dressed ones managed to provide most of them for ceremonial parades. At the same time there were many corps, which possessed none of

them and made khaki pagris and khaki putties do duty with red blouses and blue knickerbockers.

A full-dress parade by a large Indian garrison before the Great War, displayed a far greater variety of colour and differences in kit than a similar function at Aldershot could show.

Though "ammunition" boots were not officially issued, their provision was now insisted upon. Formerly the foot-wear in most regiments was the sandal or slipper. A great review, however, in honour of the Viceroy brought matters to a head. It had rained and the parade ground had been churned by the cavalry into a sticky mess. A slipper-shod Hindustani battalion in marching past managed to leave most of their shoes in the mud. A jemadar, carrying the regimental colours, was so obsessed by the loss of his slippers that he laid his honourable charge in the slime, what time he ran bare-footed back to retrieve them!

All the same, for field work, the *chapli* remained the favoured foot-wear for Pathans—and their British officers.

For field work also shorts, originally adapted by the Gurkhas, were increasing in popularity, and by 1914 were worn by a number of Indian regiments.

Most of the Frontier Force regiments could be distinguished by the colour of their putties—blue, black, or grey. The 24th and 46th Punjabis also wore blue putties, even in marching order.

As regards the khaki pagri; nearly every regiment wore an end-piece (frequently a dummy one, tucked in) of one or more colours, arranged to fall over the right or left side, or to show on top. These usually formed an easy distinguishing-mark between regiments. Additional touches of *panache* were affected by coloured *kullahs* and *pags*.

Two other head-dresses perhaps deserve mention. Black Glengarry caps had formerly been worn by the buglers of Madras regiments; the Carnatic infantry and pioneers kept up this tradition. The experimentally raised and soon disbanded regiments of Coorg and Moplah Rifles wore fezes, circled by short whisps of muslin, and the 18th (Mussulman) Infantry, shortly before the Great War appeared in khaki covered fezes, such as are worn in the Egyptian army.

Most of the great-coats supplied were made of a shoddy khaki cloth without embellishments. Regiments had their own patterns,

some were knee-length and others of "British warm" variety. The half-sleeve *poshteen* had also its devotees—usually on the Frontier.

The khaki drill was now manufactured in a really fast dye. About 1910 a new greenish shade in this material was marketed, and approved by a number of regiments; so now, added to the many various little differences in pattern existing between regiments, were two distinctly different shades of colour.

By 1914 the sepoys of most regiments were wearing buttons bearing a regimental device and title-badges in their khaki. Collar-badges however were not popular, and were only favoured by the pioneer regiments from the former Coast armies.

Period 1915 *onwards.*—Naturally neither the Silladar nor the Irregular systems could stand a war of five years' duration, waged in as many different countries. Government was forced to stock and issue all service clothing to troops.

A universal infantry blouse with knickerbockers, shorts, putties and pagri was approved.

Regiments, however, still managed to procure their distinctive shoulder-title badges (often made up by the *mistri* from melted-down cartridge cases).

In 1923, resultant to the renumbering of regiments, official pattern shoulder-badges were at last manufactured and issued. A novelty was introduced with these, that of wearing under the regimental title-badge a patch of coloured cloth to denote the particular battalion.

The same year the blouse, which had been such a popular garment with Indian troops for half a century, was superseded by a frock, similar to that in use by British troops, but slightly longer.

Now that shorts and stocking-tops are also the approved leg-wear for Indian infantry, we seem to have completed the circle; and to find that, except in the matter of head-covering, Thomas Atkins and Bahadur Singh are once more dressed alike—as was the fashion a century past.

IMPERIAL CABLE AND WIRELESS COMMUNICATIONS

By Captain D. A. L. Wade, m.c., Royal Signals

The purpose of this article is to give a brief survey of the expansion of our Imperial cable and wireless communications, and to emphasise their importance in relation to Imperial defence.

Our sea communications have been aptly described as the arteries along which the life-stream of the Empire flows. To carry the simile further, one might describe our telegraphic communications as the nervous system without which the Imperial body would become paralyzed.

Practically every transaction in overseas trade entails the transmission of a cable or radio-gram, whilst every movement by sea or air demands a similar message. And yet, apart from broadcasting, the public and the press display little interest in cable and wireless communication. The reason is not hard to find. Compared with railways, shipping or aircraft the subject is dull and prosaic; whilst by their very nature the means employed are unobtrusive. Few people ever see a submarine cable; whilst the outward appearance of a wireless station with its gaunt skeleton of masts and wires provides little to remind us of the invisible thread which links it to a distant land.

The submarine cable and wireless telegraphy are comparatively recent inventions. The history of submarine telegraphy dates from 1851. In that year the first cable was laid across the Straits of Dover. The project was greeted with much criticism and even ridicule. Many people thought it operated like a bell wire, and that the messages were sent by tugging at the end of the wire. The original cable is still in operation to-day. Fifteen years later (1866) the Atlantic was successfully bridged after many attempts had failed.

From that date until 1914 was a period of intense cable-laying activity. England led the way, followed by U. S. A., France and Germany. After the war Italy also entered the field. At the present time practically the entire cable systems of the world are owned by these five nations. England's share is by far the largest—about 60 per cent.—representing over 200,000 miles of cable.

In 1901 Marconi had succeeded in bridging the Atlantic by wireless, but up till 1914 this method of communication was mainly confined to ship-to-shore services. Germany alone appears to have regarded long range point-to-point wireless services as offering advantages, mainly strategical, as compared with cables. About 1910 she started to build up a system of high-power stations designed to link the Fatherland with her colonies.

Since the war the position has entirely changed. The rapid growth of wireless telegraphy and radio-telephony have diverted a considerable volume of traffic from the cables, and in consequence comparatively few new routes have been laid. So far as the British Empire is concerned three main factors have contributed towards the loss of revenue by the cable companies:

(1) The development of beam wireless telegraph services.

(2) The introduction of overseas radio-telephone services, and

(3) more recently, the speeding up of the postal services by air mail.

The scales would have been more heavily loaded against the cable companies if their engineers had not discovered the means of increasing the working capacity of their cables. The introduction of what is technically known as the "loaded" cable in 1922 resulted in a four-or five-fold increase in the speed of working at an additional capital cost of 12—25 per cent. compared with previous types of cable. For example, the original Pacific cable laid in 1902 had a capacity of 50 words per minute, whereas the second Pacific cable laid in 1926 had a capacity of 250 words per minute.

The net result of these and other developments in cable and wireless technique is that telegraphically and telephonically the world has shrunk to diminutive proportions during the last 20 years. In 1914 a cablegram from London to Sydney took several hours to reach its destination owing to the necessity for reception and retransmission at several intermediate points *en route*. To-day the same message can be sent instantaneously without human intervention. In 1914 telephone conversations were limited to distances of a few hundred miles, *e.g.*, London to Edinburgh, London to Paris. To-day a telephone subscriber in England can put a call through to any number almost anywhere in Europe, America, Australasia, and many parts of Africa and Asia. The English telephone system is, in fact, at the present time connected to over 90 per cent. of the world's

telephone subscribers, and the percentage is increasing almost daily. Similar facilities are available in the more important cities and towns throughout the Dominions and India.

The economic and social effects of these improvements are self-evident; their strategic importance is less obvious. It is with this latter aspect that we propose now to deal.

Prior to the war, with one exception, the British Government had taken no part in the building up of Imperial communications. The exception was the Pacific cable, laid in 1902 between Canada and Australia, which was jointly owned by the governments of Great Britain, Canada, Australia and New Zealand. Private enterprise had built up a system of cables adequate for commercial needs. The result was, that although the Dominions and Colonies were linked with London and with one another, the principal cable routes were designed to serve both British and foreign trade; the majority of them either passed through foreign territory, or were landed at foreign shores *en route*. Appendix "A" shows the principal British and German cable and wireless routes in 1914. It will be seen that all the cables between Great Britain and Canada, were either owned by or leased to American companies. The leases were taken out in 1911 and were for a period of 99 years. There was only one cable to India and the Far East which did not touch foreign (Spanish, Dutch or Portuguese) territory, whilst to South Africa there was none.

The Pacific cable alone could claim to be all-British, and then only if one overlooked the fact that its extensions to London were *via* the American operated Trans-Atlantic cables. The only W/T route of importance was that between Great Britain and Canada.

Nowadays no one could regard such a position as satisfactory from the point of view of Imperial defence, but it must be remembered that until 1914 overseas telegraphic communications had played little part in war. In South Africa and in the Russo-Japanese war they had hardly entered into the picture. In the Spanish-American war of 1898 the Americans had not attempted to cut off cable communication between Spain and her West Indies possessions, finding it more advantageous to impose a strict censorship than to cut off the islands completely.

As has already been stated, Germany had before the war decided to build up a system of W/T stations in her colonies. This decision was probably based on three factors:

(1) Her overseas possessions were for the most part in Africa and the Western Pacific. To reach them cables from Germany would have had to pass down the west-coast of France; they would thus be liable in war to interruption by the French.

(2) Her colonies had only recently been acquired. Commercial interests had not yet had time to link them up by cable. Long distance wireless had just been proved economical and reliable, and cable shares had depreciated to a large, and as events proved, quite unjustifiable extent. It seemed, therefore, to the German government that the more modern method offered distinct advantages.

(3) In the event of war with England the German Navy would be incapable of gaining command of the seas. Germany must, therefore, in this event be prepared sooner or later to lose contact with her colonies until the war had been brought to a successful conclusion. It would be comparatively easy for the British Navy to destroy cables at their landing points, but W/T stations could be sited inland out of reach of the Navy.

All the German African colonies were in contact by wireless with Nauen near Berlin. The Pacific colonies were all linked up by wireless with Yap, from Yap a German cable ran to Quam, whence the connection lay by American cables and land lines across the U. S. A. to New York. From there two German cables ran *via* the Azores to Emden. In addition there was a route from Emden to Monrovia (Liberia), whence branches led to South America and West Africa, and another from Emden to Vigo.

