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EDITORIAL.

Politics.

During the Civil Disobedience Movement of 1930-31 the Indian Army was, for the first time in its history, dragged into the political arena. This participation in affairs, contrary and abhorrent to the traditions of the service, was inevitable, and the fact that the martial classes ranged themselves whole-heartedly on the side of law and order and did a great deal of good work in counteracting the subversive activities of Congress must be accepted as complete justification for the unusual steps taken. Incidentally, it showed that the agriculturists, who are the metaphorical and anatomical backbone of India, were still anxiously eager to stand by their old loyalty to the British connection. It must be said that the Indian Army had no desire, beyond its ordinary commitments in aid of the civil power, to enter the struggle, but when the Congress used all its ability and undeniable subtlety to undermine the loyalty of Indian soldiers, even going so far as to subsidize handsomely its secret agents to further these pernicious activities, there was only one course open to the authorities and that was to take the sepoys and ex-soldiers into their confidence and fight sedition with the gloves off. This was done with the most satisfactory results.

Before this grave necessity arose it is correct probably to state that ninety-nine *per cent.* of the Indian Army took not the slightest interest in politics and that the various waves of agitation which have swept the country for the last forty years were entirely alien—and always obnoxious—to its interests and well-being. The intensity and the widespread publicity of the Civil Disobedience Movement, however,

allied as it was with the hot-house blooming of the exotic flower called Nationalism, and the oft repeated declaration of the British Government of its willingness to extend the scope of the Montagu-Chelmsford Reforms, could not help but attract the attention of the villagers, whose politics, if any, were deplorably reactionary and parochial. Rumours of a changing constitution created a vague wonder. The extension of popular control in the administration had led to bewilderment and occasionally to resentment. During 1930 there was increasing uneasiness, but when, at last, the Government called upon its supporters to resist the blandishments of a political body, whose declared aim was Independence, it was a rallying cry which collected a certain amount of response throughout all India—but most completely and whole-heartedly from the sturdy inhabitants of those vast tracts of country, loosely called recruiting areas.

The Delhi Agreement has now, unfortunately, led to some confusion. The Indian soldier's greatest charm is his simplicity and directness of thought. If he is asked to dig a hole, he will dig it and not ask its purpose. If, however, he is asked to dig a whole and then ordered to fill it up again he will do so, but his private opinion of the man who gave him the order will be unflattering. His confidence will be shaken, only temporarily perhaps, but shaken it will be, and the next time he is asked to excavate he will very likely hug to himself certain mental safeguards concerning the thoroughness and permanency of his labours. He will not dig so deeply.

The present acceptance of Congress co-operation, necessary and welcome though it may be in constitutional circles, is nonetheless a *volte face* which is liable to misunderstanding by people ignorant of the chameleon-like adaptability of modern politics. It is too early yet to express any opinion on the present hair-trigger situation, but we consider that it is bad tactics and worse policy to ignore or slur it over. The sepoy's and the ex-soldier's almost embarrasing loyalty are common features of our daily existence, and his present feelings of bemused wonder—often expressed with more force than fairness—ought to be treated honestly and fearlessly. We can only hope that the present worrying times of transition will result soon in a period of stabilisation, when the Indian Army will be able to throw off for ever this uncomfortable and unsuitable accretion of political thought.

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The Indian Military College.

The establishment of an Indian Military College has been under consideration off and on for the last ten years and is now within measurable distance of being an accomplished fact. The Committee just concluded under the chairmanship of H. E. the Commander-in-Chief is a direct result of the Round Table Conference and its deliberations are being studied with intense interest by both the general public and the services. The chief object of the Committee is to evolve a military college for India which will have none of the disabilities under which Indian cadets are trained at Sandhurst. There are three main disabilities; expense, distance, and the fact that the Indian cadet has to work, live and play in a foreign country.

It costs a parent roughly £550 to educate his son at Sandhurst, which is in most cases a prohibitive amount for the classes which are likely to produce the best leaders. An Indian college should be somewhat less expensive, but even so it appears likely that Government will have to help the parent with concessions more generous than those given in the past. Indian parents are notoriously disinclined to send their sons at the age of eighteen away from home influences, and the six thousand odd miles which separate England from India have been a definitely deterrent factor in the recruitment of suitable candidates. A college centrally located in India will overcome this obstacle to a large extent, and gradually dissipate the provincialism which, even to day, is more common than the perfervid nationalists would have us believe. Finally, it will be agreed that the Indian boy at Sandhurst works at a disadvantage with his fellow cadets. The western surroundings, the language and the ordinary routine of English life are altogether strange to him and must impose upon his mentality certain complexes which only psychologists, perhaps, could explain. On the other hand, when the Indian College is established he will not have the advantage of close contact during his early years with British boys, a definite loss which he is likely to regret as he grows older.

Although the standard of the new college will require to be kept the same as that of Sandhurst, the curriculum will have to differ in various essentials, and in these the Japanese model will probably be followed. The Japanese army recruits many of its officers from the ranks, and it may be expected in India that a wider application of a policy similar to the "Y" cadet scheme will be introduced. This pre-supposes a far higher standard of education than is now prevalent

in Indian units and may—at any rate during the initial stages—prove a very positive hindrance to the obtaining of a reasonable flow of this class of candidate. To overcome the backwardness of preliminary education in India it is obvious, also, that the course will have to be longer than the three-term Sandhurst course. There are various other difficulties inherent in the establishment of an Indian Military College which cannot be eradicated at its inception. For instance, technical training for the Indian Air Force, Artillery, and engineering would entail enormous expenditure which could hardly be justified, either economically or militarily, at the present time. For aspirants to these branches of the forces it is probably that post-graduate courses will be arranged, preferably in England where adequate facilities already exist.

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Burma.

A year ago our attention was fixed on the Afridi threat on the North-West Frontier; this year we have to switch to the opposite point of the compass and study the complicated situation in Burma. A small local rising which took the authorities by surprise on the 22nd December, 1930, in the Tharrawaddy District has not only continued itself but has stimulated similar outbreaks in at least five neighbouring districts. The result is that, from the oil fields at Yenangyaung in the north to Hanthawaddy in the south, the riverain districts are the prey of lawlessness and violence. Tharrawaddy has always been notorious for its dislike of law and contempt for order, and its superstitious inhabitants have ever been too ready to lend their assistance to overthrow the British Government. Prompt measures were taken to quell this local rising and were mainly effective, but the enclosed nature of the country hampered the efforts to isolate the trouble, and, conversely, facilitated the rebels' escape to neighbouring districts.

It is interesting to record the methods employed by the Burma Military Police and the regular troops in the initial stages. When the rebels were routed they fled to the jungle-clad hills of the Arakan Yoma Range. To prevent them raiding the plains outposts were placed along the foothills, but these did not have the desired effect. A "partridge drive" through the hills was then carried out with the object of driving the marauding gangs upon the outposts, but this owing to the density of the jungle also proved abortive. Finally the disaffected area was divided up into blocks, each block under the

control of an officer and one or two platoons. This scheme was successful in that it quickly restored normal conditions, but the rapid spread of the rebellion, necessitating the employment of all available troops in less concentrated duties, led to its curtailment.

For almost six months the garrison in Burma has been having a very strenuous time, and it is noteworthy that in every case when the small formations employed—generally not more than two platoons—have got to grips with the rebels they have meted out salutary punishment. The danger of the rebellion being forced northwards by the monsoon, and the possibility, in that eventuality, of martial law having to be enforced in the seriously affected areas are the reasons for the despatch from India of four more infantry battalions. It is a far cry from the gaunt hills of the North-West frontier to the wet jungles of Burma, but the training, sense of responsibility, leadership and initiative which frontier warfare inculcates in the minds of junior leaders, are equally necessary for bush-fighting. The battalions from India, therefore, who perhaps have paid more attention to the Afridi or Mahsud than to the Burman dacoit, should find no difficulty in adjusting themselves to an unexpected sphere of operations.

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The language test.

The reintroduction of the Lower and Higher standard examination in Urdu from January next will be, we hope, the last of a rather bewildering series of changes since the war in that bug-bear of most young officers—"The prescribed language test," on which their retention in the Indian Army depends. It will be remembered that at the end of the war all but the lucky few had failed to pass the prescribed examinations, and the authorities were faced with the unwelcome probability of having to enforce regulations and depriving the Indian Army of the great majority of its young officers. A Committee was held and it was decided that language examinations in India were based on rather antiquated ideas and theories, and that they required remodelling on the lines of the Civil Service Commission in London. So the preliminary standard was introduced, being in effect the Higher standard but without the guiding aid of any text book. Another Committee introduced the "Roman" script, an innovation which was undoubtedly helpful to those who had started to learn Urdu in the vernacular, but as the years passed this medium proved more a handicap than an aid in assimilating the vocabulary and grammar of the Army's *lingua franca*. Failures in both

the Qualifying and Preliminary standards showed a marked increase, and the present decision to revert to the old Higher and Lower standards, which, whatever their faults, do instil a working knowledge of the language, is a step in the right direction.

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The July number.

Our readers will be interested in the account of the Cawnpore Riots written from the point of view of a company commander. Although the article was written before the official report of the riots was published it bears out to a remarkable degree the conclusions reached in that document. In view of the sensational rumours given currency in the Press regarding the alleged inactivity of the police and military, this modest account is a happy vindication for the methods employed in a most critical and difficult situation.

It is a pity that the writer of the article on the Khajuri Plain left the scene of operations before the final picture was completed. After the departure of the Nowshera Brigade the plain was occupied by its permanent garrison of two battalions and ancillary services. The normal dispositions are: *Bara Fort*—Headquarters Khajuri Plain. One battalion less two companies. *Nowshera Post**—Two companies. One section 18-pounders. *Fort Salop*—One battalion, less one company. One section 4·5 inch howitzers. *Jhansi Post*—One company. One section 4·5 inch howitzers. The above units are under the Peshawar Brigade and are changed over from the Peshawar Garrison. In addition, two infantry sections from the Landi Kotal Brigade occupy Samghakhai Post.

In his zeal to castigate the unfortunate Lewis gun we are afraid that "Mouse" is too ready to accept the unproven claims of his 'Ratling' gun. Experiments do not altogether support his arguments. In particular, a satisfactory tripod capable of ensuring accurate overhead fire has not yet been produced, and it is deserving of notice that the harsh treatment meted out to the 'Ratling' has also been tested on the Lewis gun without any untoward effects.

To satisfy the present demand for information on Bush-fighting an article, first published in 1922, is reprinted in this issue.

* The name has now been changed to "Fort Milward."

We invite discussion regarding a Military Widows Fund, Indian Army, to the desirability of which attention is drawn in our correspondence columns.

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U. S. I. Affairs.

The following lectures have been arranged during July for the benefit of members and the Army Headquarters Staff College course :—

1. *Thursday, 9th July.*—"The Intelligence Service of a Modern Newspaper," by F. G. R. Peterson, Esq. (The 'Times').
2. *Thursday, 16th July.*—"The Control of a Frontier—French Morocco," by Lt.-Colonel G. O. De R. Channer, M. C., 7th Gurkha Rifles.
3. *Thursday, 23rd July.*—"Waziristan—Past, Present and Future," by E. B. Howell, Esq., C.S.I., C.I.E., I.C.S.
4. *Thursday, 30th July.*—"Civil Aviation," by F. Tymms, Esq., M.C., A. F. R. Ae. S., Director of Civil Aviation in India.

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At a meeting of the Council of the Institution, held on 19th May, the President reviewed the situation for the last financial year. Income was greater than in 1929, while expenditure decreased by Rs. 2,000. During the year special efforts were made to increase membership resulting in 167 new members being obtained. The response from officers of the Civil Services and from junior officers of the Army and Royal Air Force was, however, disappointing. The demand for tactical schemes, precis of lectures, and library books showed a large increase. We are asked by the Royal United Service Institution, London, to draw attention to the facilities provided for officers of the Indian Army temporarily in England.

OPERATIONS ON THE KHAJURI AND AKA KHEL PLAINS, 1930-31.

By

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Foreword.

In view of the fact that only three Brigade Groups were engaged in the operations against the Afridis on the Khajuri and Aka Khel Plains, that no heavy fighting took place and, further, that the political situation demanded there should be no undue publicity, comparatively few soldiers have heard or seen any accounts other than the very meagre reports which appeared in the newspapers at irregular intervals. It is therefore thought that a brief account of these operations may be of interest.

Owing to the lack of enterprise on the part of the Afridis, engagements were scarce, hence the operations provided few opportunities for the "honour and glory" of war, but at the same time they present several points of interest. In a sense the operations really constituted one large covering operation to the work of the Royal Engineers and Pioneers; in fact it was a "Sapperish War" as the General Officer Commanding Peshawar District (by whom the operations were directed) said at the Conference in Peshawar just prior to the commencement of the operations and, in the perspective of a covering operation they must be viewed.

The Sappers completed their work right nobly, and to such an extent have the appearances of the two plains been altered by their labours, that one feels that when the Afridi is once again allowed down, he will, perhaps, lose his way and take the wrong turning back to Tirah! Bridges, piquets, fortified camps, tracks blasted out of the rocks and roads, all these have changed the appearance of the place, especially the roads—roads of every description, a first class speedway, shingled roads and tracks fit for mechanical transport, they stretch over the two plains like a vast net.

Location.

The Khajuri and Aka Khel Plains lie respectively south-west and south of Peshawar, the dividing line between them being the

Bara river; Bara Fort is seven miles from Peshawar, and from there by going west or east of the Bara river, one enters straight into the Khajuri or the Aka Khel Plains respectively. The Peshawar-Kohat Road forms the eastern boundary of the Aka Khel Plain. The south boundary to the two plains consists of a range of hills more broken on the Khajuri than on the Aka Khel side, where on the south of these hills the Bara and Mastura rivers flow. Higher hills form the western boundary, while Ghund Ghar and the Besai Ridge form the northern boundary to the Khajuri Plain and the line of frontier villages completes that of the Aka Khel Plain extending to the Kohat Road. There are two main passes into the area from Tirah, the Gandao. Pass just west of the Bara river where it breaks through the hills, and the Shinkamar Pass at the south-west corner of the Khajuri Plain. There is also a small pass fit for pack animals to the south-west of Ghund Ghar connecting up Tangi in the Bazar Valley with the Khajuri Plain.

In the centre of the Khajuri Plain is a prominent hill called Karawal, meaning "The Outpost," running up to the west in an almost continuous but gradually lessening ridge.

The Operations.

It will be remembered that the necessity for these operations arose owing to the incursions of the Afridis into the Peshawar District and even into Peshawar itself during the hot weather of 1930, compelling the Government of India to take over the control of the Khajuri and Aka Khel Plains not only as a punishment to the Afridis and in order to restore our prestige on the Frontier, but also to place us in a position to break up, if not prevent, a similar incursion in future. By controlling these two plains it becomes possible to deprive the Afridis of this very considerable area as a grazing ground for their flocks in the winter, a very serious matter for them, since in the past they have come down yearly in their thousands to these two plains.

Therefore, in accordance with this decision, a force consisting of three infantry brigades, a regiment of cavalry, a proportionate amount of artillery (6 inch howitzers, 4·5 inch howitzers, 3·75 inch howitzers and a 2·75 inch battery), four field companies R. E. and two pioneer battalions, was collected at various places during the first half of October 1930.

The operations were to be divided into three phases :—

(*i*) The concentration of the Force at the scene of operations.

(*ii*) The construction of roads suitable for motor transport from the existing Frontier Road to various points of strategic importance on the two plains.

(*iii*) First a reconnaissance for, and later the erection of, permanent or semi-permanent posts to be occupied by garrisons either regular or irregular, after the Force had been withdrawn, in order to deny to the tribesmen these important winter grazing lands so long as they refused our terms, and at the same time assisting in the defence of Peshawar from incursions, by denying to the Afridi the routes across the plains and the resting places of the various cave villages thereon.

Concentration and initial Moves.

By the 14th October the Force was concentrated thus :—

The Nowshera Brigade on the Frontier Road from Jamrud to Matanni on the Kohat Road, the Jhansi Brigade at Bara, and the Rawalpindi Brigade at Peshawar. So far none of our troops had crossed the line of administered territory, and this movement was not to take place until the 15th October. Owing to political necessity this was postponed until the 17th October, on which day the Jhansi Brigade advanced south of Bara along the north-west bank of the Bara river and encamped without opposition some eight miles distant near Miri Khel village ; the camp being known as Miri Khel Camp. The Rawalpindi Brigade moved from Peshawar and encamped just south of Bara Fort.

It is interesting here to note that during the operations the Jhansi Brigade remained throughout at Miri Khel Camp, the Rawalpindi Brigade moved only once from Bara to Karawal Camp, but had, at various times, detached camps at Fort Salop, Miri Khel and Samghakhai. The Nowshera Brigade, however, was continually on the move, first on one plain then on the other.

Now ensued a period of settling into camps, the building of permanent road piquets to protect the main line of communications and reconnaissances over the Plain with a view to the alignment of

roads, the gaining of a thorough knowledge of the ground, both for future operations and for the eventual siting of the permanent and semi-permanent posts. To a few of these reconnaissances the Afridi put up a little opposition, especially on the 21st October when the Rawalpindi Brigade was operating towards Karawal Hill; the 6th Lancers who were working along the north-west end of the Khajuri Plain were fired upon and had a small fight and in the withdrawal of the Brigade the Afridi followed up, though in a somewhat half-hearted manner. During this period also the Afridi indulged in a little cable cutting and sniping, making himself particularly unpleasant on the night of 25th October when a good many rounds were fired into Miri Khel Camp and at a road piquet held by the 1st Battalion, King's Shropshire Light Infantry. By this time the Jamrud Jirga had broken up without any result; the Afridi Maliks returned to Tirah leaving many of the younger men hanging about the Bazar Valley discussing the question of attacking our troops on the Plain, a discussion which, needless to say, ended in doing nothing.

On the 27th October the three infantry brigades took part in a combined operation over the Khajuri Plain with the object of clearing out any hidden parties of Afridis, the direction of the operation being under the General Officer Commanding Peshawar District. Only very slight opposition was encountered and the brigades returned to their respective camps without incident.

It had now been decided that the Rawalpindi Brigade should move from Bara to a camp in the middle of the Khajuri Plain whence the protection of the road construction programme could more easily be carried out. With this object various reconnaissances for a camp site and water were made in the vicinity of Karawal Hill, and eventually an excellent site was fixed upon immediately south-east of that hill. Water, however, there was not and the placing of a camp there necessitated the erection of a powerful pump on the Bara river at Ilmgudr and the gradual pushing forward of a pipe line to the site of the camp, a distance of some six miles.

The laying of this pipe line entailed at the same time the construction of a road alongside it, and more permanent piquets to guard both. The work was carried out by gradual stages; the first stage (during which Mound Piquet was erected and occupied) was protected by troops from Bara and Ilmgudr until the pipe line had reached

approximately halfway ; then a small mixed force, consisting of the 5/2nd Punjab Regiment with some artillery, was detached from the Rawalpindi Brigade and encamped at pipe head protecting the laying of it forward and erecting and occupying Nullah Piquet ; as the pipe neared Karawal Camp site a last reconnaissance in force was made by the Rawalpindi Brigade to cover the occupation of the last piquet (Bachha Piquet), the marking out of the camp and selection of camp piquet sites on Karawal Hill.

Finally on the 17th November the Rawalpindi Brigade (less two battalions and the cavalry regiment) moved to Karawal followed a few days later by the remainder of the brigade, except for the cavalry which remained at Bara as soon as it was seen that the water supply was adequate.

This bringing of the water supply to Karawal Camp was by no means the smallest feat of the Royal Engineers and Pioneers in these operations ; much heavy digging and long hours laying the pipes were entailed, and many small vexatious delays occurred, but all praise is due to them that, in spite of these delays and the steep rise in the ground level from Ilmgudr to Karawal, they produced the water at the camp site on the appointed day and maintained from that day a large and uninterrupted supply.

During the period the Rawalpindi Brigade was engaged on getting the pipe line and itself into Karawal Camp, the Nowshera and Jhansi Brigades embarked upon a large road building programme and from the 18th November onwards all three brigades were busily engaged on these roads, varied with occasional operations in which some opposition was usually encountered. The Afridi sniped the camp occasionally but with little success.

During November the first bridge had been placed over the Bara river by the Royal Engineers at Bara—an Inglis Bridge. This was duly opened by the Chief Commissioner on the 16th November.

December was a busy month for the troops on the two plains, for, in addition to the road making programme, several reconnaissances in force took place. On 3rd December the Jhansi Brigade came in contact with the Afridis at Alam Kili and was closely followed up in the withdrawal, suffering a few casualties, one of which was unfortunately the Adjutant of the 3/11th Sikh Regiment.

It was in this action that it was first noticed that some of the Afridis were wearing grey clothing very similar to the grey-back shirts worn by some of our battalions. Other reconnaissances were made to Dora and Shiki by the Rawalpindi Brigade, and to Mandai and Zao by the Nowshera Brigade.

On the 9th December His Excellency the Commander-in-Chief visited the Khajuri and Aka Khel Plains and made the final decision on the sites for the permanent and semi-permanent posts to be constructed. As a result of this decision the building of Fort Salop was commenced and it was occupied on the 14th December by a Company of the 1st Battalion, King's Shropshire Light Infantry, the well-boring operations there commencing a few days later. Star RiverPost was also established about this time and well boring commenced there too.

Just about the time when the thoughts of many were turning towards Christmas leave, the Afridi showed his one attempt at initiative by laying land mines obviously with the hope of damaging our armoured cars. The District Intelligence summary had reported that the Afridis had been discussing the use of land mines at the weekly Bagh Jirgah but no one took it very seriously knowing the Afridis love of talk. However, on the 17th December, an explosion took place under a lorry on a road quite near Karawal Camp, doing considerable damage to the front portion of the lorry; the next day the horses of the Royal Artillery were exercising to the east of camp when another explosion took place killing the last horse and wounding an Indian soldier. Very shortly after this occurrence some troops were marching out of camp on another road to the south when a small mound in the road was noted and on investigation proved to be the base of a bomb. A careful examination was made and it was discovered to be a 20 lbs. aerial bomb let into the ground with just the base, covered with dust or shingle, above the road surface. From the fragments collected from the two earlier explosions it was clear that they had been made of the same type. On the 31st December an armoured car going up a track on the north of Karawal exploded a fourth mine, having one wheel badly damaged. The third mine that was discovered was exploded by the Royal Engineers as it was considered inadvisable to remove it from the road, but it is fairly clear how these land mines were laid.

A soft stretch of road was chosen, either dusty or covered with loose shingle, a hole was then dug down a little larger than the size of the bomb and a detonator and some gelignite or gun cotton placed at the bottom, the bomb being lowered down on top and wedged into the hole with small stones ; the base of the bomb was just above the surface of the road and was covered either with dust or shingle according to the nature of the road surface. Thus any direct pressure on the base of the bomb fired the detonator which exploded the gelignite and bomb.