On August 5th, 1914, Post Office engineers under naval escort located and cut the five Emden cables in the Channel. The ends of one of the North American cables were diverted to Penzance and Halifax, respectively, and used by ourselves. Another one was subsequently picked up and re-laid between England and Archangel. Thus within 24 hours of the outbreak of war all direct cable communication between Germany and America and *via* America and the German Pacific colonies, was cut off. The effect of this was serious to Germany in two respects. Firstly, it hindered her arrangements for the purchase of supplies from neutral sources. Secondly, Germany was forced to communicate with America *via*

neutral countries (*i.e.*, Scandinavia, Holland and Spain). Since all the Trans-Atlantic cables connecting with these countries centred on England, a copy of every message thus sent came into our possession.

Having thus dealt with the German cable routes, the Government turned its attention to their wireless services. To quote from the Official Naval History :*

> "In the first days of the war a special Sub-Committee of the Committee of Imperial Defence was appointed to deal with overseas attack..... Its instructions were to submit to the Cabinet proposals for combined expeditions which would produce a definite effect on the course of the war..... The Committee recognised the principle that all expeditions for the conquest of distant territory were faulty in conception unless and until we had established a working command of the sea in all quarters ..... The objectives..... were not far to seek. They must all be naval, and of these the most important were the enemy's foreign bases and centres of intelligence ..... The single object was to deprive the enemy of his distant coaling and telegraphic stations."

Tsingtau, Luderitz Bay (with the adjacent W/T station at Windhoek) and Dar-es-Salaam were all too formidable to start with. Others less difficult, all mainly centres of communication, were Kamina, Duala, Rabaul, Yap, Nauru, Anguar and Apia.

At this time Von Spee's squadron was at large in the Pacific and the *Emden* was operating in the Indian Ocean.

On August 21st a detachment of W. A. F. F. landed near Kamina, and by the night of August 24/25th had advanced 100 miles inland to where the wireless station was situated. Seeing the position was hopeless the German commander blew up the station and surrendered. On September 26th a combined British and French force under General Dobell landed at Duala and captured the town and the wireless station.

In the meantime, a small naval and military force despatched from New Zealand had captured Apia on August 30th, whilst between September 9th and September 21st, a similar force from Australia had captured or destroyed the wireless stations at Rabaul, Nauru and Angaur.† The station at Yap had already been wrecked by gunfire from H. M. S. *Minotaur* on August 12th.

**Naval Operations*, Vol. I p. 129 *et seq.*

†A full account of these operations is given in the *Official History of Australia in the War of* 1914-18.

On November 7th, Japan having joined the Allies, a combined British and Japanese expedition captured Tsingtau, whilst as early as August 8th H. M. S. *Astraea* had succeeded in destroying the wireless station at Dar-es-Salaam by bombardment. So by the end of the year there remained only Windhoek, and this was eventually captured by South African forces on 5th April 1915.

Deprived of all shore communications Von Spee's position in the Pacific became untenable. In the picturesque language of Mr. Winston Churchill.* "He was a cut flower in a vase; fair to see, yet bound to die, and to die very soon, if the water was not continually renewed." This "water" was coal, and coaling could only be effected by colliers, directed to a given rendezvous by wireless. The wireless was now in British hands. He was, therefore, forced to take refuge in South American waters, where his squadron was finally destroyed at the Falkland Islands on December 8th, 1914.

The destruction of Von Spee not only relieved all anxiety as to the safety of our trade routes in Eastern waters, but also frustrated any further attempts by the enemy to cut off our communications with Australia and New Zealand. There had been two such attempts.

On November 9th, 1914, the *Emden* appeared off the Cocos Islands and landed a party to destroy the cable and wireless station. Before the boats touched the shore the station superintendent had sent out an S. O. S. As was the usual practice at isolated cable stations, spare instruments were left buried in the vicinity. In this case they were buried round the station tennis court. Seeing that the Germans were about to blow up the wireless mast so that it would fall across the court, the superintendent appealed to the officer-in-charge as a sportsman not to ruin their prospects of recreation during their enforced leisure by damaging the court. The German willingly assented and blew up the mast clear of the court, with the result that within a few hours of the *Emden's* departure the cable staff had dug up the spare instruments, temporarily repaired the cables and reopened communication.

Thanks to the resourcefulness of the superintendent, H. M. S. *Sydney*—at that time 55 miles North of the island—had been warned, and by nightfall the *Emden's* career was ended.

At Fanning Island the Germans were more successful. On September 7th, 1914, a landing party from the *Nurnberg* cut the

**World Crisis*, 1911-14. Vol. I, p. 295.

cables and destroyed all the instruments including the spares. It was not until three weeks later that communication was completely restored.*

These two incidents serve to emphasise the serious position which would have arisen had the Germans managed to carry out their task with more thoroughness. With the Pacific Cable and the Cocos Island's cables cut all communication between England and India, Australia, New Zealand and the Far East would have depended on the routes running through the Red Sea. With the capture of Perim or Aden the Eastern half of the Empire would have been virtually isolated. The Turks actually attempted the capture of both places in 1915, so the danger was not entirely problematical.

No account of the part played by cables and wireless during the war is complete without some reference to ciphers.

It has long been the practice of the Foreign Office to employ ciphers for confidential documents. They were in fact used before telegraphy was invented. But it is probably true to say that until the last war they were not treated with quite the same attention and respect as they are to-day. According to a recently published history of the Foreign Office, cases often occurred where ciphers were compromised by the premature publication of telegrams in Blue Books, although they were in paraphrase and not in full; and the loss of a cipher book was not entirely an uncommon occurrence. Referring to the period just before the war, the author says:

> "I once had the pleasure of circulating a notice which ran something like this—
>
> Cipher G. No. 86 has been received at Mexico.
>
> Cipher E. No. 102 has been received at Naples.
>
> Cipher E. No. 23 has been devoured by crocodiles."

He adds "the crocodiles (Abyssinian variety) were considered a safe receptacle."

The use of cipher nowadays is of course common to all government departments.

But the security of our ciphers has, in recent years, received considerable attention, mainly due to the serious mistakes made by the Germans during the war.

The classic example is provided by what is usually known as the Zimmerman correspondence. As stated above, the Germans

*For an account of this incident, see the *Empire at War* (Lucas) Vol. III, p. 407.

were forced to rely on neutral sources for their cable communication with America throughout the war, and all the cables passed through England. Alternatively they were able, from 1915 onwards, to communicate direct by wireless with New York. The interception of traffic by this method likewise presented no difficulties to us.

In 1917, just before the U. S. A. entered the war, the German Foreign Minister, Zimmerman, telegraphed through Washington to his ambassador in Mexico City instructing him to approach the Mexican government inviting them to enter the war on the side of the Central Powers if, and when, the U. S. A. came in on the side of the allies. As an inducement they were to be allowed to annex the States of Arizona, Texas and New Mexico, after the war. To make quite certain that it was safely received the telegram was sent by four or five alternative routes. Within a few hours of its despatch, this and subsequent telegrams giving further instructions were deciphered in London and handed over to the American Ambassador for transmission to President Wilson.*

According to Walter Page—the American Ambassador at that time—it is doubtful whether these disclosures or the renewal of the unrestricted submarine campaign did more to convert President Wilson from Peace-maker to War-maker. The point of immediate interest, however, is that after the telegrams had been made public, the Germans continued to use the same cipher. It did not apparently occur to them that their cipher had been broken, and it is said that they attributed the leakage to a member of their embassy staff at Washington.

These and other incidents of the Great War undoubtedly had a marked effect on our post-war policy as regards cables and wireless.

Immediately after the war we set about expanding and duplicating our cable routes. In 1920 the Government, through the Post Office, acquired a direct cable from Penzance to Harbour Grace. Within a few years the Imperial routes to the East were strengthened by the laying of a second direct cable from Penzance to Gibraltar, and an alternative route from Aden *via* the Seychelles to Colombo. In 1926 the Pacific cable was duplicated. Appendix " B " shows the present Imperial cable and wireless routes. It should be noted that there are now at least three alternative routes to each of the Dominions and India.

*Vide *My Three Years in America*, by Count Bernstorff, p. 324,

So far back as 1911 the Imperial Conference had recorded a decision that a chain of Imperial Wireless stations connecting England with the Dominions should be erected. By 1913 a scheme for erecting eight high-power stations had been prepared and contracts placed. However, the war intervened and the whole project was abandoned in favour of a less ambitious scheme comprising eighteen smaller stations to be used mainly for ship-to-shore work. These were built during the war and proved extremely useful to the Navy and the Merchant Service, but they did not fulfil Imperial requirements.

In 1919 the Government appointed an Imperial Wireless Committee to consider the whole question of wireless communications within the Empire. The Committee recommended that the various parts of the Empire should be connected by a system of long-wave relay stations at intervals of 2,000—3,000 miles. This scheme was not acceptable to the Dominions, who decided to erect high-power stations capable of direct communication with England. Much controversy ensued. Numerous Committees and Commissions were appointed. Each one cancelled the recommendations of its predecessor. The only concrete result achieved during this period was the completion of the high-power long-wave station at Rugby.

This station is the most powerful telegraph station in the world. Its chief value is its ability to communicate with British ships at any time and in any part of the world.

The situation was finally brought to a head in 1926, when the Marconi Company demonstrated the possibility of long-distance communication by the short-wave beam system. The Marconi Company immediately built stations in England to communicate with corresponding stations in the Dominions and India. They were leased by the company to the Post Office.

The advantages of the beam system were, and still are :

(1) Low capital cost compared with cables or long-wave wireless.

(2) Comparative immunity from atmospherics.

Their only disadvantage was their liability to interruption for short-periods at certain hours of the day and certain times of the year. This disadvantage has now been largely overcome. Interruption is most likely to occur when the path between the stations is half in daylight and half in darkness.

The Australian Service is most affected. To minimise this effect, transmission from England to Australia is at some periods of the day directed eastwards round the world ; at other periods westwards ; and, at times, both ways simultaneously.

It is sometimes stated that the beam is immune from interception. This is not the case. Within the path traversed by the beam signals can be intercepted. Moreover, the beam subtends an angle of 11 degrees, so that by the time it has travelled a few thousand miles, its width is very considerable.

Owing to the comparatively small cost of operating the beam system, serious competition was soon created with the cables.

This state of affairs could not be allowed to continue, for if it had, one of two things would have happened. Either the cable companies would have been forced to close down their less remunerative routes, or else they would have been tempted to dispose of their assets to foreigners ; and there was at this time every indication that the U. S. A. were only too anxious to acquire our cables. In either case the strategic security of the Empire would have been seriously affected.

In 1928, therefore, the Government appointed an Imperial Cable and Wireless Conference to review the whole situation as regards Imperial inter-communication and "to make recommendations with a view to a common policy being adopted by the various governments concerned."

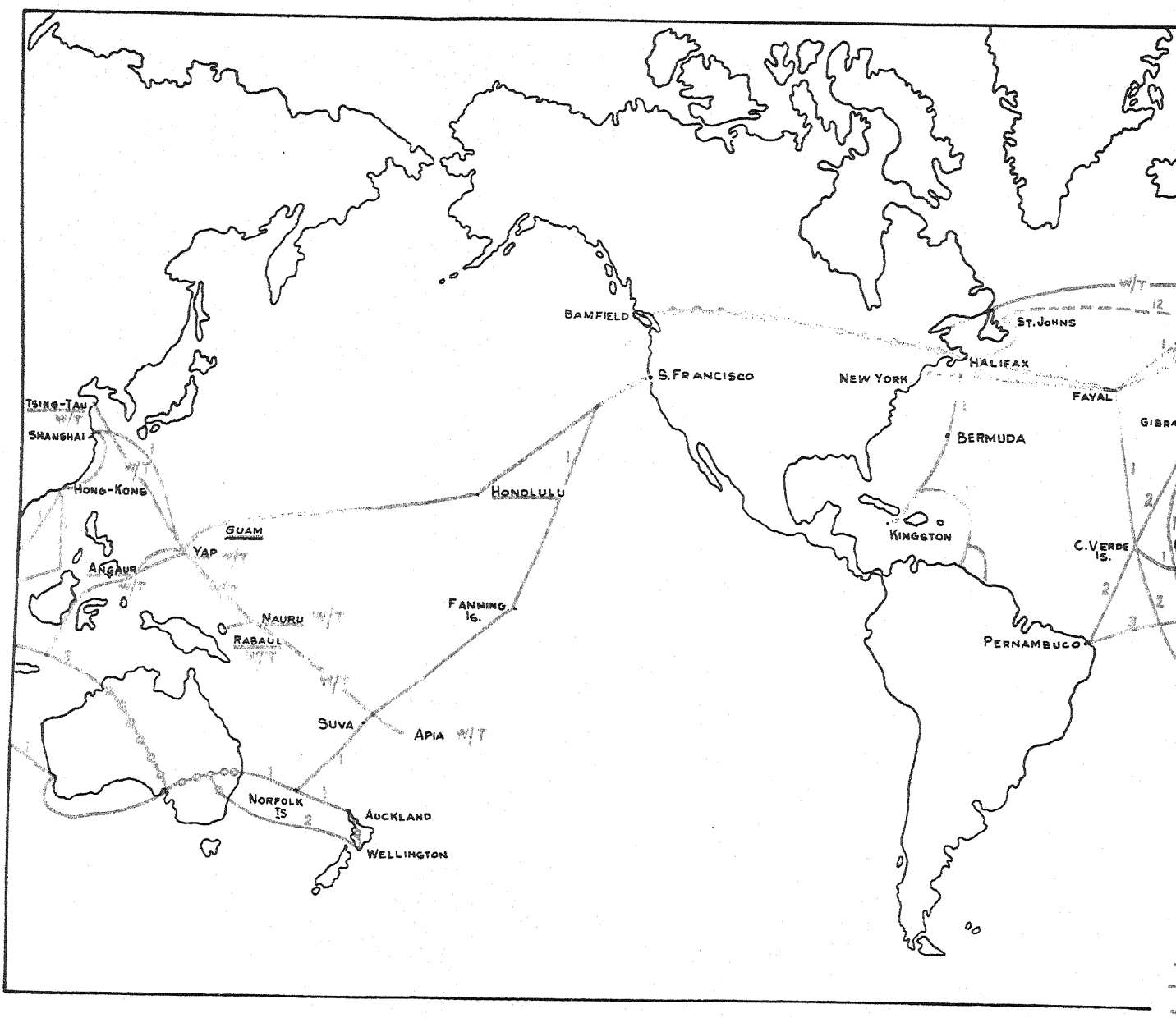
The Conference included representatives for each of the Dominions, India and the Colonies.

Acting on the recommendations of this Conference, Parliament transferred the control of all the principal external telegraph services (cable and wireless)—whether private or government-owned—to a new company called Imperial and International Communications, Ltd. The overseas telephone services and the continental telegraph services remained under the G. P. O. To safeguard strategical and commercial interests the Communications Company is subject to certain restrictions.—

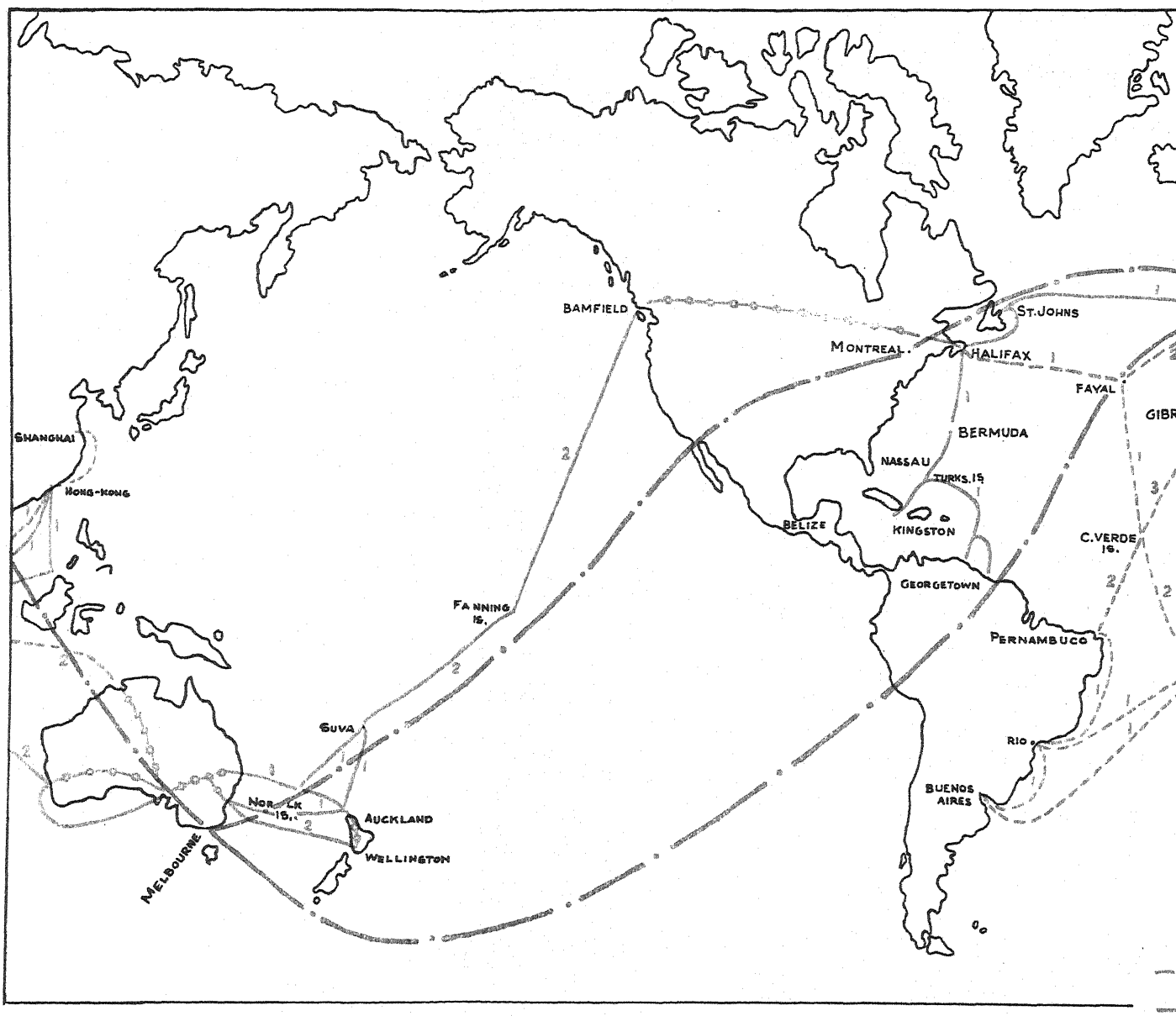
(1) Two of the directors are appointed by the Government.

(2) Profits are restricted. Annual revenue above a fixed sum must be applied as to 50 per cent. to the reduction of rates, or to such other purpose as the Imperial Advisory Committee may approve.

BRITISH AND GERMAN CABLES & WIRELES



PRINCIPAL IMPERIAL CABLE AND W/T. ROUT



(3) Alterations in rates and routes can only be carried out subject to the approval of the Advisory Committee.

(4) In time of war or other national emergency the government may assume control of the cable and wireless systems.

The Imperial Communications Advisory Committee is a permanent committee representing the various government departments concerned, *e.g.*, Board of Trade, Colonial Office, etc., and the Dominion governments. It meets periodically in London. It is primarily concerned with safeguarding commercial interests as regards cables and wireless.

The Communications Company is, in short, a public utility company, and although the operating companies which it embodies still retain their original titles, the parts are subordinate to the whole and the whole is effectively applied in accordance with Imperial needs. In this manner the Empire has acquired a system of communications economically adequate in peace and strategically secure in war.

MINOR TACTICS TRAINING

By Q. T.

Some years ago a small book appeared entitled "The Young Officer's Guide to Knowledge." It was a humorous little book, but it contained also some very useful stuff. One particular phrase recurs to the mind. It went—"the darker the night, the more inclement the weather, the better the exercise." One can picture some portly old gentleman enunciating this dictum in the Mess for the benefit of the newly joined, helping himself as he did so to a second glass of madeira, and inwardly dismissing as ridiculous the thought that he, personally, should ever dream of putting such a fool idea into practice. But, in actual fact, is it such a fool idea? Is there not more than just a modicum of truth in it? Are we, or are we not, rather inclined to carry out our tactical training in the easiest, and therefore the least realistic way? It is not suggested that we should set troops groping about the countryside on dark and rainy nights as our Major friend above would have them do, but it *is* submitted for consideration whether we could not with advantage practise more constantly the difficult things, in the hope that by doing so these difficulties would automatically become decreased and so more easily surmounted.