Excellent arrangements were made by Peshawar District Headquarters for both British and Indian ranks to proceed on Christmas leave, and a large number availed themselves of the many lorries especially set aside to convey them to Peshawar to catch their trains and later to meet them on their return. This leave and the careful arrangements made for the journeys were very greatly appreciated by the troops, especially the Indian Troops manyof whom had had to forego all or part of their leave in 1930 owing to the Civil Disturbances.

So ended 1930 with good progress made in the road programme and the collection of thousands of stones for the fortified camps, but the Afridi had the last word ! On the night of the 31st December five country-made bombs were placed in the fire boxes of five steam rollers employed on the main road. Two were seriously damaged and the Afridis got away with most of the chains and other portable portions including two *chowkidars* who were later released without their moustaches !

With 1931, the third phase of the operations commenced, namely, the construction of the various permanent and semi-permanent posts and piquets the garrisons of which were to control the two plains after the departure of the three brigades. These were to be established as follows :—

1. A post on the Samghakhai Pass.
2. A fortified camp on the site of Fort Salop with a subsidiary post on Karawal. (The enlarged Fort Salop retained its original name).
3. A fortified camp at the site of the southernmost bridge over the Bara River. (Now called Jhansi Post).
4. A fortified camp at Star River (now called Nowshera Post).

In addition to the above the road system had still to be completed, so that it can be seen that the troops had plenty of work to keep them fully occupied, especially when it is realised that the Jhansi Brigade was withdrawn to its peace station on the 16th and 17th of January, necessitating a battalion from the Rawalpindi Brigade taking over a much reduced Miri Khel camp together with a 3·75 inch howitzer battery and a section of armoured cars, until the work on K. 1., the main road, should be completed.

The Samghakhai Post entailed the formation of a construction camp with camp piquets; this detachment also came from the Rawalpindi Brigade.

However, in spite of the heavy work programme, the three brigades found time during the month of January to re-visit several of the Afridi villages on the outskirts of the plains.

The Jhansi Brigade visited Alam Killi and Dora, the latter place in co-operation with the Rawalpindi Brigade which rounded up Wucha Garhi at the same time; the Rawalpindi Brigade reconnoitred Dora and later made a sweep towards Shagai and the Nowshera Brigade examined Mandai and Zao (twice). In most of these operations a certain amount of opposition was encountered; the Afridi also suddenly took it into his head to snipe Fort Salop in a feeble way.

Early in the month the Royal Engineers erected a second Inglis bridge over the Bara River at the site of the present Jhansi Post. The 1st Battalion, The Sikh Pioneers made very fine cuttings down to this bridge on both sides of the river, entailing heavy labour owing to the hardness of the ground at this point.

February came upon us with a change in the weather, which up till then had been remarkably pleasant except for a little rain at the end of December. But now we had rain and storms with high and bitter winds bringing snow into the hills round about the plain. The only consoling fact was that at last the Afridi was really feeling the effects of the restrictions to bringing his families and flocks down to the plain, for the snow in Tirah was very heavy and continued into March.

The rain, besides making the troops uncomfortable, slowed up the completion of the road programme, especially that of the main

road (K. 1) for the Military Engineering Services coolies employed on this road would not turn out if the morning looked too inclement, and small blame to them too! Who would want to work in rain and a biting northwind with one cotton garment!

The well boring operations at Fort Salop and Star River Post continued but with many vicissitudes. Water was found in abundance at Fort Salop, but bits of machinery had a habit of breaking and falling down the wells which caused a lot of delay. However the construction of the posts and piquets went on well and was up to scheduled time.

On the 6th February the Nowshera Brigade surrounded Alam Killi, Ghazai Killi and Isa Khel before dawn encountering some Afridis and being followed up in the withdrawal, as again happened when this Brigade visited Nawegarhi on the 12th February.

Much talk of Lashkars coming down after the Id filtered through from Tirah but little difference was actually noticed, and it is probable that the very heavy snow there discouraged much movement.

On the 13th the 1st-3rd Gurkha Rifles took over Fort Salop as its garrison to remain there after the other troops had left the plain, but it was not until the 1st March that the 1st/1st Gurkha Rifles took over Nowshera Post.

The main road (K. 1) to the Gandao having been completed on the 16th February, Miri Khel Camp was evacuated and demolished, the 2nd/7th Rajput Regiment returning to the Rawalpindi Brigade and the other troops to Peshawar. The Nowshera Brigade co-operated in the operation on the south of the Bara river and were closely followed up in the withdrawal; no opposition was encountered by the troops of the Rawalpindi Brigade on the north bank.

On the 18th February the Rawalpindi Brigade with the 3rd Field Company, Sappers and Miners and the 2nd Bombay Pioneers together with the section 6-inch howitzers and battery of 4·5-inch howitzers moved out in the early morning against Tauda China and Maira with the object of searching that area and demolishing the towers of Tauda China. Opposition was encountered as soon as the hills were reached and continued most of the day, but all objectives were gained. Unfortunately the weather broke suddenly, heavy

clouds banking up over the hills and descending so low that aeroplanes were quite useless and the piquets in the hills could only see a couple of hundred yards ahead. Rain, sleet and snow commenced to fall making the lot of the troops on the hills particularly unpleasant.

As the clouds tended to come down still lower it was decided to commence the withdrawal after the destruction of the towers somewhat earlier than originally intended; this was successfully completed, the Afridi following up closely at some points but not venturing far from the hills. The 5th/2nd Punjab Regiment and 2nd/17th Dogra Regiment had been engaged continuously throughout the day. The Artillery rendered excellent services during the withdrawal, and, in spite of the low clouds and bad visibility, were able to put down fire on to the main danger spots, owing to the fact that they had registered on to all important points immediately they had arrived in the morning.

Our casualties were very slight, but the Afridis lost much more heavily and reports of their losses were still coming in from various sources when the Rawalpindi Brigade left the plain in March. The Nowshera Brigade came up during the morning to reconnoitre the ground round Wucha Garhi and co-operated in the withdrawal.

By the end of February the road programme had been completed and most of the posts as well. Orders were therefore issued for the Rawalpindi Brigade to leave the plain on the 8th and 9th of March. No further operations were undertaken by the brigade and all energies were concentrated on the collection of as much stone into Fort Salop as the Royal Engineers required and the alteration of Mound, Nullah, and Bacha Piquets which were being taken over by Frontier Constabulary.

On the 6th March some troops of the Rawalpindi Brigade were lent to the Nowshera Brigade to assist in the rounding up of Miri Khel village, which was surrounded at night, but no Afridi was found inside it. The withdrawal of the Nowshera Brigade was again followed up on the south of the river and it suffered a few casualties.

On the 9th March Headquarters and the remaining troops of the Rawalpindi Brigade evacuated Karawal Camp covered by 1st/3rd Gurkha Rifles and marched to Peshawar, leaving the Nowshera Brigade and the garrisons of the various posts to look after the two plains.

The Nowshera Brigade was to have evacuated its camp and returned to Peshawar on the 22nd March. They made one final reconnaissance to the Gandao shortly before they were due to leave and had considerable fighting during their withdrawal suffering some casualties both killed and wounded, but inflicting heavier losses on the Afridis.

The bare account of these operations may tend to lead the reader to think that little of interest took place, but this was not the case. It was interesting to watch the net of roads spread over the plain, although the actual work of collecting and spreading shingle and earth was a very dull one for the troops employed on it, but invariably cheerfully carried out. It was interesting to see the gradual growth of the various posts, although their construction demanded heavy and unexciting work from the troops in the shape of, what at times they must have felt, unending collection of stone. The monotony of the work itself proved interesting in that it demanded close study so that the tedium might be relieved. For instance, on Monday a battalion would be collecting shingle for a road; on Tuesday assisting in building a wall and on Wednesday it would be engaged in road protection duty. Then, it might be considered that one battalion was better at digging or road work than another, and, since speed was necessary, it had to be used accordingly. All the time careful watch had to be maintained on the progress of work to ensure that too many men were not being demanded for one duty to the detriment of another.

Administratively, also, there was much of interest. The almost complete substitution of mechanical for animal transport was worth studying; the manner in which the six-wheelers with their heavy loads negotiated almost any type of ground-whether rocks or two feet of soft dust, must have provided excellent data for their employment on much larger operations. The provision of a "Turning Point" in camp for the mechanical transport added to one of the problems which came to the fore: namely, the size of the modern semi-permanent perimeter camp. So many amenities are now given to the troops (and rightly so) that, unless a very large margin is allowed to the normal camp measurements, the areabecomes so cramped that possibly some of the amenities may have to be refused owing

to exigencies of space. Allowances had to be made for drying and warming tents, hot water baths for British and Indian troops, a disinfector for clothes, and, on occasions, a large area in the camp had to be set aside for "a drinking water point." The possibility of other troops being attached to the brigade must also not be overlooked; in operations such as these the useful pioneer battalion and the ubiquitous extra battery are always at hand to upset our F. S. P. B. calculations.

The number of machine guns and light automatics now with battalions greatly simplifies protection of frontier camps. Gone are the days when it was necessary to have one man per yard on the perimeter. Provided there are enough sentries at night to watch the wire, the remainder of the defences can, to a very great extent, be left to the machine guns and light automatics. The days of small, tight brigade camps are gone except, perhaps, for night halts when their compactness saves the labour of digging long perimeters.

Lastly, from the "G" point of view there was much of interest. Although the opposition encountered was not great, yet it was such that no precaution could ever be omitted and it was quite sufficient to instil the grim fact into the troops that if they moved about the hills carelessly or were slack in their duties anywhere, they might pay for it with an Afridi bullet. It was well known that the Afridis had observation posts on various hills round the two plains and that our every movement was watched. The enemy, as usual, was on the *qui vive* to take advantage of any tactical mistake on our part.

Little mention has been made of the armoured cars in the operations, but probably they had the most interesting time of any of the troops on the Khajuri Plain. Their daily patrol took them into every portion of the area and more often than not they encountered small parties of the enemy or dispersed flocks which had been brought down to graze at the edges of the plain. In withdrawals they were invaluable, often lying up a mile or two miles behind the rearmost troops in the hope of catching some incautious Afridi.

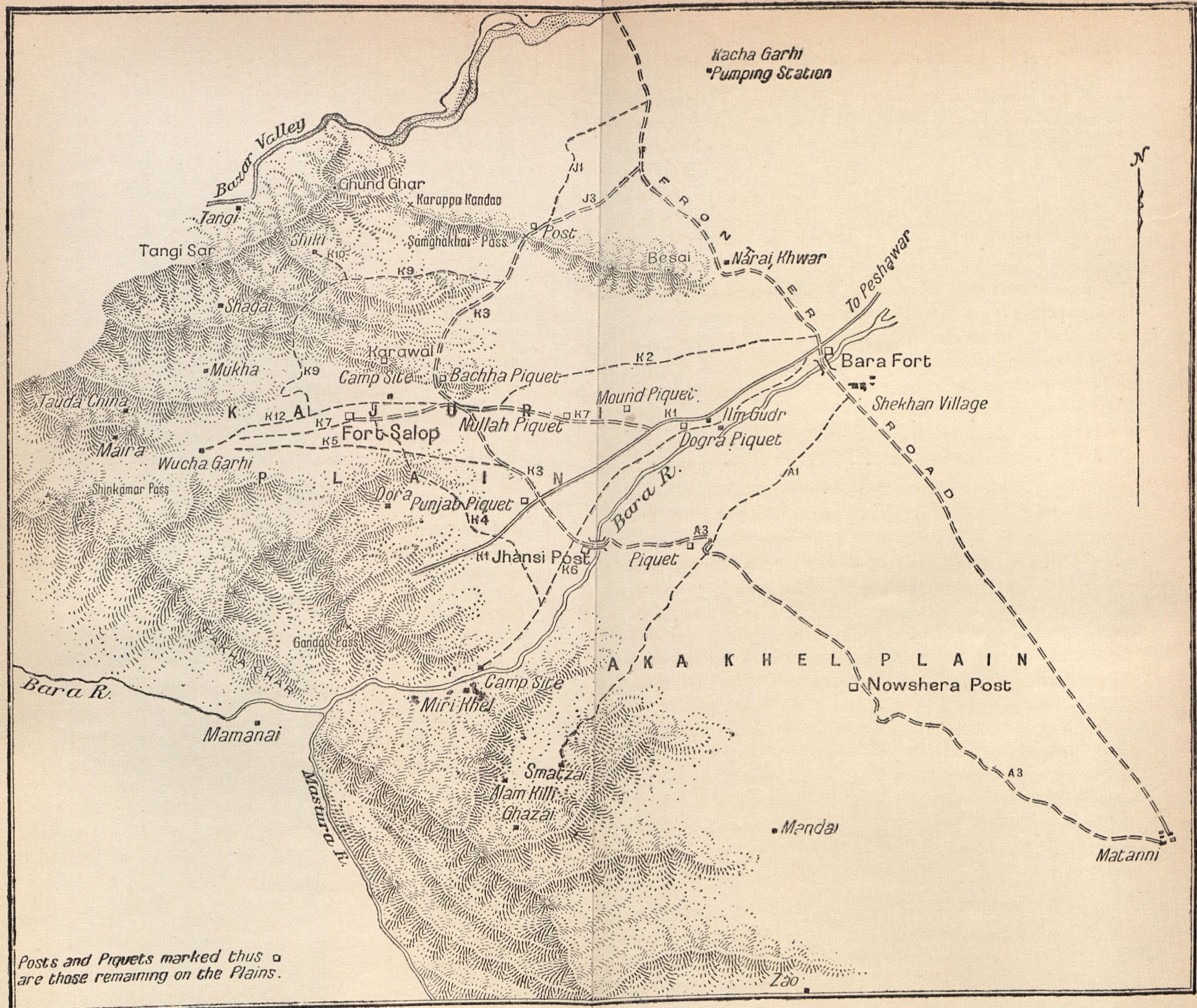
In addition to co-operation with armoured cars, there was close co-operation between the three brigades and the Royal Air Force. Radio Telephony Tenders were attached to Brigade Headquarters so that messages could be taken and sent to the close co-operation

machines; messages were dropped on the various formations and message picking-up was practised on occasions. Innumerable photographs were taken by the Royal Air Force and officers and N. C.O.'s had good practice in working on these photographs for certain operations. Special artillery shoots also were arranged from time to time. Altogether the experience was invaluable, and much was learnt by both arms of the various difficulties that have to be overcome.

The Royal Artillery as ever were a tower of strength and the 6-inch and 4·5-inch howitzers must have given the Afridi some insight into the power of modern artillery and made any attempt to inhabit the villages on the edge of the plain most uncomfortable, especially when the invaders were disturbed by a 6-inch howitzer shell in the middle of the night.

For the Staffs and troops of the three brigades employed, the opportunities offered by these operations for co-operation with other arms have been of the greatest value for, not only the Staffs, but commanding officers of battalions have had to deal with forces of all arms under active service and modern conditions.

Finally, the question has been asked the writer several times. "Well, our casualties have been small; what about the Afridis, have they lost many?" The answer to this cannot be definite because casualties, both killed and wounded, were removed at once to Tirah, and it is only slowly that reports, often inaccurate, gradually filter through. But there is no doubt whatsoever that the Afridi has been suffering steady losses—very many more than those he has inflicted on us—throughout the operations. It is to be hoped that these casualties and the losses sustained amongst their cattle, will, combined with the posts and troops now left on the two plains, bring the Afridi to a more sensible frame of mind and deter him from making uninvited incursions into the Peshawar District in the future.



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THE SOLDIER-STATESMAN.
A STUDY IN MENTAL EQUILIBRIUM, FROM THE LIFE OF JOHN, DUKE OF MARLBOROUGH.

By

Captain A. L. Pemberton, M.C., R.A.

"Patience will overcome all things." Extract from a letter from Marlborough to Godolphin.

* * * * * * * *

In two previous articles (1) I have discussed certain mental characteristics of Oliver Cromwell and of "Stonewall" Jackson, from which two important deductions are to be made; firstly, the power of the unconscious mind—*i.e.*, instinct—and secondly, the value of consciously formed habits as a means of guiding this power towards the achievement of an ideal. "No one rises so high," said Cromwell, "as he who knows not whither he is going;" and he offered, in his own meteoric rush across the military and political firmament, much striking proof in confirmation of his theory. "You can be what you resolve to be," said Jackson, and proceeded to convert himself from an awkward, ill-tutored rustic into one of the greatest generals of his time. Yet both fell short of perfection as a military commander, and in both the cause of failure was the same. Their self-control was too forced, too obviously that of the fanatic, who lacks a natural sense of balance. So long as there were heads to be cracked, or charges to be led, they were masters of the situation. They were then in their element, for they both possessed the fighting instinct in full measure. But this very aggressiveness and egotism, which was so valuable an acquisition in battle, became the source of all kinds of difficulties once the heat of conflict had passed. It clashed so obviously, and so irreconcilably, with the ideals which they had set up for themselves as ministers of God. As a result, the lives of both men were marked by moments of almost pathetic weakness and indecision. After the battle of Worcester, Cromwell had almost supreme power, yet in writing of his victory to a friend in New

(1) See U. S. I. Journal (India), July 1929 and January 1930.

England he says: "How shall we behave ourselves after such mercies? What is the Lord a-doing?..I am a poor weak creature, and not worthy of the name of a worm; yet accepted to serve the Lord and his people. Indeed, my dear friend, you know not me, my weaknesses, my inordinate passions, my unskilfulness and every way unfitness for my work." (1) And this was the same man who, when dismissing his Parliament on 22nd January, 1655, claimed to speak for God, and not for men; and who, a year later, in a despatch to the Mayor of Newcastle, even went so far as to suggest the existence of a partnership between himself and the Deity.

Jackson's spiritual conflict was less intense, and less obvious, than Cromwell's. But it existed, nevertheless, and, like Cromwell's, it first manifested itself in his early manhood. At West Point, we are told, no religion, but only "an engrossing ambition and absolute self-dependence" (2) appeared in his writings. During the war in Mexico, according to his own testimony, "the only anxiety of which he was conscious during the engagements was a fear lest he should not meet danger enough to make his conduct conspicuous." (2) By 1854, however, he had begun to listen to no other than a sanctified ambition, and had determined that he would fight again for his country only if it "were assailed in such a way as to justify an appeal to defensive war in God's sight." (3).

Arguments of this kind are, of course, largely based on self-deception, and the Civil War, when it came, must have involved Jackson in many an awkward spiritual predicament. Indeed, it had hardly begun before he was excusing himself to his wife—in a letter written after the battle of Kernstown—for allowing his religious scruples to become subservient to military necessity. The trouble was he had attacked on a Sunday, and his apology led him, as one might have expected, into a fearful ethical tangle. "Arms," he laments, "is a profession that, if its principles be adhered to, requires an officer to do what he fears may be wrong, and yet, according to military experience, must be done if success is to be attained. And the fact of its being necessary to success,and that a departure from it is accompa-

(1) See "Oliver Cromwell," by G. R. Stirling Taylor, p. 276.

(2) See "Stonewall Jackson," by Col. G. F. R. Henderson, p. 21, 46.

(3) See "Life and Campaigns of Lieut.-Gen. T. J. Jackson," by R. L. Dabney, p. 70.

nied with disaster, suggests that it must be right." (1). In short, success, not religious principle, is the ultimate criterion of right. A startling admission from the pen of Stonewall Jackson, which, were it not for his patent honesty, might expose him to the charge of hypocrisy.

The fact is Jackson, like Cromwell, was a crusader. His private life may, as his protagonists have argued, have been more edifying than that of Cromwell; his public life less pretentious; his protestations of faith less presumptuous. But the basis of each man's boundless energy and fiery zeal was the same. The ruthless discipline of both was directed, not so much against the evils of the world without, as against the hidden devils that raged within. His life under such conditions was not a restful one. He lived, as it were, on the edge of a mental volcano. Small wonder, then, that he sometimes showed signs of having suffered from the strain, or that he ended his fights in a state of complete nervous exhaustion. "After every battle," wrote a biographer, "the excitement and fatigue of the day for Jackson seemed to be followed by a weariness and prostration which in more than one instance wrung from him the cry of 'Rest; nothing but rest.'" (2)

One naturally asks oneself the question, are not these emotional upheavals the price that has to be paid for artistic greatness, whatever the nature of the art may be? Can one be blessed with a natural sense of balance without at the same time lacking fire? And to this question, John, Duke of Marlborough, will, I think, be found to supply the answer.

In so far as his personal courage was concerned, Marlborough was not a whit inferior to Cromwell and Jackson. The dash and determination with which he led his counter-attack against the captured outwork during the siege of Maestricht (1673); his resolute handling of his battalion during the Imperialist counter-attack on the Little Wood at the battle of Entzheim (1674); his timely charge at the head of the Royal Dragoons across the Bussex Rhine at Sedgemoor; his inspiring bravery and resourcefulness at Blenheim; all testify to his love of fighting, and to the strength of his passions once they were aroused.

(1) See "Stonewall Jackson," by Col. G. F. R. Henderson, p. 257.

(2) See "The Life of Gen. Thomas J. Jackson," by Sarah Nicholas Randolph, p. 219.

Nor was he less amply gifted with moral courage, and the readiness to accept responsibility. Few operations of war have been more daringly conceived, or more resolutely executed, than the famous march to Blenheim. And perhaps Marlborough himself was never so highly tried as at 4 p.m., on the afternoon of 21st June, 1704, when his tired troops came up against the formidable Schellenberg position. Far from home ; sharing his command with the difficult and dilatory Prince Louis of Baden ; with the obstinacy and contumacy of the Dutch deputies and generals still fresh in his mind ; and with his own reputation as a commander still largely unmade ; no one could have blamed him had he called a halt for the night,and left the conventional Louis to prepare for a deliberate attack the next morning. But Marlborough did not waver. He trusted in his own powers, and in the bravery and endurance of his troops. Taking advantage of the smoke that poured from the burning hamlet of Berg, he brought up some artillery, sent in his attack at 5 p.m., and by nightfall had won a great victory.

A few weeks later, at Blenheim, Marlborough again gave evidence of the same determination and self-reliance. Once more the day was drawing to a close, and victory did not seem to be within the grasp of his tired battalions. On the left, Cutts, after three fierce but unsuccessful attacks, held the twenty-seven French battalions in Blenheim village, but could make no further progress. In this quarter, it is true, Marlborough's object had been achieved, and it was by his own order that the British attack had been discontinued. Casualties had been very heavy, however, and in other parts of the field events were not progressing favourably. On the right, Eugene had been unexpectedly long in getting into position, and communication with him was not proving at all easy. In the centre, Holstein Beck's attack on Oberglau had been repelled, and Marlborough himself had had to restore the situation at the head of three fresh Hanoverian battalions. This cleared the way for his main attack, but it did not put an end to his difficulties. For no sooner had he got his troops across the Nebel than nine fresh French infantry battalions, coming up from behind their centre, overpowered the musketry of the Hanoverians in Oberglau and brought the cavalry of Marlborough's right to a sudden standstill. At the same time his left, which had been cruelly smitten by the fire from Blenheim, came also to a

halt. From the ridge above Tallard watched the whole line of horse recoil upon the foot, and to him it must have seemed that the battle had now definitely been decided in his favour. Marlborough, however, remained undismayed. He "saw at a glance that the moment was come. His guns were pouring grape into the nine battalions, when he called upon his cavalry for a decisive effort.....The two long lines, perfectly timed from end to end, swung upwards at a trot," and "at the sight and the sound thereof two-thirds of Tallard's horsemen went shamelessly about and galloped for their lives." (1).

Other examples, notably Oudenarde, could be quoted as proof of Marlborough's outstanding military skill and moral courage; but it would be a waste of time to repeat them. At best, historical facts alone do not afford sufficient data for a true comparison of generalship. There are so many unseen forces at work in every situation, that it is never easy to say why this particular thing was done, and that was left undone. A bad dream the night before, an angry letter from a wife or mistress, a stray piece of conversation, almost anything one can think of except simple ignorance of the laws of war, may bring about the loss of a battle. So that a numerical list of victories is no true index of martial ability.

As a matter of fact, Marlborough never lost a single engagement of any importance. Neither did Cromwell. But what adds so much to the significance of Marlborough's victories is the lack of homogeneity in the armies which he commanded, and the relatively poor material from which they were recruited. True, Cromwell had to create for himself the spirit of the New Model Army. He realized the need for "men of a spirit, that is likely to go as far as gentlemen will go," and he knew that such a spirit existed among the dour Puritans of the Eastern Counties. To him, therefore, must go the credit of havin gperceived the military value of religious fanaticism. But it was Fortune which placed this fanaticism at his disposal, and which later rendered a similar service to Lee and Jackson.

Marlborough had no such national frenzy to help him. His wars were fought on foreign soil, and for causes which the mass of the people could hardly be expected to appreciate. Recruits, therefore, were not readily forthcoming, and resort had often to be made to the press-gang. "His soldiers, as the Recruiting Acts con

(1) See "The Wars of Marlborough, 1702-1709," by Frank Taylor, p. 223.

testify, were for the most part the scum of the nation. Yet they not only marched and fought with a steadiness beyond all praise, but actually became reformed characters and left the Army sober, self-respecting men." (1).

In the higher command of his armies, too, Marlborough had even greater difficulties with which to contend. No one realized better than he did the value of the initiative in war, and he must have suffered the keenest disappointment and irritation at the slowness shown by the Allies in assembling their forces for the various campaigns in the Netherlands. In the 1702 campaign it was jealousy of himself on the part of Nassau-Saarbruck and of Athlone that caused the delay. In 1708 it was the Elector of Hanover's jealousy of Eugene. On other occasions it was just the natural procrastination of the Dutch deputies and generals.

And when procrastination failed, the deputies would resort to interference with, and the generals to disobedience of, his orders. At St. Hubert's Lille (1702), when Boufflers, his camping-ground ill-chosen, his army worn out by a week of desperate marching, lay within easy striking distance of Marlborough on the other side of the heath, it was the Dutch deputies who interposed and forbade his attack. Later in the same month, at Helchteren, Boufflers was enticed out of his lines by a convoy of bread-wagons, which Marlborough had cunningly used as a decoy. But now the surly Opdam, for no greater object than to annoy Marlborough, refused to execute his orders, and so threw away another fair opportunity.

In 1703, when, notwithstanding Dutch procrastination, Marlborough had succeeded by his energy in bringing the Allies first into the field, his plans were ruined, and the whole campaign was rendered abortive, by the wilful disobedience and covetousness of Cohorn. In 1705 it was Schlangenberg who kept alive the spirit of antagonism. On three successive occasions—at the Little Geete, the Dyle, and the Yssche—he contrived, by an exhibition of almost incredible childishness, to rob Marlborough of the fruits of victory. At the Little Geete he had actually consented in Marlborough's presence to an advance on Louvain, but on returning to the Dutch Army, which had already begun to pitch its tents upon the

(1) See "A history of the British Army," by the Hon. J. W. Fortescue, Vol. I, p. 589.

plain, he made no attempt to get it on the move again. At the Dyle, the river line had again been forced, when suddenly the Dutch generals halted their main body. "Marlborough rode up to inquire the cause, and was at once taken aside by Schlangenberg. "For God's sake, my Lord —" began the Dutchman vehemently, and continued to protest with violent gesticulations. No sooner was Marlborough's back turned than the Dutch generals, like a parcel of naughty schoolboys, recalled Henkelom's detachment." (1). Yet throughout seven years of such disappointments, treachery, disobedience, and petty irritations, Marlborough never allowed a single expression of annoyance to appear either in his conversation or in his despatches. When, at St. Hubert's Lille, he consented out of prudence to the deputies' wish that he should not attack Boufflers as he crossed the heath in front of the Allies, he wasted no ime in vain recrimination. He merely invited them to ride out with him to see the enemy pass the heath, and left them to realize for themselves what a splendid opportunity had been thrown away. When Opdam refused to execute his orders at Helchteren, he contrived somehow to excuse his conduct in his public despatches. As he wrote in a letter to Godolphin, "I have thought it much for Her Majesty's service to take no notice of it."

At the Dyle, he covered up the imbecility and spite of Schlangenberg by concluding his official report with the remark, "It was thought fit to order our men to retire." At the same time, however, he addressed a temperate but strong protest to Heinsius at the Hague, in which he urged that a supreme commander should be appointed,and an end put to "that perennial source of delay, quarrels and animosities, councils of war."

But still the Dutch remained obdurate, and barely a month later Marlborough again found himself approaching the field deputies for permission to attack the French Army on the Yssche. They received him coolly, and said the generals must be consulted. "He submitted with a good grace, and himself addressed the Dutch officers,..but none made answer, till Schlangenberg at last cried out that, since he had been brought to Overyssche without having been previously consulted, it was his opinion that an assault at that point was impracticable."

(1) See "A History of the British Army," by the Hon. J. W. Fortescue, Vol. I, p. 456.

For three hours the discussion continued. "Marlborough at one moment would stand a little way apart, wrestling, with his indignation and shame; at another, he would plunge into the discussion, using 'sometimes fair words and sometimes hard ones.'" (1)

All to no purpose. Overkirk alone supported him, and it was resolved that an assault at Overyssche was impracticable, and that the remaining points selected by Marlborough should be examined by Schlangenberg, Salisch and Tilly. By the time this was done, it was too late to do anything else. So the Army fell back by easy stages to Tirlemont, and again Marlborough hid his resentment in his despatch to the States-General, because, as he explained in a letter to Sarah, he was afraid it might have given the French an advantage.

These were the kind of difficulties that constantly confronted Marlborough throughout the War of the Spanish Succession. Imagine what Jackson would have done, had he been placed in similar circumstances. At the time of the Loring incident, he gave way to one "outburst of passion which awed and impressed those around him, as he strode up and down the room and expressed all he had suffered in having his plans destroyed" (2). At the conference on the Rapidan, when he wanted to attack Pope immediately, without waiting for the return of the cavalry under Fitzhugh Lee, and Lee overruled him, he is said to have "groaned so audibly.... that Longstreet called the attention of the Commander-in-Chief to his apparent disrespect." (3) And on the 3rd July, 1862, while with the Confederate Army that drove McClellan from in front of Richmond, he was so infuriated by the slow progress of his troops that he "turned on a guide who made a stupid report in fierce anger, and ordered him from his presence with threats of the severest punishment." On retiring that night, he ordered his staff to be ready at dawn, and because at daybreak he found all but Dabney still asleep, he ordered the food wagon to be packed, went without his own breakfast, flung himself into the saddle, and galloped off. (3).

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(1) See "The Wars of Marlborough. 1702-1709," by Frank Taylor, p. 327.

(2)—See "The Life of Gen. Thomas J. Jackson" by Sarah Nicholas Randolph, p. 112.

(3)—See "Stonewall Jackson", by Col. G. F. R. Henderson, Vol. II, pp. 141, 87.

What, then, would he have done, had he been confronted by an Opdam, or a Schlangenberg ? How would he have responded to the officiousness of the Dutch deputies ? And what might have been expected of Cromwell, the man who could shout abuse at a clergyman through the hallowed precincts of a cathedral, or could throw ink in the face of a comrade, when signing the death warrant of his erstwhile royal master ?

Marlborough, of course, had his moments of despondency. On two occasions—after the 1703 campaign,and after his disappointment on the Moselle in 1705—he actually contemplated the resignation of his command. But only once do we find him stung into the loss of his customary tact and composure. This was after Malplaquet, when, aware of his wife's waning influence at Court, and foreseeing the consequences, he attempted to assure for himself a permanent position of power by asking to be made Commander-in-Chief for life. The request was tactless as well as unprecedented, and it met with an unqualified refusal ; whereupon Marlborough persisted in his indiscretion by writing a querulous letter to the Queen, reproaching her with a disregard of his services.

History tells of but one other occasion in his life, on which his self-control came so near to deserting him. It was about the time of William III's death. Marlborough was away in Holland, where, as he knew, he was being kept by William's orders. He also knew that there was a Whig plot afoot, based on fear and jealousy of himself, to pass over Anne in favour of the Elector of Hanover. The success of such a scheme meant the death blow of all his hopes, and when announcing his determination to oppose it, he exclaimed, with a vehemence uncommon to him, "By God, if ever they attempt it, we shall walk over their bellies !"

Can history produce any man who could boast of fewer indiscretions ? Especially one who, like Marlborough, had so often to combine the role of the soldier with that of the diplomatist ? As early as 1677 he was a fully accredited agent in Holland, arranging for British assistance to William of Orange against the French. By 1705 he had become recognized as the one man in all Europe who could keep the patchwork of the Grand Alliance together.

Indeed his tact and adroitness upon occasions of ceremony were as unerring as his skill upon the field of battle. When Eugene, after inspecting the British cavalry and dragoons near Gross Heppach on the 10th June, 1794, exclaimed, "There is a spirit in the looks of your men which I never yet saw in my life," pat came the reply, "Sir, if it be as you say, that spirit is inspired in them by your presence." When the brilliant but erratic Charles XII of Sweden stood with his victorious army on German soil at Alt Raustadt, hovering between support of Louis XIV and of his enemies, and Marlborough was sent posting across Germany to interview him, he soon won that guileless young monarch's good will by declaring that he could desire nothing better than to serve some campaigns under his Swedish Majesty, in order to learn what he yet wanted to know of the art of war. When, in 1709, the King of Prussia threatened to recall his contingent from Italy, a little judicious flattery from Marlborough, who assured Frederick that he would rather have Prussian troops under him than any others, worked wonders, and even produced an increase of 5,000 men in the Prussian contingent.

With this ability, it was but natural that, as the War of the Spanish Succession dragged on, his winters should be spent in solving those diplomatic tangles which were beyond the skill of contemporary statesmen, instead of seeking that rest to which his labours and privations during the campaigning seasons had entitled him. Take the winter of 1705-06 as an example. On conclusion of the 1705 campaign he went first to the Hague, where he obtained for himself greater power over the Dutch troops, and for the Emperor a loan with which to increase the size of the Imperial forces in Italy. Then to Dusseldorf, where he persuaded the Elector Palatine to promise a reinforcement for Eugene in Italy; and on to Frankfurt, where he went out of his way to be extremely polite to Prince Louis of Baden, with the object of securing that Prince's active intervention on the Rhine, to cover his own projected move to Italy. Next to Vienna, where he eased the strained relations between the Imperial Court and the Hague and Berlin; and back *via* Berlin, where he smoothed away certain financial difficulties with the Hague, and induced Frederick to carry out his promise to send 8,000 men to Italy. Finally to the Hague again, to persuade the States-General to send 10,000 auxiliaries to assist Eugene.

Not a bad winter's work for one man! Yet it was eclipsed by even greater diplomatic achievements a couple of years later. During the summer of 1707 "the Grand Alliance, cowering in the shadow of the northern peril, riven by internal dissensions, and stricken by three successive defeats, seemed visibly to collapse. But always in the background....stood the Captain-General of England, exhorting one, counselling another, inspiring all, encouraging here, reprimanding there, supervising everywhere, contriving, uniting, foreseeing, organizing, reorganizing—a giant figure, supporting with labours that transcended the credible the tottering fabric of the coalition." (1).

Well may the great Napoleon have said: "Marlborough was not a man whose mind was narrowly confined to the field of battle. He fought and negotiated. He was at once a captain and a diplomatist." He was indeed, and in the concluding pages of this paper I propose to consider upon what aspects of his character this twofold ability was based.

As we have seen above, Marlborough had the same fiery energy as Cromwell, the same singleness of purpose as Jackson; and in addition he had a mental poise which they both lacked; a poise which enabled him to regard every problem dispassionately and to act always in accordance with the dictates of reason. "All he said was unimaginative, and measured. He appealed to no human passion, but rather the cold commonsense of his hearers. No fire burned within him to kindle the sensibilities of his audience. He knew that those whom he addressed had little real sense of justice or morality, and he spoke to them in terms suited to the low code of honour upon which they acted." (2).

This does not mean that he lacked principle. He had principles, but they were not of the castiron order, as were Cromwell's and Jackson's. If they conflicted with reality, he was well-balanced enough to appreciate that it was they, and not reality, which would have to be modified. So he adapted himself to conditions as he found them, and never tried to mould reality to suit his convictions. Indeed he had "few strong convictions, except upon

(1) See "The Wars of Marlborough, 1702-1709," by Frank Taylor, Vol. II, p. 53.

(2) See 'John Churchill, Duke of Marlborough," by F. M. Viscount Wolseley, pp. 433-537.

the point of religion....Clever, astute, and possessed of great originality, he was a fanatic in no cause, and remained an opportunist to the end of his days." (1).

Adaptability, opportunism, call it what you will, was the key to his personality and to his success. "With all his directness of purpose and strong determination to have his own way, (he) contrived to gain his ends by such a grace and charm of manner, that those he won over followed him as admiring friends, and not grudgingly as unwilling subjects or grumbling servants....Whilst bent on securing the points he deemed essential to his plans, he would carefully, courteously, and often with some ostentation, give way upon small matters....If thwarted, he evinced no resentment, neither did he exhaust his strength by continued or obstinate struggle; he merely shifted his ground." (1).

Concerning the origin of this adaptability, we may surmise that it was the result of accident rather than of artifice. At the two psychologically most important periods of his career—to wit his early childhood and his marriage—Marlborough was confronted by circumstances which must have impressed upon him the value of tact in his dealings with his fellow men. At his birth he found himself a member of a family whose sons had long been landowners in the Western Counties, but whose fortunes had recently been much reduced by their faithfulness to the Monarchy. Both his grandfather John, and his father Winston, had fought in the Royalist ranks, the latter having become prominent as a cavalry leader in the Western Army under Hopton and Granville. After the Royalist collapse John was fined £440, and Winston—no doubt on account of his greater prominence in the cause—£4,446. This was a very heavy fine for those days, and to meet it the unfortunate Winston had to sell his property, and take refuge with his wife's mother, Lady Drake of Ash House, near Axminster, who was a strong Puritan. It was probably at Ash House that Marlborough was born and lived until the age of ten, when the Restoration brought about a slight improvement in the family fortunes. During this time his father, who before the War had attained some literary distinction, under-

(1) See "John Churchill, Duke of Marlborough," by F. M. Visct. Wolseley, pp. 431, 434.

took his education, and from his lips Marlborough must have heard many a tale of the old home, and perhaps an occasional dry comment on the topsy-turveydom of politics.

Now contrast this with the early lives of Cromwell and Jackson. Both men were born, like Marlborough, into families which, though once prosperous, had fallen upon hard times. But how different the cause of their misfortunes! Oliver's grandfather, Sir Henry, popular known as the Golden Knight, had played ducks and drakes with the splendid fortune which he had inherited from his father. And his elder son, Oliver's uncle, had conducted himself with the same prodigality, with the result that, when Oliver was still a young man of twenty-eight, the family seat at Hinchinbrook went to meet the demands of his creditors.

In Jackson's case it was generosity, combined with a taste for good living and high play, on the part of his father that had landed the family in pecuniary difficulties. But the moral of the story was the same. A gentle, pious mother, bearing bravely up against the hardships brought upon her by the thoughtlessness and self-indulgence of his forebears must have planted in each sensitive young mind an ardent desire for atonement. How natural, then, that their first essays in character building should have taken the form of a rigorous self-suppression, which would save them from the humilitation of causing further pain to the mother whom they both so passionately loved! How natural, but how disturbing to their mental equilibrium!

The same divergent influences are to be seen at work in the married lives of these three great leaders. Marlborough, as a young man of most attractive manners, an acknowledged lady-killer, and a rumoured favourite of the King's mistress, was swept off his feet by a young and imperious maid of honour to the Duke of York. From thenceforth he had no eyes for other women, and remained for nearly half a century a faithful husband and ardent lover. His wife's temper was hot, her speech often tactless, and life with her cannot always have been a bed of roses. Indeed even Marlborough himself once admitted, when discussing her temper and strange behaviour with Queen Anne, that "there was no help for that, and a man must bear with a good deal to be quiet at home." Yet he never lost the spirit of romance, nor allowed his pride in his own powers to blind him to the brilliance of hers.

"Her brains inspired his confidence, and her womanhood his passion; and it was her unique combination of intellect with sex which perpetually fed the fire of his romance." (1). In short, he was prepared to take as well as to receive; to adapt himself to his wife; to lean on her strength, and to give support to her weakness.

Cromwell and Jackson, on the other hand, never adapted themselves to their wives. They just married sweet, homely women, who probably took the place of their mothers, and gave them the same uncomplaining obedience and devotion. And this is the way they answered their expressions of wifely anxiety. Cromwell to his wife from Dunbar. "I have not leisure to write much. But I could chide thee that in many of thy letters thou writest to me, that I should not be unmindful of thee and thy little ones. Truly if I love you not too well, I think I err not on the other hand much. Though art dearer to me than any creature, let that suffice." It may have sufficed for Mrs. Cromwell, but it did not prevent him from keeping a mistress or two, after his victories had won him the sceptre of England, and success had perhaps dimmed his religious scruples.

And thus Jackson to his wife from Harper's Ferry in April, 1861. "What do you want with military news? Don't you know that it is unmilitary and unlike an officer to write news respecting his post? You couldn't wish your husband to do an unofficer-like thing, could you?".

One cannot imagine Marlborough indulging in patriarchal pomposities of this kind. He was too much the perfect lover. After twenty-four years of married life he could assure his wife that her letters were so welcome to him that, "if they should come in the time I was expecting the enemy to charge me, I could not forbear reading them." When she came to Margate to see him off to Holland, he kept a glass trained upon the cliffs long after his ship had set sail, "in hopes I might have had one sight of you." In 1704 he remained in a fit of depression for weeks because his wife had been angry when he left her side, and then, when her favour returned, he was seized with an almost childlike joy and wrote to her: "Love me as you now do, and no hurt can come to me." A few weeks later he addressed to her his first report on the great victory of Blenheim.

(1) See "John and Sarah, Duke and Duchess of Marlborough," by Stuart J. Reid, D. C. L., p. xix.

It may be thought that I am stressing too much the importance of the marriage relationship. But I hardly think this can be so. For if woman is the physical complement of man, must she not be the psychological complement also? And in that case no man can be said to be mentally well-balanced who has not learnt to combine—in equal measure—his own personality with that of his domestic partner. I believe, therefore, that Marlborough's attitude towards women, and towards his wife in particular, was much more natural and healthy than that of Cromwell or Jackson. Naturalness was in fact his most striking characteristic, and it was the result, no doubt, of his almost perfect mental balance. Every one of his emotions was under control, and could be turned on or off as the occasion demanded. He could, therefore, be a skilful actor when he chose, as he showed in his last campaign against Villars in 1711. When the French general captured the weakly garrisoned works at Arleux, which had been specially designed as a bait for him, Marlborough, "throwing off his usual serenity declared in public with much passion that he would be even with Villars yet, and would attack him, come what might of it, where he lay. Then came the news that Villars had razed the whole works of Arleux, over which he had spent such pains, entirely to the ground. This increased the Duke's ill-temper. He vowed that he would avenge this insult to his army, and renewed his menace of a direct attack on the entrenchments. Villars now detached aforce to make a diversion in Brabant, and this step seemed to drive Marlborough distracted. Vowing that he would check its march he sent off 10,000 men under Lord Albermarle to Bethune, and the whole of his baggage and heavy artillery to Douay. Having thus weakened an army already inferior to the French, he repaired the roads that led towards the enemy's entrenchments, and with much display of vindictiveness, sulkiness, and general vexation advanced one march nearer the lines." For two days or more he kept up the deception, and then, while his cavalry distracted French vigilance in the wrong direction, he lined up his whole army in the dark and marched off eastward in utter silence. (1).

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(1) See "A History of the British Army" by the Hon. J. W. Fortescue, Vol. I., pp. 541-5, 590.

Neither Cromwell nor Jackson could have done this, though they often acted unconsciously. Marlborough could do it without losing a trace of his natural grace and dignity. We cannot say for certain that he was a better general than Cromwell or Jackson. We certainly cannot say that he was a better man. But he possessed a quality they both lacked; a quality which, if there is any truth in modern psychological doctrines, is the hall-mark of a well balanced mind. He accepted everything, even his own genius, as he found it, and he felt serenely confident of overcoming all obstacles by virtue of that patience which, "as may be seen in a hundred passages during the war, was possessed by him in such manner that it appears almost godlike." (1)

(1) See "A History of the British Army," by the Hon. J. W. Fortescue Vol. I., pp. 541-5, 590.

THE DEFENCE OF PORTS.—Part I.

By "Madeira."

I. Strategic Considerations Affecting Port Defence.

1. *Defended Ports in the Scheme of Empire Defence.*

What everybody knows in one generation is apt to be forgotten in the next, and, even while it is remembered, it is strange how the obvious implications of such common knowledge are often overlooked. For instance, in 1917 there could have been few men and women in Great Britain who did not realize very clearly that the Empire's existence depended on the security of its sea routes. To-day this is still widely recognised, but ideas as to what must be provided to ensure this security are already growing yearly more hazy. A fact which seems in danger of receding further and further into the background is that sea-power itself rests on the provision of defended ports. The callow voter and the harassed tax-payer may see the need for a certain number of warships, aeroplanes and soldiers, but, to them, providing for port defence in peace time, seems waste, or, at the best, uneconomical over-insurance.

Yet the terminal and staging ports of the Empire are an integral part of its trade routes. If the ports are not safe, the sea routes are not safe, and vital supplies, necessary to sustain the Empire's credit and resisting power, will not pass along them. Further, the defence of sea routes compels the dispersion of naval forces into detachments each responsible for the protection of shipping in its area. Each of these detachments is dependent for its maintenance, mobility, and effectiveness on the provision of secure bases. The greater the number of sea routes to be safe-guarded, the more numerous must be these defended naval ports, where depots of men, ammunition, and stores can be formed, ships can refuel and repair, and convoys be assembled. Light naval forces, engaged in commerce protection, would be swept from the seas were it not for the cover given them by the main battle fleet, and to gain command of the sea, the first essential for the battle fleet is a maintenance base within reach of the decisive theatre of naval operations. It is vitally important that such a base should be, not only well equipped, but secure.