It is proposed to discuss here three particular agents which tend to cause difficulty and disorganization when an active enemy is actually present. These three agents are Casualties, Compendium Strengths and Ammunition Supply. It is suggested that sufficient consideration during our periods of training is not always paid to the influences they exert.

Starting with Casualties

The disorganising effect of casualties upon tactics is obvious and needs little stressing. Quite a few casualties can transform a perfectly simple minor tactical scheme into one of very considerable difficulty. In hill warfare especially is this the case when one wounded man requires the services of three others to get him off the hill. A piquet, for instance, withdrawing from its position and suffering, say three casualties, may easily necessitate the employment of a complete company, or more, to put it back on its position and enable the casualties to be got away.

Casualties, in fact, dominate all tactics. It is the inflicting or suffering of casualties, or the possibility of inflicting or suffering casualties, that differentiates war conditions from those of peace. If it were not for the possibilities of inflicting and receiving casualties in war, our tactical training would be on a par with our boyhood games of Red Indians played against Tommy Jones of the house next door amongst the gorse bushes, and there would be no justification for it whatever. Nevertheless, it is playing at Red Indians that we largely do. Very rarely indeed do we pay much consideration to this particular aspect of tactics, in spite of its dominating character. While making every effort to avoid receiving casualties, ought we not constantly to practise *in the majority of our schemes* the correct procedure on receiving casualties, on the assumption that preparedness for the worser evils renders lesser evils still less evil ?

To do this at present is difficult. It calls for much more umpiring and more careful arrangement of schemes. It is suggested, however, that the practising of casualties could be made easier and more realistic.

The existing system of employing red and blue screens does not produce the results required. An attacking unit told to put up red screens is thereby rooted to the ground, and no chance of trying individually to work forward is allowed. Initiative, and the will to get closer are petrified and the scheme becomes intensely boring to the troops who have thus been red-flagged.*

It is submitted that the creation of actual casualties would be much more efficacious. The following is a suggested method of doing this :

Each umpire carries a number of coloured discs strung on a small stick. These he issues indiscriminately to men whom he wishes to make casualties. He can do this quite easily and quickly from his horse. The discs, which can be made of card-board, are coloured red, blue and white. Of the red discs there would be not more than, say, 15 per cent. and they would denote that the recipient is dead. Blue discs, perhaps 35 per cent. of the whole, denote that the recipient is a stretcher case. The white discs, comprising the remaining 50 per cent. would be for walking wounded cases.

The recipient of a disc would be required to act in accordance with its significance. Red disc men would remain where they were

**Editor's Note.*—We cannot altogether agree with this interpretation of Training Regulations. Sec. 71, para. 2.

and take no further action. Blue disc men would provide practice for stretcher-bearers and would be dealt with as in actual practice. White disc men would proceed to R. A. Ps. on their own. Some very useful instruction could be imparted to these latter regarding when and how walking cases can go back to R. A. Ps. and the idea would also be instilled that a slightly wounded man can effectively fight on for a long time if it should be necessary.

Much other useful instruction could also be imparted, such as collection of ammunition, reorganisation of units, etc. No restrictions would need to be imposed by umpires regarding halting or advancing. Junior Commanders would require to keep thinking and working the whole time. Sections would still try to infiltrate forward, and Platoon Commanders would try to gain their objectives with their depleted forces by some means or other. If the umpire did not agree with a Platoon Commander's methods he could make this clear by dealing him out some more discs. Junior leaders, and senior leaders too, would be faced with situations approximating more to those of real war, and constant practice in dealing with such situations would increase their initiative, self-confidence and general cunning. It would also tend to make tactical exercises a more interesting pastime.

As regards the casualties themselves they could be collected, if desired, and sent forward as fresh reinforcements. If it was desired for purposes of instruction to join up the casualties with their units again, this could be easily effected by, for instance, blowing the hospital call followed by the " close." In any case, unless ordered specially not to for some specific reason, casualties would rejoin their units at the end of parade on the " no parade " sounding.

It is possible that abuses of the discs might occur. Old soldiers, said never to die, might obtain possession of nice red discs and gently fade away till the no parade sounded in a peaceful " death."

Blue and white disc men would give up their discs on arrival at R. A. Ps., and some arrangement could doubtless be made regarding the collection of the red ones.

The above rather visualizes plains warfare. In hill warfare it could be applied with equal effect. For instance, a blue disc could be secretly pressed into the hand of some intelligent individual about to proceed to a piquet with instructions to give it effect some time during his piquet's withdrawal. Other piquets would not know

which piquets, if any, were going to have casualties. The interesting problems would then arise as to (*1*) how the covering troops are to know that a casualty has occurred, (*2*) how other piquets, one or two of whom may also be on the move, are to be informed and those on the move stopped and got back again to their newly vacated positions, and (*3*) how, when the casualties have been got off, the whole withdrawal scheme is best put in motion again. So far no one has produced a really good solution to these problems. Constant practice might provide the answers.

Compendium Strengths

These have come to stay, and are the official recognition of three facts :

(1) That the strengths of units of the Indian Army during the leave and furlough season inevitably fall very considerably short of their authorised Field Service establishments, and that, therefore, they cannot during this season take the field at anything approaching those establishments.

(2) That these reduced strengths of units are sufficient, as a rule, to deal with the type of Frontier warfare that is nowadays normally likely to be encountered.

(3) That, of late years anyhow, it is during the furlough season that units are most commonly being called upon for service on the Frontier.

At first sight it would appear that the only effect upon the minor tactics of the troops in question is a reduction in size of existing sub-units and that the methods of their employment remain unchanged.

It is contended that this frequently is not the case.

How does the normal compendium strength work out in an Indian Army unit ?

The establishment is approximately as follows, though a few minor variations may occur amongst various units regarding distribution of certain individual men—

5 British officers
11 Indian officers
89 N. C. Os.
400 Riflemen

Total 500 Indian Ranks

These are distributed as follows—

	B. O.	*I. O.*	*N. C. O.*	*Rfn.*
H.Q. Wing ..	4	3	10	66
Support Coy. ..	1	2	13	82
Rifle Coys. ..	..	2	22	90

The actual appointment of the fifth B. O. is a matter for unit preference. It is submitted that four B. Os. should be allotted as follows—C. O., Adjutant Quarter-master, and Support Company Commander. How the fifth B. O. is employed depends upon whether the unit prefers to have one B. O. and two I. O. Rifle Company Commanders, or three I. O. Rifle Company Commanders. The latter is frequently more convenient for the issue of orders, etc.

It is proposed to consider the composition of the Rifle Company in considerable detail. There are 22 N. C. Os. and 90 riflemen. From this total of 112 men, several are employed outside their platoons in the shape of Coy. Hav. Major, Coy. Runners, Coy. Q. M. Havr. and assistant, B. Os' and I. Os' orderlies (usually very essential as officer's private servants frequently cannot accompany the unit), police, men for water duties and stretcher-bearers. The Company is almost certain to be commanded by an I. O. and the other I. O. will be Company 2nd in Command. Thus each platoon is commanded by an N. C. O. It may be possible to save on some of the above extra-duty men (more probably, though, the number will be increased), but the Platoon Commander will be very lucky indeed if the full strength of his platoon comprises more than 6 N. C. Os. and 18 riflemen. These will include the Platoon Commander himself, his runner, and the platoon havildar.

The full strength of sections in the platoon will, therefore, be 1—4 with perhaps 1—5 in the L. A. section. On the face of it this appears to be adequate, but in actual practice the four riflemen per section inevitably dwindle to three or even two as a result of demands for guards, line sentries, etc., or on account of injuries or sickness.

The Platoon Commander is left, therefore, with sections of 1—3 or 1—2, and sections of this size are too small for use as such in Frontier warfare. One might go further and say that sections as small as this are potential sources of great danger. To make his platoon function with any degree of safe effectiveness the Platoon Commander has to reduce his sections to three, *i.e.*, two rifle and one L. A., and at once his tactical methods have to be adapted to

correspond. His customary reserve is no longer there under his hand. All sorts of little awkwardnesses arise at times when he does not expect them. Unfortunately, on the Frontier, little awkwardnesses have a nasty habit of turning into bigger awkwardnesses, and it is therefore most desirable to eliminate as many of their causes as possible by practice in peace time.

The same thing applies to the Company Commander. Quite apart from the fact that he must allow for the reduced composition of his platoons he will of a certainty have additional complications. His Company will be very fortunate if it is not finding up to ten or more N. C. Os. and men for guard duties, camp piquets, etc. etc. To find these from the Company as a whole creates weaknesses everywhere. A more convenient method is often to find all these extra-company duties from one or other platoon each day and reduce the company composition to three effective platoons rather than retain four that are seriously weakened. If he does this a 3-unit basis is forced upon the Company Commander also. This is, admittedly, a perfectly workable composition. From time to time during the last few years, various authorities have advocated the advantages of "threes" over "fours." It is not proposed to argue about this. What is contended, however, is that a sudden transition from "fours" to "threes" will bring all but the most cunning and experienced of Company and Platoon Commanders up against unexpected snags if they have not thoroughly practised with this distribution beforehand. The pretty little games of leap-frog which work so sweetly with four units have to be seriously modified. They can be modified comparatively easily, but not at a moment's notice, especially if that moment is already fully occupied with the enemy.

The Battalion Commander also has his problems. He has to modify his ideas and his requirements to what his Rifle Companies can safely execute. The one inexcusable thing on the Frontier is to be "caught out." Not only must he himself realise the limitations now imposed upon his Battalion but he must be quite certain that his Brigadier realizes them also, and the reason for them.

Ammunition Supply

Economy in expenditure of ammunition and a knowledge of how ammunition is replenished in the field is an essential item of the soldier's training. The difficulties of replenishment should be fully appreciated by him and the system of replenishment frequently

practised. This is not very easy to do because expenditure of blank ammunition is strictly limited and the allotment of dummy rounds per company is also not unduly lavish.