2. *The Selection of Ports to be Defended.*

By some it has been urged that in war it will be enough to secure the great trade routes by which Britain receives her essential supplies of food and munitions. But modern commerce is much more complex than a direct exchange between countries. If Britain is to retain her credit, on which depends her power to purchase in foreign markets, *all* trade routes will have to be kept open. If all routes are to be in use, it follows that all ports should continue working, but it is obviously impossible to give local defence to every one of the hundreds of British ports, great and small, scattered up and down the Seven Seas. The vast majority must rely for their safety on the Battle Fleet retaining its command; only those of such importance, that even temporary failure to continue working would seriously affect the national power of resistance, can hope to have their own direct defence.

The first ports to be defended, therefore, must be the main naval bases. Following directly after these in order of importance, come the lesser naval bases, naval repair ports, convoy assembly ports and the larger commercial ports.

3. *Duration and Standard of Defence.*

The basis of Empire defence is a Navy superior to that of any probable enemy, and, for this reason, the local defence of ports need not be expected to hold out indefinitely against serious attack, but only until naval forces can come to its relief. This period will vary greatly, from a couple of days in the case of ports within easy reach of the main naval forces, to several weeks for the most distant. The time in which relief may be expected must be calculated for each port before an estimate of defences required is made, and will depend on several factors, amongst them being:—

(*i*) How long the fleet takes to mobilize or assemble.

(*ii*) The distance from the fleet base.

(*iii* In case of distant ports, the number of and security of intermediate bases.

(*iv*) The likelihood of the fleet being delayed by other operations.

Obviously if the period before relief is likely to be short, the defences, especially on the land side, need not be so formidable, as when a long time must elapse before relief. It is worth noting that a

decrease in strength of the main fleet may mean increased delay in this relief, and a consequent necessity to have more powerful, that is more expensive, defences at ports.

Not only is it impossible to defend every port locally but even those to be defended cannot be guaranteed against every possible attack; only the most likely forms can be considered. The correct policy may be summed up as to give certain important or especially vulnerable ports, enough local defence to enable them to hold off any attack that can be reasonably expected until relief can reach them.

II. Probability and Nature of Attacks on Ports.

4. *Probability of Attack.*

In the Great War there were no really serious attacks on British ports, enemy enterprises being confined to a few ineffective bombardment raids, very minor air bombing, and continuous and intensive submarine action against shipping, often in close proximity to ports. The reason for this immunity was first of all the preponderating superiority of the British Navy, which in a very short time achieved complete surface command, the Austro-German lack of naval bases abroad, and, especially in the early stages of the war, the absence of considerable air forces. It would not be safe to rely on such saving circumstances again. The next war might find the empire very differently placed. There are two new factors to be considered—the advent of air power and naval limitation.

There is little doubt that an air attack on a port not equipped with adequate defences against it would be as destructive as any bombardment from the sea has ever been. The aeroplane may become, like the submarine, the weapon of the weaker naval powers. Nations, which formerly could do little to shake British control of the sea routes, may, by using strong air forces in attacks on ports, be able largely to compensate themselves for actual naval inferiority. There still remains, however, the consolation that this new threat can only be turned into serious danger when the circumstances are especially favourable to the attacker. It will not be enough for the enemy to possess a superior air force; he must have an air base within striking distance of the port. This distance already approaches three hundred miles and is increasing, but it definitely saves many of our overseas ports from the

menace of large scale air attack. The home and Mediterranean ports, on the other hand, are almost all now within the danger zone of some potentially hostile air base. As civil aviation progresses the number of air ports, which could be used as bases in war, will become large and the possibilities of air attack will correspondingly increase. Attack by carrier-borne aircraft can never equal in effectiveness that from shore bases, but it cannot be neglected. No power possesses more carriers than it will require for normal duties with its fleet, and all navies will be very adverse from risking these vulnerable and irreplaceable units in attacks on ports, unless the operations are considered of such importance that large naval forces are also engaged. There will be, too, the possibility of minor and sporadic attacks by aircraft carried in converted merchant ships, light cruisers or even submarines. The machines would be small, and the amount of bombs carried not very formidable, but a port, undefended against them and presenting vulnerable points for attack, might suffer heavily.

The second factor affecting the probability of attack is the reduction of naval armaments consequent on the Washington agreement. The limitation this places on the number of aircraft carriers allowed to the principal naval powers makes it more than ever certain that intensive air attack on ports out of reach of hostile shore-based aircraft is unlikely. Besides this the nations affected by the agreement cannot now afford to keep any obsolete capital ships, as these would count against the number allowed. This reduces very considerably the probability of attack by bombardment from the sea, for it was these older ships, not fit to take their place in the battle line, which were peculiarly useful for the purpose. Their guns were sufficiently effective, and even their total loss would not seriously alter the balance of naval power, which rests on the relative strength in modern ships. It is only when there is some great strategic advantage to be gained that a nation will risk even a portion of its battle fleet in an attack on a defended port. Even if successful, the losses and damage its capital ships are almost sure to suffer will endanger its chance of victory in a subsequent fleet action. Still, it may sometimes happen that the capture or destruction of a port will be worth this risk. Japan, were she at war with the Empire, might well take it to deprive the British battle fleet of Singapore, its only base within striking distance of the Western Pacific.

5. *Nature of Attack.*

The form an attack will take, that is whether by sea, air, land or a combination of all these, will depend not only on the strategic importance of the port, but on the object to be attained. Ports have been attacked for many reasons, but the commonest in the past and most likely in the future are :—

(*a*) The capture of the port in order to use it as a base, prevent its use as such by the enemy, or to destroy naval forces sheltering in it.

In the case of a well defended port this will entail a combined operation on a large scale, with the landing or advance over land, of considerable military forces.

(*b*) The blocking of the port to render it useless or to seal up vessels already inside.

This may be attempted by single ships relying entirely on surprise, but more usually will necessitate a combined operation employing considerable light naval forces and numerous aircraft. Often a small landing will also be attempted as a diversion.

(*c*) The destruction of shipping in the port, or of shore establishments, docks, stores, fuel supplies and other facilities.

The means employed singly or in combination may be bombardment, entrance of submarines or light forces into the port, attack by aircraft, or raids by landing parties.

(*d*) An attack on the morale of the defender, so as to induce him to divert forces to the passive defence of his ports and coast line.

For this light naval or air forces would probably be employed, with possibly feints at landing.

(*e*) Attacks on shipping in the approaches to the port or its immediate vicinity to paralyse its commerce or prevent troop movements.

The submarine, surface raider, mine-layer, and aeroplane would be the chief agents in this form of attack.

The composition and size of the forces to be employed in any particular operation to gain one of these objects will depend on a variety of factors the chief of which are :—

(*a*) The strategic importance of the port to the defenders or to their enemy.

(*b*) The forces available for the attack, *e.g.* whether the distance from a shore base will allow the use of a large air force.

(*c*) The time that will elapse before the defenders' main naval or air forces can come to the relief of the port, and the strength of the local defence.

Before the broad outlines of the defence necessary for any particular port liable to attack can be settled, it will be necessary thus to deduce what are the enemy's probable objects in attacking it, whether the chief danger will come from the sea, the air, or the land, and the period that will elapse before relief. A decision of these points should be followed by a detailed consideration of the tactical forms of attack likely to be used and the means with which they can be met. It should be remembered that the defences required depend, not so much on the importance and facilities of the port, as on the strength and nature of attack to which it may be subjected.

III. Methods of Attack by Sea and means of defence against them.

6. *Bombardment.*

(*a*) *Attack.*

Ports of sufficient strategic importance to justify it, may be subjected to bombardment by the 15 or 16 inch guns of capital ships, at ranges of 30,000 yards or more. At this range, even with good air observation, ships can hope to engage successfully only the largest targets, dock areas, railway stations, floating docks and the like. Even with such targets a considerable expenditure of ammunition will probably be required before any vital damage can be achieved. Consequently the object of the bombarding ships will be to close the range as far as they can without undue risk from the shore defences. Smoke screens from light vessels or aeroplanes, shielding them from view, will almost certainly be used to help them to do this. Commercial and naval ports, which are not main bases, may be liable to similar bombardment by cruisers with 8 inch or 6 inch guns at ranges below

25,000 yards. Indirect fire of these guns, even with air observation, at such a range is not likely to be very accurate, and it may be taken that every endeavour will be made to close in until direct observation can be obtained. All ports will be liable to bombardment by the light guns of auxiliary cruisers or submarines. Except by surprise against peculiarly vulnerable objectives such as oil tanks, power stations, etc., these attacks are not likely to cause really serious damage.

(*b*) *Defence against Bombardment.*

The best defence against bombardment from the sea is that provided by nature, *e.g.*, a port situated some distance up an easily guarded estuary, such as Calcutta. Failing this, the defence must aim at sinking or damaging the bombarding ships, or at least, by keeping them at extreme range or by denying them observation, at rendering their shooting inaccurate. Ships' guns, especially heavy ones, have only a limited number of rounds available, and they cannot afford blind shooting.

Each of the three services possesses means by which these ends may be attained.

In spite of improved methods of defence against them, submarines must still be treated with the utmost respect by bombarding capital ships and cruisers. If they achieve nothing more, submarines can at least compel them to keep under way and thus impair their shooting. Destroyers and coastal motor boats are not likely to be so effective, as their most favourable time for attack is by night and usually bombardment will be by day. Contact mine fields may play a very important part by denying the most suitable positions to the bombarding ships, and by forcing them into waters favourable to the operation of other means of defence. Incidentally, too, the knowledge or suspicion that mines are present acts as a deterrent to the use of heavy ships, and compels the attacking force to hamper itself with auxiliary craft for sweeping. There are, of course, many difficulties in the employment of mines, especially in deep or tidal waters, and, in heavy weather, they are liable to get adrift to the risk of friendly shipping. In most ports, however, the mine will be amongst the defence's most powerful weapons, not only because of its material and moral effect, but because, by compelling the attackers to sweep, it will delay them and deprive them of surprise.

The aeroplane now offers a new threat, comparable to that of the submarine, to a bombarding ship. Heavy bombers and torpedo planes may cripple the biggest battle ship if they can hit her ; and even if, as some people aver they will, they fail to hit her, they can make her keep under way and continually alter course, thus rendering accurate shooting most difficult.

The standard local defence against bombardment from the sea has always been in the past the shore battery. Whether it should continue to be so now will be considered later. The type of gun required depends, of course, on the armament of the attacking ships, and must be such as to be able to do serious damage at the extreme range of the probable bombardment. Thus where attack by capital ships is anticipated the shore guns should have a range equal to that of the largest ships' guns. Medium coast defence guns may replace heavy when attack by capital ships is not anticipated. Whatever guns, heavy or medium, are employed, they will require very elaborate range finding apparatus, and, for real effectiveness, air observation.

Smoke screens, laid either by light craft, aeroplanes or on shore may be most valuable in hiding targets from the sea. Camouflage painting may often be usefully employed to break up the outlines of objects conspicuous from the sea.

7. *Attack by Light Surface Craft.*

(*a*) *Attack.*

Destroyers and coastal motor boats relying on surprise and speed, often under cover of darkness may attempt to torpedo shipping in the approaches and examination anchorage, or even inside the harbour itself. Destroyers may also use their guns against merchant shipping.

(*b*) *Defence.*

Naval defence against this form of attack will usually consist of mine-fields ; contact, to make the approaches difficult and tortuous, and possibly controlled to close the actual channel. Owing to its light draught, the coastal motor boat can pass over mine fields with comparative immunity, and where hydrographic conditions permit booms may be used to supplement them.

To an attack by coastal motor boats, machine gun fire from aeroplanes is a most effective counter, while even destroyers, engaged in the delicate and hazardous task of forcing an entrance into a defended

harbour, are in a lesser degree vulnerable. There is, however, one very great restriction on the use of air forces, as for this purpose aeroplanes are largely ineffective at night, when such attacks will usually occur.

Light guns, 6 inch and under, and searchlights on shore provide an effective defence. These guns and their lights must be sited to cover at close range the immediate approaches to the port, the examination anchorage, booms, mine-fields and other obstacles, so that any hostile craft, however speedy, will be under close range fire for some minutes before it can reach a position from which it can be dangerous.

8. *Attack by Submarine.*

(*a*) *Attack.*

Like the lighter armed surface craft, the submarine will attack shipping in the approaches and may try to get inside the harbour to use its torpedoes against ships, floating docks or lock gates. The submarine mine-layer made its appearance in the last war, and is peculiarly suited for use in the neighbourhood of defended ports. While the torpedo is the submarine's primary weapon, the size of the guns carried is gradually increasing and they can largely replace torpedoes in attacks on merchantmen. There are even a few freak submarines equipped with heavy long range guns, capable of coast bombardment.

(*b*) *Defence.*

The naval contribution to the defeat of the submarine may consist of offensive patrols in the vicinity of the port and of obstacles in the approaches. For these patrols, destroyers, in the rather unlikely event of their being available, are most suitable, but it is probable the defence would have to be content with trawlers, motor launches and other auxiliary craft. Where practicable, that is when depth of water and current permitted, deep mine fields would be laid, supplemented by anti-submarine nets, fitted with indicator-flares and attended by armed trawlers ready to deal with any entrapped submarine. As an integral part of the anti-submarine defences there should be as complete a system as possible of hydrophones and automatic detection and location devices, such as have been so greatly developed during the last ten years.

Aeroplanes, or small balloons of the "Blimp" pattern, can be used to locate submarines outside the port, and, when found, to attack them with bombs, while at the same time calling up naval forces to co-operate.

Shore light batteries and searchlights will be needed to cover the mine fields and anti-submarine nets, which, like all military obstacles, to be effective must be under the fire of the defence. These guns will also be prepared to deal with any submarine driven to the surface by these obstacles.

9. *Attack by Blockships.*

(*a*) *Attack.*

Obsolete warships or merchant vessels may attempt, usually under cover of bombardment or air attack, to sink themselves in approach channels or harbour entrances. This method may be varied by using a disguised merchant-ship openly entering the port.

(*b*) *Defence.*

Apart from a single disguised ship thus evading the examination service, an attempt to block a port will probably involve a considerable combined naval and air operation, with possibly a feint at landing. The local naval defence vessels will endeavour to prevent the approach of the block ships, and their efforts will be backed by any mine fields or booms that have been placed in position.

From the air, block ships and their escorts can be bombed as they approach. Machine gun attacks on their probably lightly protected upperworks may make the exact navigation so necessary for the operation impossible.

The shore batteries, even if with their heavier guns they fail to prevent the block ships closing in, can concentrate their fire on any vessel forcing its way towards the harbour entrance, so as to sink it before it has reached a position favourable for blocking.

IV. Methods of Attack by Air and means of defence against them.

10. *Bombing.*

(*a*) *Attack.*—Like bombardment by capital ships, continuous and intensive bombing from the air need be anticipated only at ports of major strategic importance, and then only when within range of an enemy air base. But intermittent raids of considerable intensity with

the object of disorganizing the working of the port or of damaging some especially vulnerable installation may be expected at any port within reach of hostile air bases. By day such attacks would probably be delivered by formations; by night by a succession of single heavy machines. The height from which these day attacks would be made would depend on weather conditions and the state of the anti-aircraft defences. If the object were to demoralize the civilian dock-workers, light bombs might be used so as to spread the effect over a wider area, while, if the infliction of damage was mainly intended, the bombs would probably be fewer and heavier. The frequency and intensity of such attacks will be much lessened if the port is out of range of shore-based aircraft and the attacks have to be delivered by carrier-borne machines. Not only will the numbers of aircraft be limited by the scarcity of carriers, but the size of the machines and difficulties in operation will decrease the amount of bombs that can be dropped.

(*b*) *Defence.*—The most effective and most obvious defence against any form of air attack is to meet the approaching hostile machines with fighters and shoot them down or drive them back before they are over their objectives. Even if no machines are available some attempt at defence in the air may be made by using aerial obstacles. By night such devices as nets suspended from balloons have value, even if only for moral effect, but by day they are usually easily avoided or shot down.

Whether fighter machines are available or not, a ground anti-aircraft organization will be needed wherever serious air attack is likely. This should consist of anti-aircraft batteries, searchlights, sound location units and a chain of look-out and listening stations on the land side of the port. The whole system for a big port will require very elaborate communications. Anti-aircraft guns are usually limited to action against aircraft, but an economy might be effected, especially in ports where considerable naval and air attack is not expected at the same time, were it feasible to design a light coast defence gun capable of use as a quick-firer against either surface vessels or aircraft. A form of defence liable to be overlooked is protection for the actual coast defence gun positions against attack by low flying machines. If this is not provided, a few boldly handled aeroplanes could do a great deal by machine gun attacks to disturb the shooting of the defending

guns at a bombarding squadron. Every battery position should, therefore, have at least two anti-aircraft light automatics for its own local protection.

Of recent years, the anti-aircraft armament of warships has greatly increased, and it is not unlikely that in the next war merchant shipping will also to a lesser extent require such protection. The anti-aircraft guns of any vessels so armed in the port will be available to co-operate with the ground defences As in the case of bombardment from the sea, it may be possible to screen certain vulnerable points from the air by smoke, but there are very great difficulties in this and it could not be relied on as a means of defence.

The careful organization and instruction of the civil population, especially of essential labour, to prevent panics and undue interruption of work, will also be necessary.

11. *Gas.*

(*a*) *Attack.*—The gas used might be either lethal or of the mustard type. The first would be dropped in bombs; the latter either in bombs or sprayed. If the object of the air attack were to assist some other form of attack, it is probable that lethal gas bombs would be used, while if it were to disorganize work a most effective method would be the mustard spray. Under favourable conditions even a few aeroplanes, flying low over a docks area could contaminate a very large portion of the quays, shipping alongside them, and goods stacked in the open. This form of attack might become a favourite one for aeroplanes operating from raiding light or auxiliary cruisers. Decontamination is such a lengthy process that the work of a port might easily be held up for several days after the visit of a few mustard sprayers.

(*b*) *Defence.*—Besides the defences that can be used against all form of air attack, fighter aircraft, anti-aircraft guns, Lewis guns, and obstacles, against gas a very complete ground organization is required. Every person in the danger zone of large scale gas attacks should have a gas mask and know how to use it, alarm measures must be prepared, gas proof shelters provided, mobile decontamination units formed and in certain areas decontamination centres located.

12. *Torpedo Aircraft.*

Surprise attacks by torpedo from aircraft may be carried out on shipping in the port or its approaches. As a rule it is likely that such attacks will be on warships rather than merchant vessels, but, as the number of torpedo carrying aeroplanes increases, so will the frequency of such attack. Floating docks, and similar vulnerable objectives will often be very susceptible to this form of attack.

(*b*) *Defence.*—Such hostile torpedo machines as evade the defending air forces must be dealt with by the anti-aircraft guns and lights on shore, and in the last resort by the anti-aircraft or other armament of the ships attacked. To release its torpedo the aeroplane must come down low above the water, and thus present a target for small arms and light automatics.

V. Methods of Attack by Land and Means of Defence against them.

13. *Attacks in Great Strength.*

(*a*) *Attack.*—An attack in force on the land defences of a port entails either invasion across a frontier, or a large scale landing, probably in the vicinity of the port. In either case the attacking force would have to be a fully equipped army, especially strong in medium and heavy artillery as in the last resort the defence would revert to what would be practically position warfare. For the majority of British Empire ports attack across a land frontier is either impracticable or improbable; the hostile army will have to be landed by a combined operation of such magnitude as to be unlikely except against ports of primary strategic importance.

(*b*) *Defence.*—Should, however, a strong enemy force advance overland against a port, it should be met, if possible, by a corresponding mobile force of all arms, with powerful air support, at a distance from the port. If the defending land forces are too weak, or not mobile enough to do this, they should take up a defensive position at some defile or natural obstacle that will enable them to hold up the enemy out of at least medium artillery range of the port. Finally, if they are not strong enough to do even this, or if they are driven from such a position, they must fall back on to the close defences of the port. Here, while they may still deny it to the enemy, it will be under the continuous fire of his artillery and, even if no superior hostile naval force is near, shipping will be unable to remain in the port.

Before attempting a large scale landing the enemy will not only have secured at least temporary local command of the sea and air, but, unless he is very rash, will have made reasonably sure of retaining it for some considerable time. To meet this form of attack, the defending land forces should be disposed with minimum detachments to watch likely landing places, and to hold up or delay any hostile forces that may gain a footing ashore. The maximum mobile military and air forces should, at the same time, be held in reserve in some central locality, ready, as soon as it is discovered at which landing place the enemy is disembarking his main forces, to move there rapidly and attack him. It will be observed that an essential part of this scheme of defence will be the provision of good communications and transport facilities from the central reserve to the probable landing places.

The naval share in the defeat of a landing force, in addition to placing mine fields, is to attack in every way the transports, landing craft and their escorts, while air attacks on shipping, open boats and crowded beaches would add immeasurably to the difficulty of the attackers.

14. *Raids.*

(*a*) *Attack.*—Surprise attacks by small forces landed from ships are probable at lightly defended ports containing important or vulnerable objectives. It is possible that in the not too distant future a small mechanized force might be landed, or cross a frontier at a considerable distance from a port with the object of raiding it. Minor raids may consist of a few men landed from a ship or by aircraft, with the object of damaging certain installations, and thus holding up the working of the port or of destroying stores or ammunition. Frequently raids and small scale landings will be used in co-operation with some form of sea or air attack, *e.g.*, an attempt at blocking a harbour.

(*b*) *Defence.*—When raids take place from ships, defence against them may be conducted as against larger landings but, of course, employing smaller forces. The raid of a mechanized force might in some cases be seriously held up by the timely destruction of bridges, inundations and gas filled defiles. In addition to all or any of these the close local defence of vulnerable points will have to be arranged.

15. *Local Risings.*

(*a*) *Attack.*—In the Empire, where so many of our ports contain large native populations, peculiarly susceptible to panic and propaganda, and where so often anti-British organizations already exist, the possibility of local risings can by no means be ignored. In some ports even, there are large settlements of potentially hostile aliens in the immediate vicinity of most important and vulnerable objectives. Of themselves, if the authorities are warned and prepared, these outbreaks are not likely to be a serious danger to the safety of the port but they would interrupt work and, if timed to coincide with external attacks, would be a very real embarrassment. The arming, reinforcement and direction of the rioters by small parties of enemy agents landed from aeroplanes or ships is also a possibility which might very considerably increase the danger.