For the ordinary rifleman the question is not of such particular importance. Moderation in expenditure can be instilled into him in a number of ways, and in any case the occasions demanding prolonged rapid fire from his rifle are comparatively few. It is the Light Automatic that eats up the ammunition, and which requires an efficient replenishment system. The impression of unlimited ammunition is apt to be instilled into the average L. A. gunner on manœuvres when all he is called upon to do is to create a distinctive noise. Almost invariably the rattle or other creator of the distinctive noise is kept going almost incessantly.

The following is a suggested method of practising ammunition supply by the L. A. sections. It is worked out on the basis of the L. G. magazine but can be adapted equally well to the V. B. gun.

The full complement of L. G. magazines is 18 per gun. Eighteen magazines per gun are therefore filled with dummies at 40 rounds per magazine. This uses up most of the dummies of the company, but there should be enough over to provide two chargers per rifleman. N. C. Os. who should not normally fire anyhow, are not issued with any dummies. If the dummies over will not run to two chargers per rifleman, the rounds per magazine can be slightly reduced.

When the section goes into action, No. 1 fires the gun, and the Section Commander creates the distinctive noise. As the gun fires, No. 2 removes the dummies from a magazine in groups of five or six rounds and drops them into a sack or a sand bag. As magazines up with the gun are thus emptied, more full magazines come up the ammunition chain in the normal manner, and the sack will gradually become filled. Eventually sacks are collected and taken back to Company Headquarters by men specially detailed for this duty, and the ammunition thus collected at Company Headquarters will be used for reissue as replacements. It will be regarded as having come up from Battalion Reserve.

As his ammunition begins to run short, the L. A. Commander informs his Platoon Commander who then makes a demand for more ammunition upon the Company Commander. Normally this demand would probably include ammunition for rifles as well as for automatics, but only the latter is considered in the scheme. The

ammunition for the Lewis Gun should be sent to the L. A. magazine refilling point, which is generally where the mule is. To send a large bag or box full of ammunition up to the gun itself would probably cause the latter great inconvenience and might be unnecessarily hazardous. The ammunition is therefore sent out to the mule, where it is loaded into magazines by the appropriate gun numbers and sent up on the ammunition supply chain. The Company Commander of course must inform the Platoon Commander that he has done so, and the news must also be sent up the chain by the gun numbers to the Gun Commander as soon as the ammunition arrives at the magazines loading point.

This may sound all fairly easy, but in actual fact it requires considerable practice to make the system work sweetly and efficiently, and during the perfecting of it numerous little snags will be encountered. These, in due course, will be overcome, and it is submitted that in so vital a matter as ammunition supply, the snags should be overcome and the whole system perfected before a real enemy is engaged.

In conclusion, and in justification of this article, one can only refer again to that implacable Indian Brave, Tommy Jones, and the fierce combats we used to wage with him.

Sometimes we scalped his men and sometimes they scalped us, but in either case both sides always got home all right for tea. A timely shout of "pax," too, frequently obviated what otherwise might have turned into an unfortunate debacle.

But shouting "pax" is no good to us now—certainly not on the Frontier. It is no use shouting out "you cad" if the enemy hits us rather harder than we bargained for.

He is a cad, and he is only too ready to hit us either above or below the stomach as opportunity offers. A timely appreciation of this fact combined with a systematic preparation for the *worst* that may befall us, may save us much trouble and sorrow later.

WITH THE TIBET DETACHMENTS

By "Mugger"

In 1933 I was unexpectedly ordered to command the detachments of my battalion that were to proceed to Tibet in relief of another unit. I did not relish the idea of a year's exile, but there it was, and I had to make the best of it.

In August we entrained at Peshawar for Calcutta; and thence, after a short halt to collect stores, onwards to the Darjeeling-Himalayan Railway rail-head at Giellakhola. After that the journey was by road and mountain-track. It is a 210 mile march over some terrific country before one reaches one's destination, namely Gyantse. The condition of the Trade Route is in many parts execrable, and the march over the formidable barrier of the Donkya range, crossed by the way of the Jelap La, 14,100 ft., must remain a nightmare in the memories of many of us.

There are two detachments, one at Yatung, 10,000 ft., 18 miles on the Tibetan side of the Sikkim-Tibet border, and the other at Gyantse, some 130 miles further North in Tibet proper.

After dropping the Yatung party, the column climbs to the Tibetan plateau, 15,000 ft. The odd 200 pack-animals, mules, ponies, donkeys and yaks cause it to get very strung out along the rough track; and when, after 18 days marching, Gyantse is at last reached, everyone feels very glad indeed to have arrived.

The Gyantse detachment, 80 strong, is housed in a small square fort, in which all ranks spend most part of their twelve months' tour of duty. The British fort is about two thousand yards from the "Jong" (Tibetan fort) on the North side of a smallish river, and stands roughly in the middle of the Gyantse plain, which, although over 13,000 ft. above sea-level, strange to say, manages to raise good crops of barley, mustard, peas and potatoes. Green vegetables are hard to come by, and here it is that the detachment's gardens come in very useful. A Political Officer, an I. M. S. doctor, and the two B. Os. of the detachment, comprise the entire white population of the place, the provision of escorts to the Political Officer supplying the *raison d'etre* of the troops.

The intense cold of the Tibetan winter kills most kinds of "bugs" and in consequence, if one is not adversely affected by the great

altitude, one normally keeps quite fit. The winter is a very severe one, the average minimum being about 40 degrees below freezing. You can imagine, therefore, how much Jack Sepoy has to accommodate himself to his changed conditions of life. You will find him performing his routine duties clad in a Balaclava helmet, tinted goggles, a great-coat, fur lined gloves and Gilgit boots, or else endeavouring to skate on the local ice-rink and finding the ice very hard indeed. In spite of the hardships, however, much entertainment can be got out of life in this country of high altitudes and low temperatures, and although Arctic winds may blow periodically, the winter days are brightened by a warm sun. The summer is warm, and with its coming, the countryside assumes a verdant hue, and everyone must experience at least something of the *joie de vivre.*

You might naturally ask what there is to do in a place like this. Well; the detachment work takes up a good deal of the time. The C. O. will find that he has a host of small matters to attend to. The maintenance of the 25 M. I. ponies, and the training of their sepoy-sowars adding to them considerably.

Life there, however, must not be taken as being of the all-work-and-no-play variety; there is a social side too. Quite a number of Tibetan officials of high rank live in the neighbourhood, and these, being as hospitable as they are, give one the opportunity of seeing something of the domestic side of the life of the country. One learns to eat with chopsticks and to partake of one's share of shark's stomach, sea-slugs, snails and sea-weed, and to drink the country beer, "Chung," a brew made from fermented barley. The Tibetan higher classes strike one as being very "Chinese" in looks, dress and habits. They are of course all Buddhists, their lives being completely dominated by their religion. Most families give a son and a daughter to the church and a goodly proportion of all crops go towards its upkeep annually.

Religion in fact, dominates the whole country which is full of monks and monasteries, and one gets full opportunities of close inspections of them both. A not-too-close inspection is however advocated, as all lamas and lamaseries are best described as being of an extremely "Fruity" order.

The whole atmosphere of the country being one of peace and reflection, makes it ideal for the officer who wishes to study the theoretical side of his profession and, through the opportunities

available when out on "shikar," some good practical training is also obtainable.

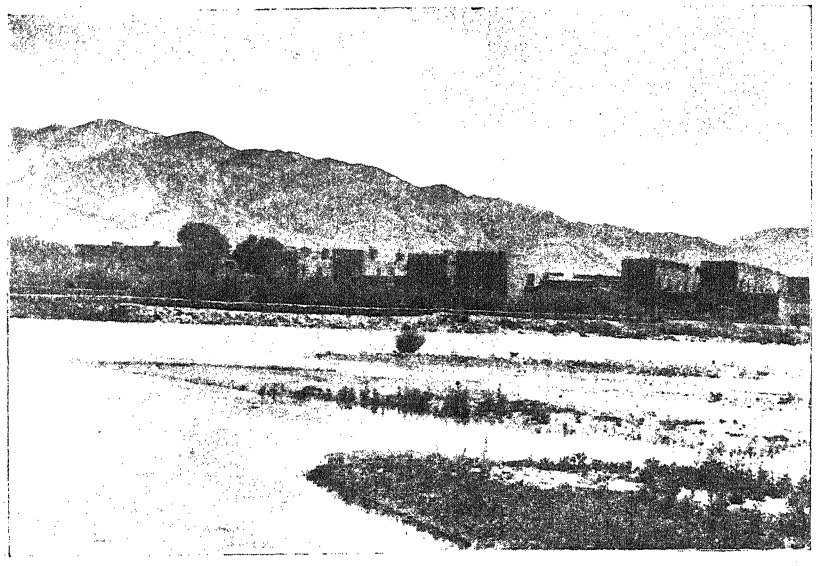
For all but the officers serving in the country, shooting is strictly prohibited. It is always very hard work, as one is very soon up to an altitude of 16,000 ft. or more, and this tells a lot on one at the end of a long day. In the way of small game, geese and many species of ducks are abundant in March and November, as they are in transit to and from their breeding grounds. A large number of bar-headed geese breed locally. The Ram Tso, a lake about 20 square miles in area, altitude 15,000 ft., on the Trade Route between Gyantse and Yatung, is their breeding ground and later a shooting one for the garrison. As the Yatung garrison has to be periodically inspected, it is of course in the shooting months that the O. C. finds it necessary to make his tours of inspection. Magnificient sport may be had by lying up on a promontory and taking the birds as they come past on their flights up and down the water.

As regards big game, gazelle are to be had within a few miles of Gyantse fort, bharal are to be found in the mountains a short distance off the Trade Route, and ovis ammon somewhat further afield.