(*b*) *Defence.*—Internal security will depend, in the first place, on accurate intelligence, as, if before a disturbance materializes, there is sufficient warning, it will usually be possible by sudden and vigorous action against dangerous leaders and subversive organizations to paralyse hostile action. The collection of this intelligence, and the concerting of security measures based on it will be the work of the local civil authorities, acting in closest liaison with the military. The actual protection of lives, property and many vulnerable installations may be left to the police and reliable armed civilians, but it is probable that certain others, essential to the conduct of the defence, will always require small guards of regular troops. Some organization of counter-propaganda in the hands of experts in local feeling will also be required.

(*To be continued.*)

THE MAPPING OF AFGHANISTAN.

By

"Rational View."

F. O. U. O. areas.

Till recently, Survey of India maps of all areas outside India itself were classed F. O. U. O. ("For official use only"), and were only issued by permission of the General Staff, and to private individuals only under a written promise of secrecy. During the last few years however, the ban has been lifted successively from Iraq, Persia, Tibet, Nepal, Bhutan, &c., the only remaining "F. O. U. O." areas are Afghanistan, the unadministered tribal areas in the North-West Frontier Province, Soviet Russia, and the part of China which adjoins the Indian north-east frontier and Burma. Probably the deciding factors in the removal of a country's maps from the "F. O. U. O." list are its disappearance as a military problem, the desire of the country itself for self-development, or the impossibility of keeping its maps secret any longer.

Practicability of keeping "F. O. U. O." maps secret.

It is a moot point whether "F. O. U. O." maps can really be kept secret, and among other evidence to the contrary may be mentioned the discovery of a complete set of maps of the Near East in the possession of the German Consul-General in Calcutta at the outbreak of war in 1914. So long, however, as the sole mapping agency in the country concerned is under the Government of India and controlled by the General Staff, the practicability may be assumed of keeping its maps secret or at any rate difficult of access for the unauthorised. Whether such secrecy is politic or advisable is another matter.

Effect of keeping general utility maps secret.

Maps containing purely military information, such as large scale maps of defended ports, &c., obviously cannot be published; on the other hand, the sequestration of ordinary small-scale topographical maps, containing military information as well as that required for a country's development, might not unreasonably be resented by its rulers.

From time to time, British Officers in Afghanistan have been able to carry out regular surveys, working deliberately and openly, and their activities have doubtless been reported in due course to Kabul.

In cases of random exploration of this kind, it is usual to send complimentary copies of the resulting maps to the authorities of the countries explored, except when the latter—like Afghanistan—are in the "F. O. U. O." category. It is arguable that the probable effect of secreting survey results is the refusal of survey facilities, with the result that most of our maps of Afghanistan are so sketchy as not to be worth keeping secret.

Explorers, backed by private or semi-official enterprise, have in the past procured valuable survey material from tracts closed to official agencies. Probably Afghanistan and south-western China are the places, of which reliable maps are required most of all, but these are the very ones explorers would be most likely to avoid. Apart from personal risk, the chances would be overwhelmingly against getting away without loss of equipment, instruments, photographs and any scientific results obtained during the venture.

Requirements of military maps.

In any case, it may be questioned whether Afghanistan is not past the exploration stage. Topographical maps required for road and railway alignment, geological survey, irrigation projects, &c., demand as rigorous a standard of accuracy as military maps. The latter may best be judged by artillery requirements—

(*i*) A close and accurate triangulation network, required by Artillery Survey Sections for fixing bearing pickets and control points.

(*ii*) Accurate 1-inch maps, with more detail on them—if possible—than is contained by the modern 1-inch series in India.

These maps are on too small a scale for predicted shooting, but are necessary for the issue of orders and for map references of targets of ranged and observed fire.

(*iii*) Accurate 3-inch position maps of areas where a temporary deadlock has been reached, suitable for predicted shooting owing to the large scale.

Deficiencies of mapping in Afghanistan.

The map in Fig. I shows how far these *desiderata* are from attainment.

Though Russian and Indian triangulation has been pushed up to the respective frontiers and numerous points fixed therefrom in Afghanistan, the only triangulation series in Afghanistan itself are comparatively small strips emanating from independent exploratory bases at Kabul, Kandahar, Kalat-i-Ghilzai and Kuhsan.

Most of this triangulation, together with the small-scale surveys covering the triangulation areas and a few large-scale city surveys, was carried out during the last period of occupation of Kabul and Kandahar in 1878—81. In these maps however hill features are shown by form lines or hachures, not by contours as in modern maps. This is a serious disability in mountainous country, where contours are to all intents three-quarters of the map.

Air-survey and its limitations.

It is problematical how far, in modern warfare, survey from air-photos, carried out *pari passu* with operations, can make good deficiencies in the existing ground survey. If entirely reliable, it would obviate altogether the necessity for any ground survey work during peace. At present, air-mapping is done almost entirely from vertical air-photos, which need less "interpretation" than obliques and can indeed be mosaicked into a rough map by eye. From a mapping point of view, their most striking characteristics are extreme rapidity, large-scale * and entire dependence on "control points" fixed from the ground.

Air-survey. (*i*) *Control.*

Essentially, four fixed or control points are required for each air-photo.** Of these, only major control-points are provided by triangulation, from which the remaining or minor control-points are derived by the quicker process of plane-tabling or from the air-photos themselves, which have a liberal common overlap—60 per cent.—for the purpose.

* In two hours actual photography at about 12,000 feet, an F. 8 air-camera of 7-inch focal length can photograph comfortably 110 square miles on scale of 3-inches to 1 mile. Smaller scales are uneconomical.

** Size of each photo of the F. 8 camera is 7-inches square.

It is apparent therefore that, in a mountainous region like Afghanistan, an even denser triangulation net is required for the adjustment of air-mapping than would be necessary for ordinary plane-table survey, or than now exists. It is feasible to provide this triangulation also *pari passu* with operations, but the reliability of triangulation points thrown forward graphically, frequently at acute intersections, and "unclosed," is bound to deteriorate rapidly.

Air-survey. (*ii*) *Covering the ground with photos.*

The first stage of the survey is to cover the whole area by overlapping air-photos, without leaving any gaps. As this entails flying a series of parallel strips with a minimum of tilt (see Figs. II and III), and constant height, and taking photographs with a consistent forward and lateral overlap, the difficulty and delicacy of the task—especially over hills and in bad weather—can be appreciated.

Air-survey. (*iii*) *Turning the photos into a map.*

The conditions of perspective under which vertical air-photos are taken are shown in Figs. II and III, the former being a tiltless vertical and the latter taken with accidental tilt θ, which accurate fliers can almost invariably keep below 2°. Omitting all approximate methods, the first step is equivalent to rectifying each tilted photo (Fig. III) by its control-points to its intended truly vertical version (Fig. II), in an enlarger or by other means.

The only common properties of *all* tiltless verticals (Fig. II) are that—

(*i*) On the plate, the *direction* of any point from the ground plumb point (ga, gc. is the same as on the ground (GA, GC).

(*ii*) On the plate, relief distortion (bf) is *radial* from ground plumb point (g)—this follows from premise (*i*) above—and is proportional to the height (EF) of the relief (E) above the ground plumb point (G), on the ground.*

* On the plate, hill E appears at point b, but its real position is point f. By similar triangles, height of hill E above ground plumb point *on photo or map scale* is of $= \frac{og \times bf}{bg}$, which are known or can be measured.

In flat, or almost flat, country, air-photos rectified to true vertical—a comparatively simple process in the absence of hills—are accurate maps in themselves. In hilly country, however, tilt and relief distortion make rectification to the vertical a laborious process; and after that individual points have to be intersected and heighted separately *by their radial directions from successive ground plumb points*, an operation which can be performed mechanically by one of the several stereoplotters on the market. Radial air-mapping methods have still a very long way to go. Among other probable developments are multi-lens cameras, a more extensive use of obliques, the introduction of the Fourcade stereoscope and plotter (which is said to set any two overlapping negatives in correct perspective to each other, and then to plot the common overlap), and the elimination of the focal plane shutter, which allows the aeroplane's movement to introduce distortion into each photo.

It may reasonably be concluded—and recent air-survey exercises under service conditions confirm this—that for topographical surveys *in hilly country* plane-tabling on foot still holds the field as the best, cheapest and most accurate method—and, *when accurate maps are required*, the quickest method too—, but that it and the triangulation on which it depends have to be done deliberately under peace conditions.

Previous history of the reconnaissance of Afghanistan.

A glance at the map shows that an occupation of western and central Afghanistan—probably for a longish period of consolidation—is inseparable from a Russian descent on India, whereas the latter's safety depends on a strong, united and independent Afghanistan.

Even though armies of British India have been in partial occupation of Afghanistan for two periods of three years each in 1839 and 1878, the very fact of their precipitate evacuation the moment—as Sir George MacMunn puts it*—"somebody had been found to hold the baby," should have vindicated British motives even in Afghan eyes, especially as each of these occupations was followed by a generation of comparative peace and order. Amir Abdurrahman, who had

* MacMunn's "Afghanistan."

been twelve years in exile in Russia and was therefore likely to be a lenient critic of Russian policy, was as convinced of its acquisitive intent as he was of British goodwill, if not disinterestedness; and his opinions* are probably those of a large number of educated Afghans to-day.

Unfortunately feelings are seldom governed by logic. To most Afghans, the rise of an inconveniently strong government in northern India at the beginning of the nineteenth century has probably meant the interruption of a tradition of successful invasion southwards combined with ceaseless pressure from the direction of Persia. They remember that this neighbour has always sought to control their foreign policy, and that up to 1878 there was a British "forward" school of thought, which held that the policy of Afghanistan as an "état tampion" ought to go.

Amanullah must have been backed by a disconcertingly solid mass of anti-foreign and anti-control feeling when he took advantage of British preoccupations elsewhere in 1919, and all that may be surmised of Afghan opinion is its hearty distrust of the disinterestedness of all foreigners, while appreciating the implications of their policies as they affect Afghanistan.

It was natural, however, that in 1904 Lord Kitchener should have tackled unequivocally the question of ensuring the integrity of Afghanistan."† After eighteen months' study he drew up a paper on "the subject, of which the main point was that we should come to a "definite understanding with Afghanistan. The Amir Habibullah "(who succeeded his father Amir Abdurrahman) had been only a short "time on the throne, and therefore it was natural that we should "raise the question of joint action with him. If he intended to "show himself a loyal ally he would allow British officers to reconnoitre "his country and prepare schemes for its defence; if he refused to "come to any agreement it would be better to stop the supply of "munitions and repudiate all responsibility for the defence of Afghan "territory. The Home Government agreed to send a special mission "to Kabul for the purpose of sounding Habibullah. His Majesty was "intensely jealous of his independence and could not forget that a "British army had occupied his capital some twenty-five years ago. "The mere suggestion that officers should be sent into his country

* His autobiography "The life of Abdurrahman."

† Ballard's "Kitchener," page 187.

"inflamed his distrust. So the results of the mission were vague and "unsatis factory; it was resolved to continue the former agreement "by which we were responsible for the defence of Afghanistan, but "the Home Government refused to demand the concessions from "the Amir on which Kitchener laid stress."*

Afghanistan is not alone among states neighbouring India in its dislike of foreign penetration in any form by anybody; but elsewhere the economic argument has prevailed. States must have revenue, and as a prelude to working their geological and other resources. Tibet in 1921, Nepal in 1924,† and Bhutan in 1929 either removed restrictions on topographical survey or actually asked for it. They welcome it if it is done openly and the results are communicated to them.

Afghanistan is rich in minerals,‡ most of which are found in the eastern Hindu Kush, coal all round Kabul, and oil is indicated near Herat where the country is most favourable for its extensive use. It is in fact simply a question of time when the westernisation, which collapsed under Amanullah, is resumed.

Arguments for the retention of "F.O.U.O" mapping.

The tenor of our past policy—the "F.O.U.O." policy—has been expressed as follows:—§

"To the British, the situation hitherto has always seemed to "indicate that the longer railway extensions (and it might have been "added, surveys) were delayed, the longer would the defence of "Afghanistan remain a reasonably simple problem rather than one "of nightmares. Under the regime of Amanullah, with his desire "of introducing western ways, and with the British renunciation of "any liability to control his actions, the railway question was bound "to arise. The *regime* of hurried westernisation has for the moment "passed, but in discussing the Afghanistan of the future it must be "assumed that modernisation sooner or later will return."

Another argument against the relaxation of the "F.O.U.O." ban is that it should follow, and not precede, the granting of survey facilities by countries which at present refuse them—a sort of bargaining counter, in fact.

* Ballard's "Kitchener," page 187.

† The Nepalese Government stipulated that no British officer should enter Nepal to supervise the survey.

‡ See MacMunn's "Afghanistan," pages 315—318.

§ MacMunn's "Afghanistan," pages 305-306.

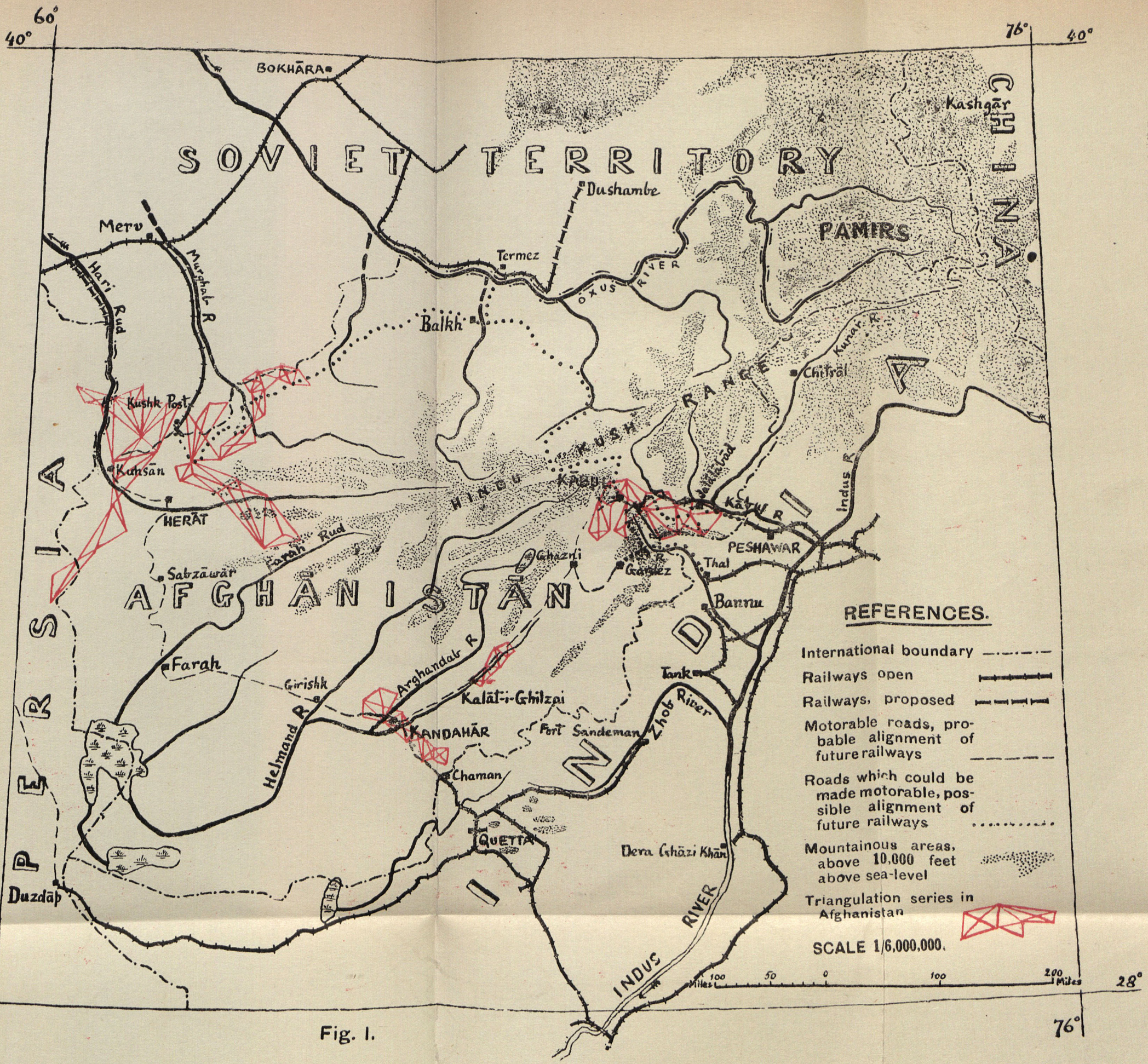

60°
40°
76°
40°
SOVIET TERRITORY
CHINA
BOKHĀRA
Kashgār
Dushambe
PAMIRS
Merv
Termez
Hari Rud
Murghab R
OXUS RIVER
Balkh
Kunar R
Chitrāl
Kushk Post
HINDU KUSH RANGE
Kunsān
HERĀT
Indus R
Kābul R
Jalālābād
PESHAWAR
Farah Rud
Sabzāwār
Ghazni
Gardez
Thal
Bannu
AFGHĀNISTĀN
Farah
Girishk
Arghandab R
Kalāt-i-Ghilzai
Tank
Helmand R
KANDAHĀR
Fort Sandeman
Zhob River
Chaman
QUETTA
Dera Ghāzi Khān
Duzdāp
INDUS RIVER
INDIA
PERSIA
REFERENCES.
International boundary
Railways open
Railways, proposed
Motorable roads, probable alignment of future railways
Roads which could be made motorable, possible alignment of future railways
Mountainous areas, above 10,000 feet above sea-level
Triangulation series in Afghanistan
SCALE 1/6,000,000.
100 50 0 100 200 Miles
28°
60°
76°

Fig. 1.

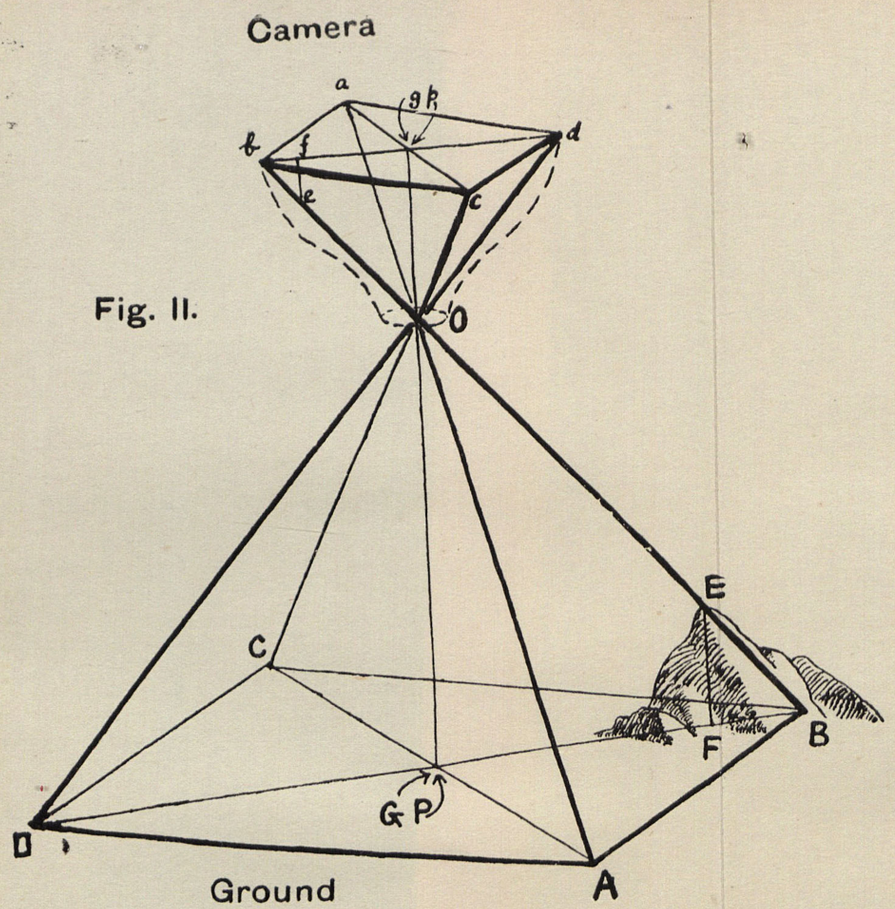


Fig. II.

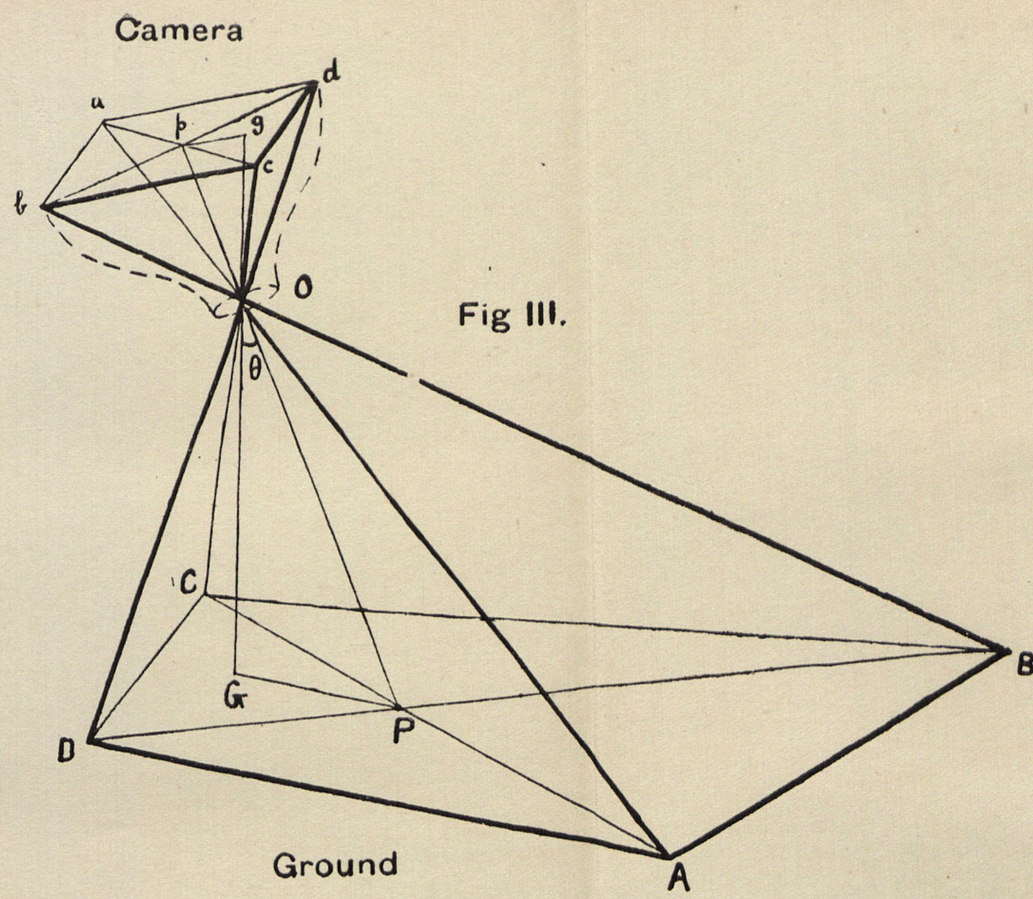


Fig III.