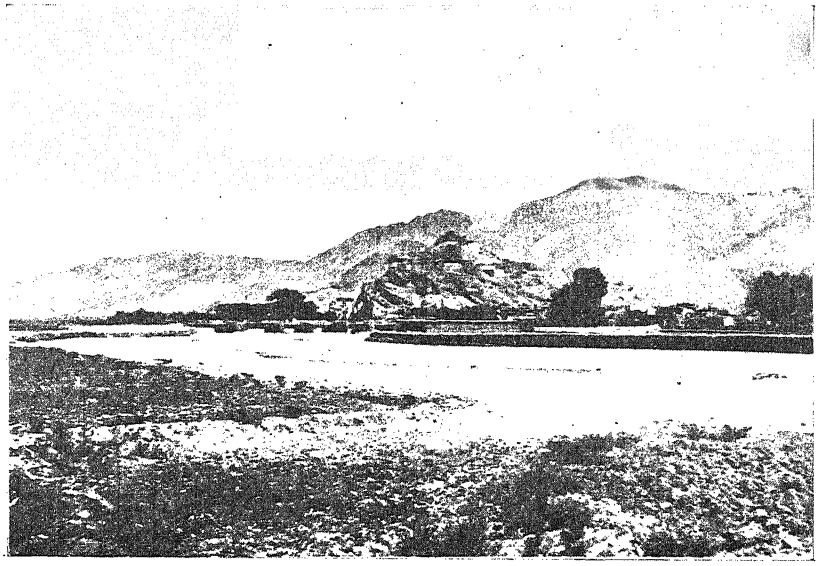
In mentioning sport in connexion with the Tibet detachments, a reference to polo is necessary. The King of Sports is played there with no little enthusiasm, the Civil annually competing with the Military for the honours. The sturdy Mounted Infantry ponies learn the game very quickly, and when once the dangerous thrusters have had their rougher edges rounded off, a reasonable standard of play is obtained. Polo days were always eagerly looked forward to by all ranks.

I should mention that each battalion that has had a detachment in Gyantse has had its regimental crest painted on a shield and hung on the wall of the Mess dining-room there. This custom started in 1904 and has been kept up ever since. Many of the old regimental numbers are in evidence, such as the 40th Pathans, the 113th Infantry and others. Considering the large number of crests displayed, it is surprising how seldom the Tibet Detachments are ever heard spoken of in the Indian Army.

What makes it all the more surprising is the fact that occasionally British officers make Gyantse their objective for a trek, and during my year's tour of duty, two such parties reached there. As a trek, although access to the forbidden city "Lhasa," is indeed forbidden,



The Agency Buildings (British Fort), Gyantse.



The Jonj (Tibetan Fort), Gyantse.

it is well worth while undertaking, even if only to Phari. The track, after passing through the densely wooded and precipitous valleys of Sikkim, leads onwards to the bleak and barren Tibetan plateau. Near Phari, some 40 miles over the border, the Great Himalayan Range is crossed at the Tang La, 15,300 ft., where the White Mountain Goddess "Chomalhari," 24,000 ft., calculated as inaccessable even by the Everest climbers who pass that way *en route* to their own lofty goal, towers sheer, a solid wall of ice and rock, 9,000 ft. above the traveller's head. Rifle shooting for the traveller in Tibet is prohibited but he that is provided with a camera, or better still a cine-camera, will be able to get some shots that will compensate him for the other kinds of trophies that have been placed beyond his reach. A two months' privilege leave would give sufficient time with a little in hand, for anyone who wishes to undertake this journey.

LEAVE IN CHINA AND JAPAN

By Major W. H. Pike, I.A.O.C.

For those who can secure two months leave from India in the spring or autumn, a visit to China and Japan is strongly recommended as an interesting and inexpensive holiday.

The round trip from Bombay to Yokohama and return can be done in 58 days. The rate of exchange in Japan is markedly in favour of the tourist (1 Yen=1-2*d.*, instead of par 2 shillings), and from beginning to end everything is made easy for the traveller. In addition the period of absence from India re-acts favourably in the income-tax column of one's paybill.

Those interested are advised to consult a steamship company or travel agency. The writer travelled with his wife by 2nd Class "P & O" for which two return passages he paid the equivalent of £62. This represents a little over 10/- per head per day during the voyage, for which sum one is adequately housed, fed and transported. It is worth while securing a good cabin and arranging that it may be allotted for the round trip. If this arrangement is recorded on the ticket issued by the shipping company, some bother may be saved later on.

Five interesting ports are touched at on both the outward and homeward voyages, these being Colombo, Penang, Singapore, Hong-Kong and Shanghai; and, as the duration of stay in port varies from 6 hours to 54, ample time is afforded to look round and to take short trips into the interior.

As a rough guide to expenses the following figures are given, based on a holiday taken in the autumn of 1935 by two people:—

Two 2nd Class return passages—

Bombay to Yokohama ..	.. £62
Cash for outward voyage	.. £20
,, ,, 14 days in Japan ..	.. £40
,, ,, homeward voyage	.. £20
Total	.. £142

The above figures cover everything, and include an ample margin for shopping.

It was found convenient to take £100 worth of Travellers' cheques of £5 denomination ; those issued by a recognised Bank bearing a 2*d.* stamp on each cheque being the easiest to negotiate.

Passports require a Japanese *visa*, but not a Chinese one. The former can be obtained in India through the shipping agency, and is available for one year. It can also be arranged for in Hong Kong or Shanghai, but this will take up time otherwise available for sight-seeing.

Resist all suggestions to take out a Chinese *visa*. These are comparatively expensive, and were found to be unnecessary for through passengers. Actually the writer was requested to exhibit his passport only in Bombay, Colombo, and at the port of arrival in Japan.

For leave in the autumn, both thick and thin clothing will be found necessary on board ship ; and thick clothes only for the fortnight ashore in Japan. While on shore the remainder of one's luggage can be left on board ship. Dinner jackets and evening frocks are worn by a proportion of 2nd Class passengers during the voyage, but these will not be required in Japan, even in Tokyo, by the traveller who stays in hotels. Here the ladies appear for dinner in afternoon frocks, while the mere male dons the lounge suiting, which has probably languished for some time past in a uniform case in India.

A word about electric irons which may interest the fairer sex. On board ship a room for ironing is provided : throughout Japan it is useless to expect to be able to use the travelling iron, which has probably been squeezed into an overcrowded suitcase, as the electric fittings in the hotels are apparently designed especially to defeat this project.

Topis were not found necessary east of Colombo during October and November.

For travelling in Japan by train and motor-car about two suitcases per person, or less, will be found a useful basis to work upon. Railway carriages are well provided with racks, and the writer, who was not travelling as lightly as he might have done, was always permitted to take everything in with him.

On arrival at Kobe the first port of call in Japan, a choice can be made of disembarking for the trip on shore, or of going on to Yokohama. Actually this matters little, the distance between the two ports being only one day by sea, or ten hours by rail. From Kobe it is recommended that visits be made to Kyoto, Hakone,

Miyanoshita, Nikko and Tokyo in that order, and the ship then rejoined at Yokohama.

A visit to Messrs. T. Cook in the Oriental Hotel at Kobe will be found helpful, and here a tour can be mapped out, and the hotel accommodation booked in advance without the traveller being bound to adhere strictly to dates should be subsequently not wish to do so. It is not necessary to stay more than a few hours in Kobe on this occasion, as the ship will remain for thirty-six hours in that port after leaving Yokohama on the return journey to India.

Before leaving Kobe for Kyoto it is suggested that a report of arrival in Japan be made to the British Embassy in Tokyo in accordance with para. 889, R. A. I., and that an application be made at the same time for permission to see the Imperial Palace at Tokyo. As much notice as possible is required for this.

The "P & O" agents issue a concession railway ticket for one journey between Kobe and Yokohama or *vice versa*, which is worth securing. One and-a-half hour's journey in a good electric train takes one from Kobe to Kyoto and here the Miyako Hotel is recommended. A 10 per cent. reduction is made by this hotel to Army Officers. Application to see the Imperial Palace at Kyoto should be made in the hotel immediately upon arrival.

Three to four days can be well spent in Kyoto visiting Nara, Mount Hyei, the Hodzu Rapids, and shopping in the Shinmonzen. A walk should be taken down Theatre Street after dinner, and a nine-hole golf-course is within easy reach. Visits can also be made to small local factories to see the production of lacquer, damascene work, cloisonne, Satsuma pottery, and silk weaving. Kyoto was the capital city for over one thousand years, and is the birthplace of those arts and crafts of old Japan which are known all over the world.

From Kyoto to Numazu is six hours by train, and from here it is recommended that a motor-car or bus be taken to Miyanoshita *via* Lake Hakone. This car drive lasts two hours, and involves the crossing of a 3,000 ft. pass from which a view will probably be seen of Mount Fujiama (12,300 ft.).

There is a hotel on the lakeside at Hakone, and a larger one at Miyanoshita, an hour's journey further on. The latter is an unusually good hotel with natural hot water laid on from convenient springs. Attractive expeditions can be made cheaply and easily from Miyanoshita to various lakes and passes which all command views of

Mount Fuji. Fair golf is available. However, the best sights are still ahead, and probably after two full days the traveller will decide to leave for Nikko.

The temples and shrines of Nikko are exceptionally fine, and are said to surpass all others in Japan. In addition there is lake and mountain scenery where the autumn colours may be seen to the best advantage. An annual temple procession takes place on 17th October. Two full days at least should be spent in Nikko, one for the temples, and another for Lake Chuzenji and the Kegan Waterfall. More time can be spent there with advantage.

To reach Nikko from Miyanoshita, half-an-hour's car ride is made from the hotel to Odawara station from where the rail journey to Tokyo takes less than two hours. Ample time occurs to change trains in Tokyo, and Nikko can be reached in good time for dinner. Here a good opportunity arises of staying in a Japanese inn. The Japanese Tourist Bureau recommend the Konishi, and here the tourist of either sex can live very cheaply, and by no means uncomfortably, should he or she wish to try an interesting experiment. The Konishi is next door to the one European style hotel in Nikko which incidentally charges rather highly for the accommodation provided.

Fast trains connect Nikko with Tokyo in a little over two hours, and here the Imperial Hotel will be found cheap and comfortable. There are many sights to be seen in the capital city, some that should not be missed being Ginza Street by day and by night, and the Takarazuka theatre next door to the hotel. A visit to a large department store such as the Matsuya will be found worth while, and a view of Tokyo can be had from the roof. A drive should be taken round the city with an English speaking chauffeur, and it may be possible to visit the Imperial Palace if this has been arranged beforehand. The writer found the course of the Tokyo Golf Club at Asaka quite first class.