REFERENCES.

Op, focal length of camera. OG, height of aeroplane. A B C D, points on ground which appear on plate as a b c d.

- O camera lens (perspective centre).
- θ angle of tilt.
- G ground plumb point, appears on plate as g.
- p principal point or centre of plate, whose position on the ground is P.
- E point on ground of different attitude to ground plumb point G.
- F position of E in plan on ground.
- b apparent position of E on plate.
- f real position of E on plate.

Fig I.

The question seems largely one of distrust, which a concession on either side might dispel to the great advantage of both. When the "F.O.U.O." system as applied to Afghanistan goes—and its days seem numbered—it is to be hoped that the mapping of Afghanistan will be undertaken by interests to whom its security and defence are not less vital than its economic development.

HAND-GUNNERY.

By

"Mouse."

I.—A Vision.

The lethal weapons with which an infantryman goes about his lawful occasions are six in number; a rifle, a bayonet, a grenade, a revolver, a Lewis gun and a Vickers gun. If you want to be pedantically extra offensive you can bring the number up to the lucky seven by including a Commanding Officer, but the incidence of explosion in this weapon is so erratic, albeit alarming, that I think it is much better left out of our serious miscalculations. The average intelligent soldier and most officers can recognise and discriminate between any of these weapons either by sight or by touch, and a fair proportion of both officers and men can allocate to them their correct functions in war. What I mean to say is, very few trained soldiers would try to fix a bayonet on a Vickers gun and no self-respecting officer would attempt to return a Lewis gun to a holster. The functions of all weapons are entirely dependent upon space; the further you are from the enemy the bigger the noise which you employ. The modern tendency is to keep out of sight altogether, either by sheltering behind the League of Nations or hiding in a cave on the Khajuri Plain and persuading politicians to do your fighting.

Of the six infantry small arms five are excellent and have been the joy and mainstay of the Army for a long period. The exception has never been a joy, never a mainstay, and although it has been used with varying success and proved its limited value time and again in many theatres of war it has never received that almost holy worship which enthusiasts reserve for the accurate rifle or the clean-thrusting bayonet. Lest you misunderstand me, I write of the Lewis gun. Recently I made an inaccurate landing from a very high and frivolous horse, and at the bottom of a muddy ditch I rose to visionary prophetic heights. It may have been concussion but the vision was this:

In a hundred years' time I am going to take my grandchildren to the British Museum and conduct them to the section wherein savage armaments will be displayed for the edification of our piteous posterity. I shall ignore bows, arrows, testudines, spears, boiling oils, lances, Martinis, army forms, barbed wire, telephones, spurs and all other archaic exhibits. I shall concentrate on the last extant model of the Lewis gun and on it I—free by then from all bonds of discipline and becoming behaviour—shall pour the bottled-up venom which poisons an otherwise happy military existence.

That mechanical jig-saw puzzle, I will explain, which looks like a Victorian phonograph adapted to fire bullets, is an extraordinary example of twentieth century social ethics, which repudiated Darwin's theory by insisting on the survival of the unfittest. It was the first automatic gun to be produced on the mass production system for the British Army, and in the Great War—that little squabble intended to end war—it was an invaluable instrument in the hands of men who were grateful for even jam-tins filled with explosive and for dogs and pigeons to carry messages.

"Who did you do in the Great War, Grandpa?" little Ignatius will interpolate.

"The various Sergeant-Instructors who tried to teach me the Lewis gun," I will reply more in anger than in sorrow.

Extracting the gun from its glass case I will then give one of my famous impersonations as a musketry instructor. Two forces operate the gun, the spring for its forward action which makes the bullet go off, and the gas for the backward motion which jams the next round. You load the gun in this manner by inserting forty-seven bullets in this enamelled tin thing which you then squeeze on this here knob. Drawing back the cocking-handle—so—your gun is now ready to fire. Press the trigger in this manner—bother—something has gone wrong. You now slap it smartly on the cheek with the palm of the right hand, and if the cocking-handle is in one of possibly three so-called positions you will recognise the real cause of the stoppage and you will soon be able to rectify it with the help of a few non-commissioned officers and a spanner. These causes of stoppages are various ranging from a big end to a choked cylinder, but your individual training which is spent entirely in rectifying stoppages will help you to diagnose the complaint, and if all comes to the worst you can get another gun or go

back to a rifle section. The Lewis gun section, I will explain, was composed of one mechanical genius who worked the machinery and a break-down gang who removed the bits. It was an integral part of the platoon.

"What was a platoon?" Little Ignatius again.

In the days after the Great War (I will enlighten the brat) a platoon was a party of jay-walkers consisting of one officer, one bugler, three grooms, a ration party, two married corporals, one post orderly, five men on leave, three rifle men and the Lewis gun section whose job it was to cover the bugler in his final assault on the enemy. Don't interrupt. After the Great War the Mechanisation Revolution occurred and with the passage of years a gradual but fundamental change took place in the organisation and equipment of the Army. Horses—I will show you a stuffed specimen in the Wild Animal Section later—were replaced by motors, but were retained for a while for ceremonial occasions and the less brainy types of warfare; aeroplanes on account of their proportionately greater speed and less visible offensiveness were employed in the outposts of the empire instead of paralysed garrisons; tape-machines replaced verbal orders, and now, as you know, loud-speakers make excellent General officers.

Gradually the infantry ceased to count, and from being the arm which won battles its *rôle* changed to that of the arm employed to clean up the mess made by the machinery. In places like Morocco, Burma, China, and the frontier of India it continued rather obstinately to maintain its supremacy as a battle-winning gadget, and in the quaint old Field Service Regulations of the period you will notice that its value often received favourable mention, although its slowness was deplored. Its slow motion was primarily due to its feet, but in war it was aggravated by the shortage of adequate covering fire. I was a soldier in those days, children, and it often struck me that it was a great pity that the foundations of infantry tactics, which were Fire and Movement, depended largely upon a gun which was out-of-date as soon as it was invented. Mechanisation in the post-war years was an obvious and urgent necessity, and was a difficult expensive process of experimentation, discarding, more experimentation, more scrap-heaping and so on—until the Large War of 1943 (the war to mend war), proved them all to be too fast for control or co-operation. You will have read how

the fighting nations had to fall back on a few horses kindly lent by English and Irish Hunts and upon the infantry who were still loyally grappling with Number Thirty-three stoppage of the Lewis gun.

"Why didn't you get another gun during all this mechanisation, Grandpa?"

Thereupon I will choke Master Ignatius and stuff him into the empty glass case.

II.—A Dream.

A truce to this foolery. The hand-gunnery situation is grave and by the time the next war happens will be desperate. Pinning my biassed faith to the infantry arm and confident that, in spite of the over-advertised claims of tanks, mechanised robots and aeroplanes, victory in any future war must go to the power that can implement its spectacular, Daytona Beach, Schneider Cup successes by planting a well-armed, confident sentry on the ground captured, I am of opinion that this sentry will be neither well-armed nor confident if he has to spend his time rectifying stoppages in his gun. He would like a better gun. He deserves a better gun.

I have dreamt of a better gun, and one which fulfils to a remarkable degree every requirement of an automatic weapon for either open or shut warfare. Judge then of my surprise when recently I saw this gun and, admitting that it was exhibited to the best advantage by trained experts, I thought to myself that here was the gun of my dreams. Like the Lewis it is a foreign invention and has been used by the French and Spanish armies in Morocco in 1925-26, but a model had been made to fire the ·303″ bullet.

A few facts about this gun, which I will call the Ratling gun, will be of interest. Its more important characteristics are as follows:—

(*a*) Light weight, 16½ lbs. (Lewis, 26 lbs. Vickers filled with water, 42 lbs.)

(*b*) Strength and simplicity of construction. No fragile parts to break or lose. Efficient safety devices.

(*c*) The spare parts carried in the field to supply four guns weigh two pounds.

(*d*) 240 rounds rapid fire can be loosed off by a trained soldier in any rifle position.

(*e*) Can be fired from a bipod or a tripod. The tripod weighs exactly half the weight of the Vickers tripod, and is a special invention which eliminates vibration and recoil, but as a gun-platform for map shooting, it is, I believe, unsatisfactory.

(*f*) Capable of firing rapid fire for sustained periods. 10,000 rounds continuous rapid fire has been demonstrated without a hitch and without any visible damage. The average speed of fire is 250 rounds per minute which includes all intervals for barrel changing.

(*g*) One man can carry the gun and tripod, although for long distances he would probably like a mate.

(*h*) Less flash than a rifle.

(*i*) No steam.

The gun was subjected to the following abuse :—

1. Covered in dust.
2. Buried in earth and stones and walked on.
3. Immersed in salt water, including magazine.
4. Immersed in a muddy ditch.
5. Thrown into the air and allowed to drop on the ground from a height of fifteen feet, kicked, etc.

After all these contraventions of good order and military discipline the gun, without being cleaned, worked in a satisfactory manner. How many times have you and I wanted to give the Lewis gun, say, just one hearty boot up the mechanism and refrained because of the expense of buying six new guns ?

The gun is recoil-operated in contradistinction to the gas-operated Lewis which means that none of the mechanism, with the exception of the barrel, gets hot or fouled. The barrel is apparently the only other snag in the Ratling ; in India probably four barrels per gun would be required to keep up *continuous* fire all day, but as one barrel can fire 800-900 rounds in an emergency and as the changing of a barrel occupies only ten seconds and as nobody really wants to fire all day, this disadvantage should not keep anybody awake at night. I have derived a considerable part of this knowledge from a man in England who knows much more about hand-gunnery than I do. He writes : "The

Ratling machine gun is, in my opinion, a remarkably efficient weapon . . . . not only greatly superior to the existing Lewis gun, but also a more efficient weapon than the Vickers machine gun, though this latter statement would need confirmation by more exhaustive trials."

When I add that the Ratling could be produced in rifle factories in England and India without literally any appreciable change in existing plant the reader may ask : "Then why the deuce can't we have it ?" But listen.

III.—A Nightmare.

Besides being useless and probably dangerous to blame high military authority for the fact that this gun, or any other modern automatic instead of the Lewis, is not ours it would be extraordinarily unfair. As everybody knows if the Army wants one rupee it has to go down on its knees to get it ; after a lot of wrangling it is given twelve annas, to find later that probably two of them are bad. The equipment of the whole army with new automatic weapons would cost crores, and I really do not see how this sum is going to be obtained at the present juncture except by increasing the income-tax to proportions that would make one a debtor to Government each month instead of being, as one is, all square.

Recent political and financial developments in India and the approaching Disarmament Conference in Europe go to show that the army is an unpopular institution, and this means that, with all the loose thinking that abounds, the passing of the annual military budget will be an unpleasant business. The ignorance of people who ought to know better regarding the defence of India is appalling and the way eyes are shut to obvious facts and ears closed to genuine overwhelming arguments for efficiency is heart-breaking. Only by propaganda and demonstrations can this ignorance be dispelled, and this brings me to a nightmare which I had about a Lewis gun and a Financial Pundit.

He was a nice little man who objected most vehemently to military expenditure, so I took him with me one warm morning in Lahore in July to the nice warm butts near the grass farm. I attached him to the butt end of the telephone with the book of the words in his hand, and I told him that he and I were now going to act as Supervising Officers for Lewis Gun Classification. I asked him to work out this

arithmetical problem; thirty-two details to fire three practices, each practice averaging ten seconds, with an interval of five minutes between each detail, and four targets. How long will our morning's work take? Being a financial expert he said two hours or whatever it was, and I broke into the first hollow laughter of the day and adjusted my spine-pad.

The bugle sounded, flags were lowered, and the bullets coughed and ejaculated overhead. Buzz went the telephone and Snooks' agitated voice from the firing point was heard over the wire: "I say, old boy, wait a minute. Number Two has broken his cocking-handle, and Number Three's beauteous gun won't fire. Can't understand it. Wash the scores out. Will fire them again in a quarter of an hour, as it isn't their fault."

Two details then fired a faultless round and the embryonic Chancellor of the Exchequer began to lick his chops and the point of his pencil with the mistaken idea that his time budget had been accurately estimated. In the middle of the succeeding practice there was a sudden cessation of fire, and Snooks' hot voice came scalding down the telephone: "I say, old chap, number three gun is perfectly *ruddi*,* and it is not giving the men a chance. I am sending it back to the arsenal and will carry on with three."

This dislocated the little man's estimates and he showed signs of temper which increased with compound interest as that normal morning's work dragged on. There is no need to prolong the agony. At 11-30 a.m. Snooks sang a *nunc dimittis* down the wire: "Finished at last. How I love these adorable, beautiful, amorous guns. They've behaved well to-day; two of them can fire yet and I have several spare parts untouched."

I turned then to my brother supervisor and revived him by pouring hot paste over his unconscious face. "Now," I said truculently, "don't you think that the Lewis gun has outlived its usefulness? Don't you think that your experience of this weapon *in peace* teaches you that a more desirable gun should if possible be introduced for men to use in War?"

Sobbing on my shoulder the little man replied that the answer to the first question was in the affirmative and that therefore my second question did not arise.

* Hindustani word for "broken machinery."

IV.—A Reality.

When the French armies were being driven back upon Paris in August 1914 they learnt many bitter lessons. Battered, bruised but not demoralised, they were called upon by Joffre to stem the invasion of their country. Forgetting and discarding the obsolete infantry tactics which had cost them so dear at Charleroi and adapting themselves almost unconsciously to the requirements of modern warfare the soldiers of France (helped generously and vitally by the British Expeditionary Force) turned upon the German armies and achieved the greatest victory in the history of war.

Everybody knows that. Everybody perhaps does not know that the French *poilu* had an almost sacramental belief in the efficiency of the French '75 gun. His belief was justified of course, but the fact that the tired and disillusioned man, who had to do the dirty work of turning in his tracks and advancing against a formidable foe, had a supreme and unquenchable confidence in the covering fire given him by his own troops was one of the psychological factors which helped towards that fateful victory.*

To labour the point further would be indecent.

* Liaison, 1914, Spears.

A CHEAP METHOD OF PROVIDING MORE FIRE POWER.

By

Lieut.-Colonel O. A. Chaldecott.

As a young captain Government thought it worth while to pay my way and that of others to see the battle fields of the Russo-Japanese War, but did not ask us to record the conclusions we came to; nor at the time did we consider them valuable. Government had had its attaché officers there during the War and presumably considered it had got all the value it could out of their opinions. Very likely it had the very opinions we formed, but had not acted on them.

One thing that struck us very forcibly was that wherever a strong resistance had been put up behind fortifications, that resistance collapsed as soon as a big gun was put on to the job. It was very obvious to us as we followed the course of events. We had seen a fact that if properly acted on might have saved the break-through of the Germans in 1914 when they pulverised important forts with big guns. We had enough sense to read the writing on the Wall, but not the imagination to see the meaning of what we had read. The Germans had read, understood and acted. We had read, whether we had understood I know not, and in any case we had not acted—nor had France or Belgium. Perhaps the old excuse of expense had been raised. It is a bane that is often used as an excuse.

Is there not another writing that we look like ignoring, and that in connection with our frontier fighting that affects us as vitally? In this case it is a reappearance of the writing, a second warning. In the recent fighting round Razmak such a volume of machine gun fire was used in a particular situation that not only was an advance made against an extraordinary well hidden and very brave and resourceful enemy, with very small casualties to ourselves, but such an impression was made on the tribes that all opposition immediately ceased; a stream of maliks, crying *peccavi*, besieged the Political Agent's tent and the war was over.

All this results, not from the terrible havoc wrought on the enemy, but from their grasp of the meaning of this hail of bullets. The ground was unsuitable for the best effect from machine guns, the range presumably was short and strike must have been quite invisible. I repeat it is the possibilities of these machine guns that must have impressed these hardened warriors and infallible umpires.

What are these possibilities? Take one instance. I imagine an overbold attack of tribesmen, as in the case of Black Hill in 1919, caught by the thirty machine guns of even a mixed Brigade, or better still of fortyeight, as I suggest. The war is over. The tribesmen—even Mahsuds—will never attack again. Does our policy and tactical training lead to the hope of such an opportunity being seized? I think not. Firstly, economy had decided the Indian Battalion should only get six guns to the British twelve—a false economy. Secondly, the pernicious policy is being largely advocated of using machine gun fire to deny piquet positions to the enemy by fire alone. This is a misuse of the guns, which should be free to perform their proper function of covering troops to their positions and of being ready to seize the chance of dealing one decisive blow to finish the War.

This six gun business. Can we remedy that? "No money" is the answer, but is it the correct one? If it means doubling guns, mules and equipment, it may well be so; but are there not alternatives? Most of our frontier fighting now is done in the neighbourhood of roads and as time goes on this will be more and more true. Hence if we keep half of the twelve guns we want on mules we shall at any rate not be worse off than we are to-day. If we have another six confinedto roads and plains and their neighbourhood we are 100 *per cent.* up on the deal in a fight near a road or plain. It is worth seeing if we cannot manage the increase cheaply.

Were six stripped Baby Austins supplied they could carry the gun, the numbers 1 and 2 and some ammunition, and you have a strong fire power that can be very quickly moved to important positions inconspicuously. Their ammunition would need rapid replenishment, so a couple of lorries with the other members of the crews, if required, would be necessary; the remainder of the detachment could march.

The total cost would work out at—

Six guns, say, £120.

Six Baby Austins, say, £400.

Two six-wheelers. Nil. Borrowed from M. T. in peace and provided from reserve in war.

Extra ammunition for practice—£200

The extra men would be cheap since the company organization is already paid for and could be *nil* if the men were taken from the ranks—not a sound suggestion.

Maintenance and renewals of cars would ordinarily be expensive, so we want to find a method of running them cheaply. Many officers run cars nowadays and find it expensive mainly because they always lose over selling on change of station. Let Government give each battalion these six Baby Austins and promise to renew them every, say, ten years. The cars should have adaptable bodies—surely not beyond the inventive genius of the maker—for use as private cars. Officers would be allowed to "own" these cars on certain conditions somewhat as follows :—

All cars to be overhauled by M. T. six-monthly. Government pays all repairs up to £30 a year. All cars to be insured. Lessee to pay Government, say, £12 a year hire. Four cars to be always present in the station (three during leave season) hence two could be on leave. Cars to be available from the first Monday to Friday of each month, stripped for Government work, also for the period of machine gun company, battalion and brigade training.

The No: 2 of the gun is available as car orderly for the officer at Rs. 3 per mensem. He would ordinarily be the driver of the car on service and parades. Cars may be used as private cars, *i.e.*, wives etc: may drive and use them.

Limit of yearly mileage, 3000 miles.

Lessee to pay £10 for every extra 1000 miles completed. Cars may not be lent to other officers or people outside the family. Commanding Officer to inspect cars monthly.

The advantages claimed for this scheme are that the fire power of a battalion is increased enormously and rationally ; the moral effect in war would be great ; many soldiers would be taught to drive cars, and so have occupation on retirement ; officers would be exceedingly cheaply motored, they would have increased facilities for shooting and greater efficiency where cantonments are large and scattered ; it would be very popular with the men, since every Indian wants to drive a car and lastly, and most important, Government would get a large increase in fighting strength at a very cheap rate, while the English light car would get a boom that would give it a big pull over the foreign market and pensions would thus be safer. It is a scheme easily tested. It could be tried out in one battalion on the Frontier, one in a large cantonment and one in a small station where there is shooting or pig-sticking.

HOW TROOPER GRISDALL : TENTH HUSSARS, SAVED ENGLAND AND EUROPE.

By

Colonel A. H. C, Kearsay, d.s.o., o.b.e.

This happened in 1808. Napoleon was the master of Europe after his victories at Ulm, Austerlitz and Jena. He had concluded a treaty with Russia and was free to turn his attention to Spain. He sent three hundred thousand men into the Iberian Peninsula, and soon his banners were displayed on all the principal buildings of the Spanish Capital. On the 1st January, 1809, Napoleon left Spain in disgust. He had failed seriously for the first time since 1796. His unbroken record of military successes had come to an end. Who started what Napoleon called the Spanish ulcer which was never healed ? It was Trooper Gridsdall. How did he manage to do it ?

The Tenth Hussars with the 7th and 15th Hussars arrived at Corunna on the 10th November, 1808, and there joined Sir John Moore's force. This Force was to strike a blow at the French lines of communication two hundred miles long between Madrid and the Pyrenees. There were only two roads by which the French could retreat from Spain, and if Moore could be astride the main route through Bayonne on the western line running over the Sierra Guadarama Napoleon's position in Spain would be precarious. The risks were enormous, but so were the possibilites. Moore would have to advance two hundred miles from his base with 2,000 sabres, 60 guns and 25,000 rifles. This was a small force to operate so far from its base on the sea against a trained unconquered army which might be ten times its own strength. By the 14th December Sir John Moore was at Tordesillas. Soult's army was in the valley of the River Carrion. On the 20th December Moore and Baird joined forces at Mayorga, thirty miles from Carrion. Moore was now advancing in an easterly direction to attack Soult. On the 22nd December Napoleon with 50,000 men and 150 guns left Madrid in order to cut off Moore's retreat. He marched in a northerly direction *via* the Escurial Pass towards Tordesillas.

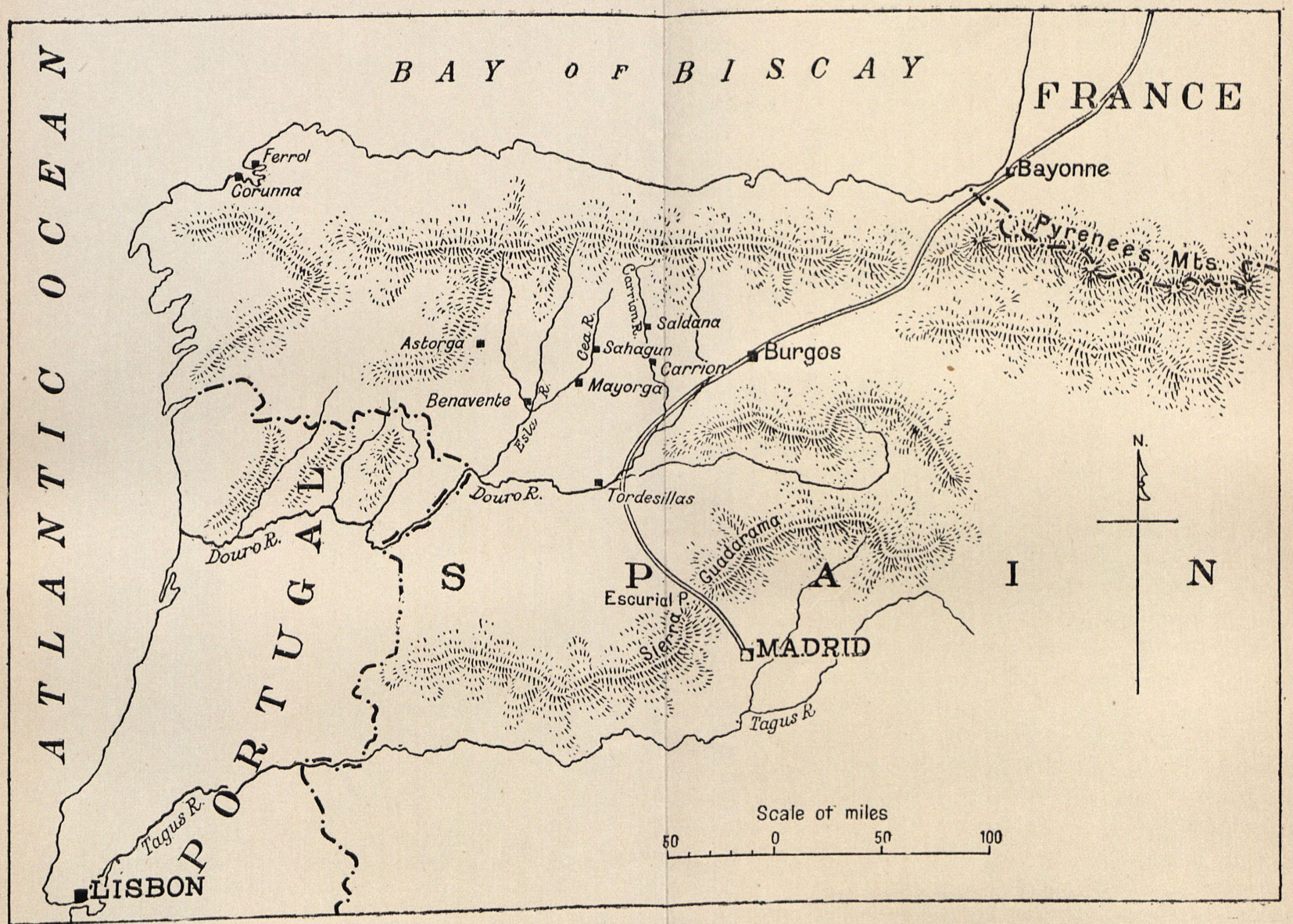
Thus Moore's advance was so far successful in drawing Napoleon away from the richest parts of Spain into difficult mountains and barren country. By this movement he saved Andalusia and Portugal

from invasion and enabled the Spaniards to re-organise their forces. This operation has beeen described as a task requiring nerves of iron and shoes of felt.

It all depended on a successful cavalry operation of which the deciding factor was Trooper Grisdall's action. The cavalry must screen Moore's advance and cover his withdrawal. Moore left Mayorga on the 20th December at midnight. The 7th and 15th Hussars moved along the left bank of the river Cea and the Tenth Hussars with four guns reached the bridge at Sahagun (fifteen miles north-east of Mayorga) at 6-30 a.m. on the 21st December. They found that the town of Sahagun had been vacated, but later the three British cavalry regiments found the enemy drawn up in line and charged and routed them capturing six hundred men including two colonels and eleven other officers. Napoleon realizing the importance of this defeat hurried in a northerly direction to cut off and crush Moore's army.

Now the work of the cavalry became more than ever important. On the 23rd December Moore had planned to make a surprise attack at dawn on the following day against Soult's position at Sardana on the river Carrion. He was now 200 miles from Corunna. Napoleon with 10,000 sabres, 200 guns and 70,000 rifles was over the Escurial Pass 120 miles on his right flank. In his immediate front were 20,000 infantry and 3,000 cavalry under Soult. Moore then decided to retreat, owing to the grave danger of his position. It was largely due to the work of the cavalry that Moore had just time to withdraw and to reach the hills of Galicia west of Astrorga when Napoleon gave up the attempt to cut him off from his base. The crisis of this part of the retreat was on the 27th December. On the 26th December Moore was at Valderas, on the 27th at Benevente where Napoleon missed him by a few hours only. But it was here that Moore was able to have the bridge over the river Esla destroyed owing to the action of the cavalry, and it was here that Trooper Grisdall disorganized the operations of the opposing cavalry. The Tenth Hussars had to guard the river Esla crossing.

Part of the opposing cavalry brigade managed to cross, and were at once charged by the Tenth who killed 55 and wounded 77 men. Trooper Grisdall rode straight at the Commander, General Lefevre Desnouttes, and captured him. Now all was confusion. No further



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orders could be issued. There was no cohesion in the enemy's cavalry actions for the rest of the day. The Tenth Hussars had no more difficulty in holding the crossings over the river while the infantry in security were able to continue to withdraw.

This day's delay brought home to Napoleon the futility of pursuit, as in addition a providential storm caused such floods in the river Esla that the bridge over it could not be repaired for twenty-four hours. Napoleon had made desperate efforts to reach Moore. He had by the 1st January 1809, when he reached Astorga, marched 200 miles from Madrid in ten days. But Moore's army by this time was out of his reach. Napoleon then gave orders for the reinforcement of Soult with three infantry and three cavalry divisions, and he then returned to Paris *via* Valladolid and Bayonne to make plans for other campaigns. This was the turning point from the apex of his successful career. The cause of the downward curve leading to Waterloo and St. Helena was Trooper Grisdall's capture of the Cavalry General and the ensuing delay and confusion in the pursuit after Moore's army.

The eyes of Soult's army—the cavalry—were temporarily ineffective owing to the capture of General Lefevre-Desnouttes, and consequently their pursuit was temporarily less pressing. Moore reached Corunna by the 12th January, 1809. Napoleon lost an army in a disastrous campaign in Russia. Owing to his absence from Spain his marshals did not co-operate. Each made separate arrangements in his own district irrespective of their orders from France. Owing to Napoleon's absence their movements were slow and unco-ordinated and led to few results.

Finally, in a series of great tactical and strategical successes from Rolica to Toulouse, Wellington drove the French from Spain. The armies of Europe then closed in on France, and Wellington was able to lead his army to the Seine. The disruption of Europe was finally averted when Napoleon surrendered to the Captain Commanding H. M. S. Bellerophon at Rochefort on the 14th July, 1815.

The passage of the river Esla and Trooper Grisdall's prompt action started the events leading to the peace of Europe in 1815.

MACHINE GUN CONCENTRATIONS.

To be or not to be.—an aspect.

By

Major G. C. Strahan, O.B.E., 6th Gurkha Rifles.

Introduction.

Life has two aspects in it—the one the complement of the other—*viz*:—(*a*) specialization in a variety of channels and subjects to evolve the expert and all he stands for and (*b*) standardization of the results the expert attains and subsequent co-ordination of his work into the foolproof whole. Neither Mr. Ford nor Sir William Morris arrived at their respective masterpieces without specializing in the various parts to produce, at long last, the perfect whole. In both cases can it be doubted but that the brains of mechanical experts were concentrated with their specialist ideas and knowledge to discuss and compare the various advantages and disadvantages from which the standardized whole might be evolved for the general good? With the new infantry organization no opportunity is lost of telling us that our new battalion is to contain no specialist part—no fighting portion that the Commanding Officer wots not of personally—indeed that the whole is to be a complete, self-contained standardized fighting machine. Are we then for this to jettison our specialists' conferences, our experts exchange of views, our mechanics, comparison of machines and so disallow the greater benefit that undoubtedly must accrue for the perfect whole to be attained? Logic demands that though the machine is to be made of such standard excellence yet the driver (*i.e.*, the Commanding Officer) must be sure of his controls from the unceasing efforts of his experts and the collusion of their ideas.

Anyhow in any walk of life what is there to be gained by a conference or exchange of ideas—a "concentration" or "try-out?" For our fighting machine as well cancel the Senior Officers' School as wash out all machine gun concentrations for the future. Are the battalion mechanics to be denied their chance of sorting the administrative and tactical wheat from the tares and reporting accordingly to the abiding good of the battalion as a fighting medium? We

may not be allowed to call the machine gun a specialist's weapon, but it nevertheless represents the basis of all the Battalion Commander's potential fire power and plan and as such, of a surety, its potentialities are worthy of more than the usual investigation.

General.

We are faced now-a-days with the dictum that all Commanding and other senior officers must make themselves thoroughly conversant with the characteristics of the machine gun "so as to base its employment on sound knowledge." Indeed, the past year's training it is said—has "disclosed ignorance on the part of senior officers how to use the great increase in the fire power of their units." And here we get down to the "brass tacks" of our all-important fire plan. What are the characteristics we lose sight of? Very briefly they are:—

1. A power to give concentrated and sustained fire.
2. Ability to inflict damage at long ranges.
3. Either direct or indirect overhead fire.
4. Ability to use the screen of darkness, fog or smoke to effect.
5. Raking enfilade power and ability to support troops closely.
6. Difficulty of destruction if sensibly handled and opposed to this—vulnerability if discovered.
7. Need of a large reserve of ammunition.
8. Necessity for use in echelons, *i.e.*, loss of power in all guns on the move.

Never a better expedient than to set a thief to catch a thief, let the machine guns have their concentration and chew the cud of reflexion among themselves. Let Greek meet Greek and the *pros* and *cons* of this and that course of action will very soon be apparent to the more discerning eyes and the atmosphere will be cleared. The mechanics of the machine will have sifted the chaff with expedition and the trying out of their ideas and plans under the most critical and advantageous circumstances will have quickly supplied the Battalion Commanders with the safest planks upon which to build their fire plan platform.

All life is a comparsion—the good from the bad—the pleasant from the distasteful—where better to sort out the things that matter from those that do not than in the camp of the star performers?

Detail.

Let us now delve a little more deeply into the detail of certain of these characteristics and their effects which we are to know as our A.B.C. It is essential—says authority—that all officers should realize the great offensive power of the machine gun properly directed and handled. Very well. Are we going to glean the benefits from every-day routine and be content with that, or in which of the characteristics is there a deeper meaning—an importance that can only be realized when tried out in the furnace of comparative action and criticism?

Take at random item No. 6. A Commanding Officer has formulated his plan of attack, of which the essence is the close support of his troops by enfilade machine gun fire. In conjunction with his supporting artillery he has devised his fire plan accordingly. All should go well, but the weak link is the possibility of his precious machine guns not attaining their positions and the ghost of vulnerability, if discovered, haunts his mind. Whose eyes will be searching for them most acutely? Who is out to deal with their intrusion into the forward area more drastically than any one else? Is it not a fair guess to say the opposing machine guns? Will not therefore previous training and practice in the concentration camp have both sharpened the wits of the advancing gunners and the eyes of the defenders? Where else more effectively will the lessons of ground-sense and concealment for attacker and defender have been learnt? The meat of this lesson is not to be attained within the battalion. We must have the British "Greek" meeting the Indian "Greek" the wits of the Mohammedan hill man pitted against those of the Hindu hill man and thus shall we attain perfection.

Take again item No. 3—overhead fire as an integral part of an initial fire plan. It is more than likely that the outlook has got to be a wider one than the possible parochial one of a single battalion. Is there no scope for a centralization of machine gun power in this case—a utilization of the machine gun company of the reserve battalion? Are we quite sure that the company would perform its rôle with the definite certainty of attaining its object had it not had previous experience of brigade control and fire plan?

Conclusion.

And so we could work through many more instances of benefit to be attained from the wider horizon than the restricted battalion area. Comparison and competition these latter days mean too much

in the fever of training life that one now leads to allow of such opportunities as concentrations for the general good to be missed. "What's in a name?"—sang the great Shakespeare. "A rose by any other name is just as sweet." Then why must the demotion of a machine gunner from being a specialist to being an ordinary soldier imply that we must choke his wider education at its source ? His essentials remain the same, his principles are ultimately eternal but his change of nomenclature, though meaning, possibly, a kinder and more intelligent interest from his Commanding Officer, should not preclude any efforts to teach him his work in the most obvious way by demonstration and competition. It has been stated that one of the most important, if not the most important, preliminaries to the attack is the co-ordination of the fire plan as between the Artillery Commander with his guns and the Infantry Commander with his machine guns—the latter not necessarily of one battalion only. The former has his annual practice camps wherein to practise his rôle. Is the latter to have no such chance to see how the wheels go round ? The idea is illogical. To give the chance to the one and not to the other implies an erroneous method of thought and training.

THE CAPRICES OF HISTORY

By

Lieut. Colonel C. C. R. Murphy.

However averse we may feel towards war in principle, however, much we may shrink from it even as the ultimate resource of policy, or shudder at its legacies of hatred and revenge, we are bound to admit that battles are the turning-points in the lives of nations, presenting to us in a vivid and interesting form all the great problems of history since the days of the Old Testament. But quite apart from this there is in the momentous character of a battle a certain undeniable greatness, an intense fascination, transcending every other class of national events. Most of us are content to study the story of our own land without going further afield, and the following remarks are intended to apply mainly to battles connected with English history. Nor are we here concerned with battle honours, as borne on the colours and appointments of regiments, but with battles themselves—legends, such as the forty thousand Roman warriors slain (*killed*, save the mark, not killed and wounded) at the battle of Cannae being disregarded.

Battles may be conveniently divided into two categories, namely, those which history claims as decisive and those which posterity has made famous. Many of them naturally appear under both headings, but it is necessary to differentiate between decisiveness and fame because, oddly enough, they do not always march together. One is measurable and governed by facts; the other, indeterminate and depending on caprice. Many a famous fight was in itself an event of small historical account.

War, from its very nature, usually produces far-reaching and deep-seated effects, not only upon the belligerent States but often upon neutrals as well; and Hallam points out that there have been individual battles of which a contrary result would have varied the drama of the world in all its subsequent scenes. No two authorities would agree as to the decisive battles of the world any more than upon its best books or pictures; on the contrary it is an arbitrary classification upon which we should expect to find a great divergence of opinion.

The importance of a battle must be judged solely by its effect upon social and political conditions generally, which is largely a matter of conjecture. We are, of course, as liable to exaggerate the consequences of a war as to belittle them. The civilised world may be likened to a pond, and a battle to the splash of a stone rippling the water into ever-widening circles. The least agitation at any one spot spreads gradually over the whole surface. So it is with a battle: the effect, at first local, seems to go on widening until it becomes universal. It would be a simple matter to argue that a different result to almost any war would involve much re-writing of history.

When dealing with decisive battles we are in fact beset with difficulties. No one—certainly no Briton—would hesitate to include in this category such events as Hastings, the Spanish Armada and Waterloo; but in the *Fifteen Decisive Battles of the World*, a work in which Creasy takes a scholarly and comprehensive view of the subject, we find names which are quite unfamiliar except to the esoteric student. So called decisive battles are therefore not always famous. Some indeed have almost lapsed into oblivion. We cannot say why, except that public opinion is unstable and that history abounds in anomalies.

With famous battles the case is different and we are generally on firm ground. Certainly they have become famous from a variety of causes, but the reason for any capricious partiality of treatment is generally obvious. Most of us would assign to Waterloo the chief place in this category because it closed the career of the most famous soldier the world has ever seen. A well-kown personage once said that Waterloo was the classic fight of England, and that whoever hereafter shall be able to trace his ancestry to one who fought there will feel that he possesses a patent of nobility Incidentally, that battle is generally considered to have been the grandest spectacle in history, and writers of future generations will no doubt turn with a sigh of regret from 'battle's magnificently stern array' at Waterloo to the bloody dowdiness of the Flanders front a hundred years later.

Very often a battle becomes celebrated through the medium of publicity, the influence of the painter, the poet and the dramatist being almost unlimited. Pictures such as 'The fighting Temeraire,' 'Floreat Etona,' 'Scotland for Ever', 'The Roll Call,' and 'The

last eleven at Maiwand', have stirred tens of thousands, and as time goes on will continue to add fame to the scenes and incidents they depict. The magic of the pen is in no way inferior to that of the brush. Take, for example, the case of Hohenlinden. This battle was of slight importance to English history, yet the ballad beginning with the lines:—

> On Linden, when the sun was low,
> All bloodless lay the untrodden snow.

is known to every schoolboy in England. Similarly poems such as 'The Battle of the Baltic,' 'The Burial of Sir John Moore at Corunna,' 'After Blenheim,' the 'Lament for Flodden,' 'Chevy Chase', and a hundred others, have helped very materially to keep fresh in our memory the events of which they sing. Even the battle of Agincourt would scarcely have acquired such fame had not Shakespeare immortalised it in *Henry V.* The poem on the charge of the Heavy Brigade at Balaclava is not nearly so popular as that on the charge of the Light Brigade, and consequently the two episodes are known to the public in about the same proportion. Although the former was the more brilliant exploit, remarkably few people seem to have heard of it at all.

Certain battles have become famous because they were glorious achievements, such as Trafalgar and Lord Howe's victory; or brilliant exploits, such as Blenheim and the battle of the Nile. Others because they were fought on a grand scale, like Leipsic; or with a bloody stubbornness, such as Flodden, Chilianwallah, and Lule Burgas. Then again, battles become famous because of some particular incident, such as the charge of the Light Brigade already mentioned; or on account of some unique circumstance, such as Sedgemoor, the last battle fought on English soil; or Dettingen, the last battle in which a King of England commanded his troops in person. Nor must we omit to mention the great influence of public opinion, although that opinion is often wrong. For instance, the people of England remember the second Afghan war chiefly on account of Robert's march from Kabul to Kandahar, for which a special bronze decoration was awarded, whereas the outstanding exploit of that campaign was actually the advance to Kabul itself. The brilliant capture of the Peiwar Kotal went by unheeded. The people ignored the conspicuous in order to rave over the commonplace.

But the possession of one or other of these attributes does not always save a battle from falling into comparative obscurity ; else many a fight on land and sea had now been a household word amongst us. The capture of Seringapatam affords a striking example of the caprices of history. Here we have a battle, full of gripping incident, where the dynasty of the most formidable opponent the British ever encountered in India was finally overthrown. It created such a stir at the time that soon afterwards engravings of various incidents in the siege were being displayed everywhere. Yet somehow or other, the modern writer, under-rating its importance, seems to pass it by ; and today Seringapatam is no more to us than a clumsy name. Plassey, on the other hand, though a more skirmish in comparison, is vaunted, by historians because—through an accident of time—it happened to be the first stone in the foundation of our Indian Empire.

And as to the Great War—how will that fare at the hands of posterity ? Likely enough, with the changing years, certain popular episodes, now regarded as events of the first importance, will be rudely torn from the pages of history and relegated to the scrap-book of gallant but fruitless achievements.

THE CAWNPORE RIOTS FROM A COMPANY COMMANDER'S POINT OF VIEW.

By

Major T. A. Lowe, D.S.O., M.C., 2nd Battalion, The Highland Light Infantry.

Cawnpore has been described by Lancashire businessmen as the "Wigan" of India. Whether this analogy is correct or not, the fact remains that the mills of Cawnpore are its outstanding feature. Cotton, woollen and leather mills and factories constitute most of the scenery, and—much more important—employ the bulk of the population, which is given in the "Statesmen's Year Book" as 300,000, but will be found to be a great deal larger when the present census has been completed. When trade is good the Cawnpore mills work continuously night and day, their tall chimneys belching smoke into the atmosphere in the traditional Lancashire manner. They create wealth of the greatest importance to India, particularly at the present time when goods manufactured in Britain are not as popular as they used to be owing to Congress activities.

Situated on the right bank of the Ganges, Cawnpore may be said to be divided into certain definite areas. (*a*) The city; containing the majority of the bazaars and a vast population living in the *mohallas* which run off the main bazaar and streets. (*b*) The mill area; distinct from the city, forming a big suburb to the north, though most of the mill and factory workers live in the city. (*c*) The "Civil Lines;" in which reside most of the European civilian population, directors, managers, overseers, etc. These constitute the bulk of the Auxiliary Force in Cawnpore, and, when mobilized during the riots, were able to protect their own residential area as well as provide invaluable assistance to the regular garrison by finding motor patrols, transport, etc. (*d*) Cantonments; an entirely separate area on the south side, where live—

The 50th Field Battery, Royal Artillery.

The 2nd Battalion, The Highland Light Infantry. (Less one Company at Benares).

The 2nd Armoured Car Company. Royal Tank Corps. (Less one section at Calcutta).

All the above areas may be said to be distinct in themselves, but are connected together by a main road called the Mall, and it was in this road between the Civil Lines and Cantonments, that the trouble of the 24th March actually commenced.

The 24th March, it may be remembered, was the day after one, Bhagat Singh, had been hanged for the murder of a police officer at Lahore. When the news of the hanging became known in Cawnpore, a number of students, who have since been proved to be mainly Hindus and Congress supporters, left their hostels and colleges, and, arming themselves with *lathis*, started a procession of protest at the northern end of the Mall. This procession proceeded to march in the direction of Cantonments, smashing shop windows, stopping motor cars containing Europeans whom they assaulted, (two of these were ladies who narrowly escaped with their lives), forcing isolated policemen to remove their headdress and walk bareheaded, shouting excitedly party cries and generally behaving in a manner suggesting that Civil Disobedience was no longer of such a "peaceful" nature as its supporters had led people to believe.

This mob consisted mostly of *chokras* in their teens led by the usual type of pupil teacher or young schoolmaster, a type which played such a large part in the Sinn Fein rebellion in 1920, and the Kuo Min Tang troubles which are still going on in China. Nervous of their own daring to commence with, the slightest success makes this type of leader a fervent revolutionary, while the smallest reverse finds him slinking away to the rat holes from which he emerged. History repeated itself at Cawnpore, for this particular mob, having progressed triumphantly in the manner described, was suddenly attacked at the railway crossing on the boundary of Cantonments by the employees of a travelling circus who thought that their tents and gear were in danger of destruction. This unexpected sortie was quite sufficient to break up the entire demonstration; it was the first and only resistance which the "students" encountered.

Meanwhile, however, reports had apparently been received by more responsible revolutionary leaders, of "successes" in the Mall, and these—the real leaders—started in the city to get elated. Respectable shop-keepers, already goaded beyond endurance with *hartals* and boycotts, were ordered to close their shops for the day. The bazaars in Cawnpore contain a strange mixture of Hindu and Moslem

owners, and in one thoroughfare in particular, called the Meston Road, the two communities occupy respectively a side each of the shop frontage. The Hindu side obeyed the order and put up shutters, but the Moslem side emphatically refused. Misguided hot-heads tried to persuade the Moslems by force, but the tension was such between the two communities that the strain gave way. It was like a match being thrown at a haystack already soaked with petrol. In less than an hour the Meston Road became a battlefield, while in the adjacent *mohallas* on both sides of the road, free-lance *badmashes* with no particular interest in politics or religion, took the heaven-sent opportunity of looting, burning, and settling private quarrels by murder. The police on the spot were totally inadequate to deal with such a situation and the Collector telephoned to the Station Commander for assistance from the Military, which was immediately forthcoming as the troops had been standing-to for some hours.

The above, in brief, is the narrative of events which led up to calling out the Military in aid of the Civil Power. Most of it has appeared at much greater length in the press during the evidence, given by citizens of all classes, before the Inquiry which subsequently assembled.