To rejoin the ship, Yokohama (Sakuragicho Station) is reached in thirty-five minutes by electric train from Tokyo. Twenty-four hours after sailing the ship arrives at Kobe, where a stay in port is made of a day and a half allowing ample time to see the sights. Visits are recommended to the Motomachi and Theatre Streets, and easy excursions by cable railway can be made to two local mountains. Both Kyoto and Osaka (the Manchester of Japan) are within easy reach by electric train.

In addition to golf at Mount Rokko a few miles away, there is a course at Hirono, one hour's motor drive from the Oriental Hotel, which is of outstanding merit. The writer very strongly recommends a day here to those interested.

To summarise, everything is made easy for the traveller, and the Japanese are always most helpful and polite. Lack of knowledge of the language presents no real difficulty, and a few simple phrases regarding the cost of articles for purposes of shopping are easily memorised.

The following notes may be found useful —

Changing money.—It is recommended that English money be changed when necessity demands, and the balance of local currency changed back into English money before leaving the country concerned. Money changers, official and otherwise, come on board at every port; and authorised offices will be found on every quay.

Passports.—Japanese *visa* required. No other *visa* necessary for through passengers.

Guide-books.—The shipping company provide passengers with useful small books and pamphlets for China and Japan and for each port touched at. The official guide-book published by the Japanese Government Railways is well worth buying. Present price Yen 6.

Laundry.—Clothes can be washed on board ship, but this is rather expensive. A better way is to utilise the services of the dhobies who come on board at practically every port, and who wash well and inexpensively.

Customs.—Difficulties are unlikely. The Japanese authorities require lists of all books imported. A brand new camera might suffer duty, but old ones are not charged for. Cigarettes are limited to fifty, and tobacco to half a pound. Cigarettes can be purchased everywhere in Japan, and will be found not too bad if persevered with.

Photography.—The writer took photographs almost daily, and no difficulty is anticipated if common sense is observed. Naturally foreign visitors with cameras are not encouraged in the fortified areas near the ports.

Railways.—First Class carriages are few and far between, only 2nd and 3rd Class being in common use. As mentioned

before a concession ticket can be obtained from the "P & O" agents.

Hotels.—Most hotels offer either the American or English plan, and the traveller must decide for himself whether it will best suit his pocket to pay a fixed rate per day to include everything, or whether he will pay for his room only and feed *a la carte.* Evening dress is not required in Japan.

Tips.—Hotels and restaurants add 10 per cent. to the bill. On the ship it is best to tip twice, *i.e.*, once before disembarking in Japan and the second time at the end of the return trip. This covers the possibility of having different cabin and table stewards on the way back to India.

A few notes are added on the ports touched at outside Japan—

Colombo.—There is good bathing at Mount Lavinia, and good golf on the Ridgeway course. Ladies may play here on weekday mornings, but are not permitted to even walk round in the afternoon. Visitors can save money by engaging motor-cars outside the entrance to the Customs House.

Penang.—Visits are recommended to the summit of the Hill, to the Waterfall Gardens, and the Swimming Club. An introduction is needed for the latter.

Singapore.—Has much to interest. The Naval Base can be visited if official arrangements are made beforehand. The shops are attractive, and the Swimming Club and the golf course at Bukittima are both unusually good.

Hongkong.—Here a call will probably be made upon the Command Paymaster, and he will be found on Seven-and-Sixpenny Hill, which is on the island a short ride in a rickshaw from where the ferry steamer starts. His office is closed on Wednesday afternoons.

Excellent bathing can be had at Repulse Bay, which is easily reached by good bus service from the Hongkong Hotel. The Peak can be climbed by railway or motor-car, and good golf at Fanling is served by frequent trains starting from Kowloon Station close to where the ship is moored at the wharf.

The shops and bazaars are very interesting, and this is a good place to buy camphor wood chests. Several shops making them will be found at Kowloon close to the ship.

Shanghai.—Visitors should not fail to see the Chinese native city, where a guide will be found necessary on the first visit. Many good shops will be found near the Cathay Hotel, and the Thieves Kitchen will repay a visit especially between tea and dinner. There are excellent shoe shops, and Yates Road is celebrated for ladies underwear. The large department stores have many English speaking assistants, and English-run shops selling dresses and hats are of an up-to-date quality not generally found in India. Shanghai is reported to possess sixty-nine clubs. Horse-racing, dog-racing, and Hai-Alai (pelota) can all be enjoyed. Night clubs and cabarets abound, and a visit is recommended to a Chinese theatre and a Chinese *Palais de danse.*

By this time the tourist will probably have made so many purchases that at least one new suitcase, if not a cabin-trunk, will be required to bring them back to India. Shanghai is a good place to purchase this article.

WEAPON TRAINING AND THE ARMY RIFLE ASSOCIATION

By Major R. H. Stevens, 5th Bn., 7th Rajput Regt.

Owing to its repetitive nature, military training runs considerable danger of becoming somewhat humdrum, and one of the primary concerns of a commander is to devise means to stimulate interest and to combat any tendency towards staleness and consequent boredom.

Weapon training, ultimately one of the most important branches of the training of the man, is not immune from this danger; a company is "struck off for annual W. T." fires, and, unless results are startling one way or the other, passes on to other work without particular comment.

Now, one of the greatest incentives to interest and keenness is undoubtedly the introduction of a competitive element, and, as far as weapon training is concerned, the A. R. A. provides, ready to hand, a most excellent stimulus to weapon training competition of every kind.

Long and enthusiastic participation in A. R. A. activities has convinced the writer that, once they have started competing, the men take the very greatest interest in A. R. A. matches. These matches offer scope for battalion, company and platoon teams and their equivalents. Those who cannot yet aspire to shoot for the battalion, hope at least to do so for the company or the platoon. In this way, interest percolates throughout the unit, and the results of this interest are reflected without any shadow of doubt in a very marked improvement in the general shooting efficiency of the unit participating.

Yet, in spite of this, the number of units which regularly enter teams is remarkably low. A perusal of the A. R. A. handbooks of the last few years will reveal the same handful of the faithful, and the very high standards they reach in the results are proof, if proof is needed, of the benefit they derive.

What is the cause of this lack of enthusiasm? Frequently it is the lack of some enthusiast to start the ball rolling; but the answer most often given is that modern conditions make too many demands

on officer and man as it is, and that the teams which do win are "pro's who live on the Range, do nothing but shoot and crack off unlimited thousands of rounds of extra ammunition." The argument is specious in the extreme. A little forethought in planning its A. R. A. campaign will enable any unit to participate fully in the matches without any appreciable increase of work for officer or man, or undue extra expenditure of ammunition. Even if they do not at first win cups and medals (they wont: "nerves" will play havoc with the first year's attempts), nevertheless, the men will have great fun and the standard of shooting will rise steadily.

Most units rough out a general basic programme for the year showing approximate dates of Individual Training, Weapon Training, leave, etc., of all companies. It is then easy to foresee at what times various sub-units will be available for A. R. A. matches. The next step is to select the matches for which to enter. The following is suggested as good all-round value—

(*a*) The 88th Carnatic Cup .. A Battalion Rifle team
(*b*) The Rawlinson Shield .. A Company Rifle team
(*c*) The Cawnpore Mills Cup .. A Platoon Rifle team
(*d*) The Prince of Wales Cup .. A Platoon L. A. team
(*e*) The Mother Country Cup .. A Battalion V. G. team

Then there are the aggregate matches of which there are two:

(1) The Command Challenge Cups.—A cup in each Command to the unit with the best aggregate in matches (*a*), (*b*) and (*c*) above, and

(2) H. M. The King-Emperor's Cup.—For the best aggregate in (*a*), (*b*) (*c*) above, together with a fourth match, the Francis Memorial Battalion Revolver Match.

Well, we are already entering teams for the other matches which count for the aggregate cups; we must therefore have a try at the Revolver match as well.

Under the Rules governing these aggregate matches, should a unit enter more than one team for any of the relevant matches, it is the highest score which is counted towards the aggregate. For "sub-unit" matches therefore, *i.e.*, for (*b*) and (*c*) above, we will enter one team per company, thus decentralising interest, letting every company have the dual opportunity of winning the Company match and of representing the battalion in the aggregate matches, and finally ensuring that the best company and platoon represent

the battalion in the aggregate matches. Although the platoon L. A. match does not count in the aggregate matches, we may just as well allow each company one entry for that as well. For the battalion matches we will at first content ourselves with one entry per match.

Our final list of entries is therefore—

The 88th Carnatic Cup	..	Battalion teams, one entry each.
The Francis Memorial Cup	..	
The Mother Country Cup	..	
The Rawlinson Shield	..	3 entries
The Cawnpore Mills Cup	..	,,
The Prince of Wales (Malerkotla) Cup	..	3 ,,

At first sight, this is, perhaps a formidable array; but, in reality, it need not be so.

The following is suggested as the most satisfactory way of carrying out the above programme:

(1) *Sub-unit Matches.*—Each company will fire its matches immediately on the conclusion of its annual Weapon Training Course. This will enable a Company Committee of, say, the company and platoon commanders to select without any difficulty teams for the three matches in question. All that then is required is two or three trial runs of the teams under match conditions prior to the actual firing of the match; that is to say, an extra ten days on the range for each rifle company. The teams are small in numbers, other duties are not therefore likely to be affected to any appreciable extent, and additional ammunition expenditure is reduced to a minimum.

(2) *Battalion Team Matches.*—The V. G. Mother Country Cup will be fired in the same way, immediately after the annual course. The Battalion Rifle team will fire when most convenient, probably in the interval between the end of the Individual Training season and the beginning of Collective Training. The Revolver Match also will be fired as opportunity occurs. The hour between breakfast and office affords an excellent opportunity for practice, and it is astonishing how rapidly revolver shooting improves (usually, admittedly, from a zero standard!) with a little practice. (The writer recently saw a team improve from an extremely poor individual average somewhere in the forties, to the quite respectable average of 80 in ten short days with an expenditure of some two thousand rounds.)

(3) *Ammunition.*—It is next proposed to examine what additional ammunition expenditure is involved in the above programme.

Sub-unit Matches.—The company team consists of 24, the platoon team of 16, and the platoon L. A. team of 5 men. The practices of the matches require 20, 15 and 40 rounds per man, respectively, or, 480, 240 and 200 per team—a total of 920 rounds. Some provision must be made for reserves, and a round figure of 1,100 rounds will probably meet the case. Allowing for two or three trial runs, each company will therefore require roughly 4,000 extra rounds. For the Battalion Rifle and V. G. matches an additional 2,000 each should suffice.

The additional expenditure for the whole twelve teams is then :

3 Rifle companies at 4,000 each	..	12,000
1 Battalion Rifle team ..	..	2,000
1 Battalion V. G. team ..	..	2,000
		16,000

plus, say, 3,000 rounds of revolver ammunition.

(4) *Finance.*—The entrance fees for the A. R. A. matches are very modest, and the total for all the above matches amounts to Rs. 100.

It is submitted that the interest, amusement and improvement which will accrue from the above venture will more than justify the small additional expenditure of time, trouble and money involved.

H. M. The King-Emperor's Cup

This cup is presented for the aggregate match, and the winning unit may justifiably regard itself as the best all-round shooting unit of the Indian Army. An analysis, on a percentage basis, of the aggregates obtainable by respective weapons in this match gives the following figures—

Rifle	approximate ..	85% of possible points
Revolver	,, ..	15% ,, ,, ,,
V. G.	..	Nil
L. A.	..	Nil

In view of the great and increasing importance of automatic weapons, which may well be deemed to be the bases of the fire plans of a battalion and a company, respectively, it is suggested that they should be incorporated, in some form, in the aggregate or championship match.

A further analysis of recent results of the matches at present included in the aggregate reveals the following—

Match	*Comment*
88th Carnatic	.. Battalion Rifle team. No comment.
Rawlinson and Cawnpore Mills	.. Company and Platoon Rifle teams. Results show that, as far as the King-Emperor's Cup is concerned, the same company supplies always the paramount influence in both matches, as the following table shows—

	Rawlinson	*Cawnpore*
1930-31	"C" Coy. 2/14th Punjab R. (1st)	No. 9 Pl. 2/14th (1st)
1932-33	"B" Coy. 4/10 Baluch R. (2nd by 6 points)	No. 5 Pl. 4/10th (1st)
1934-35	"B" Coy. 2/14th Punjab R. (2nd. Winners [H. Q. W. 2/15th] not eligible for Cawnpore)	No. 5 Pl. 2/14th (1st)
1935-36	"B" Coy. 2/14th Punjab R. (2nd)	No. 5 Pl. 2/14th (1st)

The object of the inclusion of a platoon match in the aggregate match is presumably distribution of a share in it to lower sub-units; but results show that this object is usually defeated, and it seems, in the nature of things, that this is inevitable.

The Francis Memorial	.. It is submitted that the revolver, particularly for the Army in India, is a weapon of very minor importance.

In view of the above comments, it would appear that the inclusion of the platoon match in the aggregate match is redundant, and that the Revolver match should not be included in the King-Emperor's Cup. The exclusion of these two matches would not in any way reduce their value or the interest taken in them as individual matches, but it would allow the inclusion of the V. G. and the L. A. without increase in the number of the matches constituting the aggregate match. The following, therefore, are suggested as matches

to count for H. M. The King-Emperor's Cup—

(1) The 88th Carnatic Cup,
(2) The Rawlinson Shield,
(3) The Mother Country Cup,
(4) either The Prince of Wales (Malerkotla) Cup $\times 4$, or (better) the inclusion of a company rifle and L. A. match on the lines of the old Luckock Cup.

One further minor suggestion is ventured. Perhaps the best practice fired in any match under A. R. A. auspices is the combined snap and rapid practice in the Cawnpore Mills Cup. It is suggested that this practice be substituted in the Rawlinson Shield match for the present second (snapshooting) practice.

It is suggested that an Aggregate Cup on the above lines would give a truer reflection of all-round shooting efficiency, and more satisfaction to the unit which wins it.

LETTERS TO THE EDITOR

MECHANISATION

SIR,

After reading the article in your January number entitled "A Short Review of Mechanisation," one hopes that it does uot reflect too accurately the official spirit animating our policy of mechanisation and our doctrine of the tactical employment of armoured fighting vehicles. What follows is not an attack on the author's views, as he only quotes those of a school of thought. It is a plea for a positive attitude.

The author balances his arguments with the strict caution and impartiality of a legal judgment. The direction which he gives his jury, your readers, may assist them to appreciate these problems, but does not lead to a definite verdict which effectively condemns mechanisation or sets it free to expand in its native environment of modern applied science. We English have developed a genius for conceding something to every point of view—for compromise; but it is significant that this trait becomes conspicuous in the post-war period when our unilateral disarmament rendered this virtuous pose a necessity.

Two examples only of this mental attitude are taken from the article in the order in which they occur. There are others.

> (*i*) "....on the other (hand), the more cautious and conservative regard the A. F. V's. as at best an auxiliary arm of yet unproved capability and of doubtful future. Total mechanisation, they maintain, is financially impossible, and, in any case, unsuited to any Army that must be prepared to fight in almost any quarter of the globe."

Perhaps A. F. V's. are "of yet unproved capability and of doubtful future," because they are still an auxiliary arm? Would the Royal Air Force have attained its present efficiency if it had remained a part of the Army? It is not suggested that our mechanised troops should become a fourth Service in our defence forces, but it *is* maintained that they should be allowed full freedom to develop in mechanical design and tactics unfettered by the limitations of the more vulnerable and less mobile arms. Common sense demands

that the latter should be auxiliary to the Royal Tank Corps. Again, why permit compromise to stifle enthusiasm, retard progress and jeopardise our Imperial safety because a mechanised force is unsuited "to fight in almost any quarter of the globe?" The next battle vital to our Empire will be fought in Europe, not in the North-West Frontier of India or in Ethiopia. We shall need mechanised forces then, the best that science can design and in the greatest numbers our industries can produce. Let the infantry sit in forts and on the mountains where they will be really useful. Are we reducing or neglecting cavalry in India because they are expensive to maintain and unsuited for employment either in mountain warfare, or in aid of the civil power, or because mounted infantry could do their work efficiently and at less cost? Then why adopt this timid conservatism towards our mechanised arm?

(*ii*) "Co-operation between A. F. V's. and the other arms had not achieved in the last war conspicuous success; chiefly because no general agreement on their respective rôles had ever been reached."

No general agreement on the tactical employment of any arm is to be expected from men who think for themselves. Was it not because the experts were ignored and a compromise was sought among the ranks of the unqualified that the mechanically very imperfect tanks of the Great War were not the "conspicuous success" they might have been? Does the development of artillery tactics wait on a "general agreement" in the Army on this subject? Our field gunnery has reached its present high efficiency, thanks solely to the unfettered efforts of our ballistic experts and enthusiastic Royal Artillery officers. Infantrymen never command cavalry or artillery units, or cavalry formations. Yet the tactical development of Royal Tank Corps units and formations still depends upon those who must always be thinking in terms of co-operation with the older arms and who are comforted by "general agreement."

To sum up, the vital needs of Imperial Defence demand a force of A. F. V's. as mechanically and tactically efficient, if not as numerous, as that of any potential enemy in Europe. The greatest progress towards this end can be attained only by freeing the Royal Tank Corps from those tactical fetters which bind it to the older, slower and more vulnerable arms; by entrusting this development to experts and enthusiasts; and by trying our utmost to discard timid conservatism when these experts ask for our co-operation in our logical rôle, *i.e.*, as auxiliaries to the R. T. C. I am, sir, not a member of the British Service.

Yours faithfully,

12th February, 1936. EDWARD RAMEL.

REVIEWS

The Russo-Japanese War, 1904

A study of the strategy and tactics up to 24th August, illustrating the principles of war and Field Service Regulations.

By Lieut.-Col. A. Kearsey, D.S.O., O.B.E.

(Gale and Polden, Aldershot 5/)

This is a small book packed with information. Into its 150 pages are crowded an account of six months' intensive fighting, the author's criticisms on plans and battles, and liberal quotations from Field Service Regulations. The resulting style reads rather like a collection of notes, and the book fails to present an interesting account of the campaign or a sufficiently full examination of battles, commanders and conditions to serve as a book of reference. For this latter purpose the index is hardly adequate; the reader requires more of a clue to the particular passage he wants than is afforded by a mere string of page numbers after each name.

The Russo-Japanese War was fought over 30 years ago, by armies whose organization and equipment differed greatly from those of the present day. Moreover, the country and the names are so little familiar, that unless a student has previously read a certain amount about the War he will find it difficult to get a good grasp of the campaign from this book, even with the aid of the six maps provided. On the other hand, the comparative strengths of the opposing forces in each engagement are clearly expressed in common terms of squadrons, battalions and guns.

The author's method of making his illustration is to introduce *verbatim* quotations from Field Service Regulations at intervals into his story or his criticisms. This interrupts the already over-concise descriptions of battles, especially as many of the extracts are too long, and also results in a somewhat random selection of principles and tactics to be illustrated. The tactical lessons generally are very apposite, but in some cases the fighting of thirty years ago is criticised in the light of modern tactics, such as fire plans, predicted artillery concentrations, etc. There is a sameness in the conclusions drawn regarding principles; nearly every battle brings us to the unfitness of Kuropatkin's character of a Commander-in-Chief.

There are signs of haste in compilation. The opposing objects at the outset of the campaign are stated and re-stated in almost the same words; on successive pages Asada's detachment is said to belong to the First and the Fourth Japanese Armies, without any mention of its transfer; in successive paragraphs the I Siberian Corps is placed on the East and on the West of the Russian position.

R. M. H.

" Practical Horsemanship "

By Major J. L. M. Barrett

(*Published by H. F. & G. Witherby, Ltd.*, 326, *High Holborn W.C. Six shillings*).

In this compact book the author deals with his subject in a simple but sensible manner. Many adults and most children would learn a great deal by reading it. Casualties and cases of lost nerve would be avoided amongst child riders in India if parents would study the appropriate chapter in this valuable book.

There are a great many books dealing with equitation in all its aspects, but in selecting a suitable guide for the average reader we must put " Practical Horsemanship " near the top of the list.

G. M. D.

Lieutenant-General Sir WILLIAM H. BARTHOLOMEW, K.C.B., C.M.G., D.S.O., Chief of the General Staff in India.