Military Events.

At 15·05 hours, "C" Company of the 2nd Battalion, Highland Light Infantry, were moved in Royal Tank Corps lorries to the King Edward Memorial Hall—a central building on the Mall, from which they could be rushed quickly to any part of Cawnpore. There they were met by the City Magistrate who explained the situation to the Company Commander who immediately got in touch with the Station Commander. The latter, after a telephonic consultation with the Collector, ordered him to go with his company by lorry to the Meston Road. This at first was not so easy as it seemed, as a number of spare telegraph poles had been thrown about a portion of the route and had to be removed by the troops. They were the only obstruction, however, apart from dense crowds which lined the streets, isolated members of which threw bricks at the lorries as they passed. The City Magistrate, who was sitting in the front of the leading lorry, was hit on the shoulder by one of these bricks, but was not seriously injured. The lorries arrived safely at the Moulgange Junction of the

Meston Road where the Company Commander found the Superintendent of Police and had a hasty conference with him. The latter indicated three strategic spots, separated from each other by about half-a-mile distance and all in the vicinity of the Meston Road, where most of the trouble seemed to be raging. He asked that a detachment of troops might be sent to each of these. After a quick reconnaissance the Company Commander decided to comply with this request, though reluctant to scatter his command, even in so small an area. Events proved that he was right in doing so, as the positions chosen effectively separated the two conflicting communities from again forming up for a pitched battle, which they were prepared and eager to do.

There was every evidence that the trouble had been, and still was, of a very serious nature. The whole length of the Meston Road (about a mile), was strewn with brickbats. Houses and shops on either side had been systematically looted, and in some cases gutted by fire. About a Hindu temple in the centre of the road were a number of corpses and the road and sidewalks were slippery with blood. A Moslem mosque situated in a *mohalla* off the Meston Road was blazing merrily, with corpses and signs of bloodshed all around Everywhere angry mobs were watching the dispositions of the troops and completely ignoring any efforts of the police to disperse them. Having posted his detachments, the Company Commander, with a small reserve force still at his disposal, proceeded to disperse these crowds. It was like pushing through a field of corn. No sooner had he driven the crowds from a street or *mohalla* than they closed in again behind him. It was impossible to distinguish malefactors from peaceful citizens; but eventually by posting sentries at the junction of every side street the Meston Road was cleared, which meant that the conflicting parties were divided. After three hours' work the Commander of "C" Company was able to get to a telephone and report the situation. More troops were obviously required. The Station Commander sent the writer to make a reconnaissance and report how many would be needed. Information was still vague.

As it may be of some value to readers who have never been called out in aid of the Civil Power, I propose to relate in some detail exactly what happened during this reconnaissance.

A Reconnaissance.

On arrival at the Meston Road, (which was now quite clear and peaceful, except for the brickbats and signs of bloodshed), I found a small gathering consisting of the City Magistrate, the Superintendent of Police, Officer Commanding "C" Company, 2nd Battalion, The Highland Light Infantry, and a number of Indian magistrates and Police officials. The City Magistrate briefly related the story of the afternoon and stressed the seriousness of the situation by quoting other communal disturbances, of which he had had experience, but where there had been nothing like the same bloodshed and damage. His opinion was that this riot would not be confined to the Meston Road area, but would spread. He was convincing, and explained exactly what one wanted to know. The Superintendent of Police now had his innings. He said he had ten police posts at various points in Cawnpore (actually spread over an area of seven square miles), and, in his opinion, all these ought to be reinforced by military piquets. The writer pointed out that in no circumstances could troops be used to perform the duties of the Police, and that it was also against military principle to scatter them over a large area, but this argument obviously failed to convince. To continue the reconnaissance, the Officer Commanding "C" Company took me round his "front" and showed me what he had done. It was evident that his dispositions had stopped further rioting; but every man was being used in the effort, and it was obvious that further troops were necessary. I telephoned to the Station Commander and asked that my own company, "D", should be sent. It arrived in about an hour, well fed and equipped for any emergency.

The Night 24th-25th March.

That night, at intervals of about two hours, we sent out patrols which covered the entire city. These patrols were led by officers, guided by a policemen, and accompanied by Indian magistrates. There were usually three patrols out at once in different directions, and all reported the same thing on their return. No sign of any *active* hostilities: no opposition to their own progress: crowds standing about in the *mohallas* which dispersed immediately on the arrival of troops: numbers of houses burning, but no sign of the incendiaries: no necessity to shoot—we were criticised afterwards

because we did not fire—because there was no target to shoot at. And yet on that night there must have been hundreds of murders committed in Cawnpore. The communal storm was still raging fiercely but the presence of British troops in the streets had driven it indoors. Nothing could be seen of the fury which was continuing behind shuttered windows and bolted doors. An uncanny situation! We could have broken down doors and raided houses with ease, if there had been any information to act on, but there wasn't. It was well into the afternoon of the following day that the awful tale of murder and atrocity began to become known. For a night Cawnpore city had been in the grip of a cold and silent horror. There was no screaming, no shouting, no calls for help—so far as the military could hear, yet women and children had been mutilated and the most cold-blooded murders committed in localities frequently patrolled by the troops. It was a new form of "campaign" to most of us, certainly to me.

During the morning of the 25th there was a feeble attempt by the Moslem side of the Meston Road to attack the Hindu side, due to a rumour that another mosque had been desecrated. Crowds collected in the side streets and shouted rudely at each other across the intervening space. The police seemed chary of dealing with the situation, so we rushed a section of troops at each mob and cracked anybody who waited for it on the head with the butts of our rifles. Needless to say very few waited, but one section made an interesting arrest. Behind the shouting crowd in one *mohalla* they came up on a large bearded Indian attempting to break into a house unaided. He was armed to the teeth with knives. We handed him over to the police but I do not know what they did with him. Afterwards in the knowledge of events it appeared that this type of individual was probably responsible for most of the murders committed. Evidence has since proved that the city had been gradually filling up with free lance ruffians hoping for the chance of loot which communal trouble would surely present to them. As very few were caught they have, presumably, moved on to some other localities where, doubtless, their preparations are again in progress.

It is impossible to dig latrines in the middle of a street, so I moved the majority of the troops into a walled garden in the Meston Road. Here they got some rest and shade after a hard night's patrolling, and were able to make themselves comfortable. But I notice

that this short move—it was only about 400 yards from the place where I had established my headquarters during the night—has been described by various witnesses at the Inquiry as a "withdrawal" of the military. Actually we were not only just as much on the spot as we had been before, but our efficiency was immensely increased by food and shade. Not that this mattered very much, for "B" Company arrived to relieve us at about 10-30 hours.

Progress of Events.

By the morning of the 25th it was realized that one of the largest communal riots that had ever happened in India was in full swing in Cawnpore. The Collector and the Station Commander had had many conferences, and both had been in telephonic communication with Higher Authority at Lucknow. During the afternoon of the 25th re-inforcements of Police arrived from various parts of the United Provinces, and two companies of the East Yorkshire Regiment came from Lucknow in motor lorries to re-inforce the military. The Morris six-wheelers which conveyed the latter were a welcome sight to the Officer Commanding, 2nd Armoured Car Company, whose four lorries had been going "all out" for nearly forty-eight hours, not only transporting the various companies of the 2nd Battalion, Highland Light Infantry to various places, but making numerous journeys with rations, etc., backwards and forwards to Wheeler Barracks.

With extra troops at his disposal the Station Commander was now able to take more comprehensive measures to deal with the widespread disorder. One thing was certain: the system of patrols which we had applied at the beginning was now ineffective-though it was the only thing possible at the time—and a plan was made to gain control over definite "areas" of the city. To do this entailed the establishment of definite posts and patrolling of the intervening localities. The City was divided for military purposes into two portions, in each of which were three posts and a company headquarters. The posts were strong enough to patrol their own neighbourhood, and the Company Commander, at his headquarters, had a reserve with which to aid the Police in exceptional circumstances. It was found, however, that the latter seldom seemed to require any assistance, as they were now engaged in getting refugees into places of safety. The protection of the City seemed to have passed into the hands of the Military.

The Station Commander was inundated with telephone calls and messages asking for assistance. In fact the telephone system broke down temporarily and he was unable to maintain communication with the Collector and the Police. This is one of the great nuisances of such a situation; the moment troops appear in aid of the Civil power, citizens—even prominent Europeans who ought to know better—consider themselves entitled to a private guard. One gentleman went so far as to offer a very large sum of money for the temporary services of "one soldier with musket." The adjutant and orderly-room staff of the Highland Light Infantry were pestered day and night by such requests.

From a Company Commander's point of view the fortnight following the 24th-25th March was a tedious period. Companies relieved each other at intervals of forty-eight or sometimes twenty-four hours. Though alarms were frequent there was usually nothing in the way of trouble to be found when we went to the spot indicated by the information. Our main diversion was fires, but although every imaginable device was employed to surprise the incendiaries, there never seemed to be anyone near the fire when we arrived. Everywhere around our posts peace reigned, yet, the moment there was the slightest suggestion of withdrawing them, objections would be raised on the grounds that the presence of the troops in the streets gave confidence to the civil population. Certainly they needed something to give them this confidence because many of them were starving on the streets through sheer terror.

Very gradually the rice supplies began to circulate once more and a few shops took down their shutters, but it seemed a long time before the streets resumed their normal appearance. Even a fortnight after the massacre—as I observe it is now termed in political circles—it was difficult to persuade mill workers to return to work if a portion of their journey took them through a quarter inhabited by members of an opposing faction. In their usual cheerful way the troops did their best to encourage a return to normality, and small parties often went out voluntarily as escort to the timid. When at last we received authority to withdraw our posts from the streets, it could only be done gradually for the same reason. Citizens, missing the presence of troops in their localities, immediately jumped to the conclusion that the trouble would start again, but only in one case

did this happen and that turned out to be almost amusing. An old man, who for years had been harbouring a grudge against his wife, took the opportunity, when a post near his house was withdrawn, of murdering her. Her cries alarmed the entire district who naturally thought the "war" had started again. The police caught this murderer, which was rather bad luck on him considering that nearly all the *badmashes* who had played a prominent part in the riots had got away. The old man was very incensed and seemed to think the Police ought to have much more business elsewhere than to meddle with his private affairs.

The sanitation of the City, at this time, became a problem. The army of sweepers, usually at work daily, had completely disappeared during the troubles, so that department was at a standstill for ten days. Little imagination is necessary to realize what this means in a crowded city in India. Fortunately the weather was not abnormally hot otherwise pestilence would have been an immediate sequel to the riots. Until the scavengers returned, volunteers did yeoman service under the protection of the troops who also assisted the medical authorities in removing the dead where and when located.

On the 3rd of April, the two companies of the East Yorkshire Regiment were able to return to Lucknow and Cawnpore resumed its normal calm, but for a further week the troops of the garrison were held in a state of readiness. However, the Police now numbered some 1,200 and order was maintained.

This, then, is the plain, unvarnished narrative of a Company Commander during the Cawnpore riots. Since this was written an Inquiry into the cause of the outbreak has been proceeding and the public has been regaled in the press with stories of various witnesses giving evidence. With amazement we have read of massed attacks lasting for hours, of Moslems upon thousands of Hindus: of armed Hindus attacking Moslems in broad daylight and destroying their property, etc., etc. All that can be said is that if these things happened there was little evidence of them at the time. Frequently the air was alive with rumours of the wildest nature, but without exception, when troops were rushed to the spot there was nothing whatever to be seen. The only real sign of a communal battle, was, as I have described, on the afternoon of the 24th in the Meston Road

when the first company of troops was called out to help the Police. Yet the baffling thing is that there can be no doubt whatever of the seriousness of the whole situation. The casualties, too, must have been much greater than the official figures, as corpses could easily be evacuated into the Ganges without suspicion. But the opinion of the regimental officers, whose duty it was to aid the Civil Power for nearly a fortnight, is that the principal damage was done, and the majority of the murders committed, in the hours between noon and 6 p. m. on the first day, *i.e.*, before the military arrived on the spot at all. It must have been so, otherwise something of the fighting—if it deserves to be called by such a name—would have been seen, and the troops would have been able to tackle it. Free-lance *badmashes* may have worked on immediately afterwards and for many days, but if they did so it was behind walls and shuttered windows where no man could see what was happening, and where troops could not be used unless accompanied by Police.

But there were many lessons to be learned, and for the benefit of officers who may find themselves in the same position as we were, I shall endeavour to give a few tips.

Tips.

1. Military patrols in cities of India—where the *mohallas* are like rabbit warrens—must be accompanied by a magistrate, and by a policeman who knows the district. These places are normally out of bounds to troops, so it is very easy to get lost. This system suffers from the fact that the guide may be a good one or a bad one; if the latter, he will only take you to the places where it suits him to go. The remedy is for officers to make themselves acquainted with these *mohallas* in normal times, in plain clothes.

2. The various training pamphlets and others are worth their weight in gold especially at Courts of Inquiry after the events.

3. It is useful to keep a log. At the time when things are happening it is quite impossible to take notes, but a soldier can be detailed to "shadow" his officer with a notebook and take down rough jottings from dictation. An officer of the Highland Light Infantry

did this, and his "log" was invaluable afterwards, particularly to the Station Commander who had no other opportunity of getting at precise details of what was happening on the spot.

4. Make your Headquarters near a telephone: the chances are that the wires have not been cut.

5. Troops standing about in streets need frequent relief. It is difficult to feed them at their posts and they are always on their feet as there is nothing but the kerbstone—if one exists— upon which to sit down.

6. Carry a revolver, but a heavy stick is often more useful.

CONCERNING FIGHTING ON THE NORTH-EASTERN FRONTIERS OF INDIA.

By Major A. Vickers, 48th Pioneers, Comdt., 3rd Assam Rifles.

(*Reprinted from the Journal of the United Service Institution of India for April* 1922).

The country and the people on the North-Eastern Frontiers of India are as different from those on the North West as the proverbial chalk from cheese. The same may be said of warfare on the two frontiers.

Although the tactical and strategical problems are not so formidable in the East as in the West, the history of our military operations against the Bhutanese, the Nepalese, the Burmans and the Abors will soon convince the student that jungle fighting is an art which requires special study and training to ensure success.

To those military officers serving in the local forces which picket the wild and inaccessible frontier tracts inhabited by divers and little-known savage tribes, of the head-hunting variety, the truth is quickly brought home that it is unwise to make war against these people without special training at the hands of those who have been and have seen.

Regular battalions triumphant in the field of modern war and proud of their tactical knowledge and experience of frontier fighting on the Afghan borders would at first be at a loss how to proceed and would have to "find themselves" anew under the novel conditions of the North-Eastern frontiers.

The experiences of the Military Police battalions which have made a life study of war in the eastern jungles, where they are in perpetual touch with active service conditions, may be of interest if not of value.

Inaccessible mountains, clad in vast and dense jungle, formidable rains and terrific floods, illusive and mobile enemies, are the main characteristics that claim our attention.

The recent operations against the Kuki tribes of the Assam and Burma frontiers in 1917, 1918 and 1919 were carried out by some six thousand local frontier troops of the Burma Military Police and

Assam Rifles. They were engaged in an area of 6,000 square miles of almost inaccessible country during all seasons the year. These were the most extensive and formidable operations on the North-Eastern frontiers for many years. They were an enrichment in the knowledge of jungle warfare. A detail of the various methods of fighting among the different peoples and tribes is beyond the scope of this article. It will suffice to state that in all cases they endeavour to impede your progress with barricades, varying from a light fence of thorns to a solid stockade with an earthen parapet proof against the magazine rifle. Their weapons are a plentiful supply of Tower muskets and similar antique fire-arms, very useful and effective in close jungle; bows and poisoned arrows; spears for throwing and spears to thrust, also various forms of knives and axes such as kukris and daos. Little surprises there are too in the shape of pits cunningly concealed and planted with needle-pointed stakes to impale the victims. There are also stone shoots of the booby-trap variety, launching rocks the size of a house from hundreds of feet above you which add to the vicissitudes of the march on the khud-side. Collectors of curios may rejoice to find on the battle-field amazing leather cannon lashed to the forks of trees.

Military operations we must consider under two distinct heads :—

(1) Columns.

(2) Contact.

(1) *Columns.*—The most difficult undertaking in jungle warfare is the command of a column against an enterprising enemy.

The officer commanding a force within striking distance of the enemy has no business to crawl about the jungles with a vulnerable column. For a column moves in the jungle, groaning under its impedimenta, to place the troops within striking distance of the enemy. It then halts and defends itself with a minimum of rifles, thus releasing as many troops as possible for contact work. A column untrained to the job, moving in single file on a tortuous and difficult path, with a long line of animals or coolies carrying rations, ammunition, hospital gear, quartermaster's stores and kits, can quickly be thrown into confusion by a small party of the enemy. The defensive power of a column decreases in proportion to the amount of baggage to be protected. The transport of a column is the enemy's favourite objective. Quickly thrown into confusion it requires steady and experienced troops to

avoid "regrettable incidents" if the enemy is in the least bit enterprising. Practise your column, therefore, on the march with transport and all impedimenta before you commit yourself to the enemy's country.

Hard and fast rules of procedure must be adhered to and everyone must know his part perfectly and stick to it.

Every officer who has actual experience of jungle warfare will have a method of his own. A faulty method adhered to and carefully taught is perhaps better than a happy-go-lucky advance into the "blue."

The following few hints for columns may not be found in the text books but are, I venture to think, beyond dispute.

(*a*) All troops and transport to keep to the path, in single file, except only the flankers of the advance and rear guards. The reasons for this are that if parties of men march in the jungle parallel to the column they will surely lose their position sooner or later and lose themselves for the rest of the day and possibly the night also. If within sight of the column their position off the track is of no value and they would be better on the path where they will not mask the fire of the main-body and baggage guard, and where they are less likely to fire into other portions of the column when engaged with the enemy. The power of the magazine rifle is such that troops on the path will do more execution and give more confidence to the transport personnel than if they were out of sight in the jungle.

(*b*) Flankers of the advance and rear guards should march in line, extended and level with the point which should remain on the path. Flankers should always be at right angles to the line of march, their progress being regulated by an officer or experienced N. C. O. with the point. They should keep their places and never shikar the enemy. The reason for the above is that the fire of the troops on the path should not be impeded by detachments wandering about on the flanks of the column in the obscurity of the jungle; for if your flankers are in echelon from the point, or in single file parallel to the road, they must interfere with the fire from the path without in any way increasing their utility. Their object is to clear snipers and ambushes from

the immediate vicinity of the line of march and this can be done best by flankers extended in line level with the point of the advance guard and at right angles to the line of advance.

(*c*) Another axiom is to extend flankers in pairs at least. Men extended singly, when wounded in the jungle, have frequently been left behind and lost. Whereas men extended in pairs deal more effectively with snipers hanging round the fringes of a column and help each other in difficulties.

(*d*) Let simplicity be your motto, the order for the day's march being as like those of yesterday as possible. Detail the same unit for advance guard for several days running to accustom them to the work till they do it automatically. The same applies to all other portions of the column, *i.e.*, the main body, the baggage guard and the rear guard. The old custom of detailing a new advance guard, etc. every day is not sound in jungle warfare until the troops employed are old hands at the game.

(*e*) It must be remembered that attack may come from any quarter. If it comes from the front the flankers of the advance guard will meet it. If from the rear the flankers of the rear guard will deal with it. If from the right or left of the column then the troops in file on the path can deal with it by magazine fire without necessarily leaving the path.

(*f*) Let us now visualise a column on the move as above. It is just a line of troops in file along the jungle path with a T-shaped head made of right and left flankers of the advance guard, and a T-shaped tail of right and left flankers of the rear guard. Any other troops belonging to the column and away from the path would be superfluous. Scouts and patrols are "another story;" they should not be regarded as part of a column, and should keep out of the way.

(*g*) Troops when halted in file on the path should be taught as a matter of routine to turn to the right and left by alternate pairs so that both flanks are kept under observation and a demonstration on either or both flanks can be immediately checked by fire.

(*h*) The method of reinforcing any point of the column by detachments from its main body requires consideration. Do not despatch your reinforcements into the "blue," or rather the green, the dense green obscurity of the jungle, to get lost, be shot by friends, and become throughly demoralised and ineffective. Rather send them in file along the path until opposite the point of attack. Then turn them into the fight "with a merry jest" and all will be well.

(*i*) Train your transport in column work, teaching them to keep to the road and to keep quiet at all times. Untrained coolies will throw away their loads and vanish into the jungle when attacked, there to be cut up by the enemy awaiting them. Your coolies must be trained to realise, therefore, that the path is the safest place for them.

(*j*) Finally, on reaching the place selected for the night, keep your column halted in silence on the path till your outposts from the advance guard are posted round the camp. Then make your perimeter. Then man your perimeter with the main body. Then move in the transport followed by the rear guard and all should be well.

(2) *Contact.*—Let us now suppose that our column has arrived in a position from which the enemy can be "got at." Here the column becomes a base in a snug perimeter camp, with formidable flanking defence, requiring but a small body of men to hold it. Then we proceed to "get at" the enemy. This is contact work, and very strenuous. Troops cannot cope with jungle tribes on the war-path until they have learnt to operate without baggage or transport for four or five days.

The organisation and training of flying "contact platoons" in this way is all-important. The degree of their efficiency will be the measure of the success of the operations. The Indian Officers of Military Police Battalions, being accustomed to commanding isolated detachments on the frontiers, are often very capable leaders of these contact platoons.

The most foolish thing the enemy could do would be to concentrate for attack upon a small force armed with magazine rifles. The result would be decisive. Unfortunately they most of them know it.

Consequently they split up into small bands of guerillas. The pursuit, surprise, attack and destruction of these elusive bands is the duty of our contact platoons. Local conditions and the political situation will of course influence the commander of a force in framing the plan of operations and the employment of his contact platoons. The most drastic, and therefore the most effective, method is to piquet the enemy's country with a network of small stockade posts garrisoned by contact platoons, and rationed for six months at a time. Each post will be given its own area in which to burn all villages, destroy all crops attack the enemy whenever found, keep him on the run and finally pass him on to the next area and its contact platoon. In this way guerilla bands are paid off in their own coin. They cannot rebuild their houses, cannot sow their fields or reap their crops. Their families are hiding in the jungles indefinitely, and they never feel safe —most unpleasant! Result—they get fed up and throw up the sponge.

Contact platoons should work within a radius of ten miles from their post, supporting one another when required. A platoon of four sections, each of twelve rifles, can garrison its stockade with one section and shikar the enemy with three ections. Their comings and goings should be known to none but the garrison of the post. Lightness of equipment and rapidity of movement are essential.

To use a broad and easy generalization, jungle warfare is a Subaltern's rather than a General's war. The overhead machinery and the cumbersome, if necessary, impedimenta of normal warfare should, and must, be reduced to the barest minimum. Experience has shown that for practical purposes the headquarters can be kept down to a scale far below that prescribed by the text-books. A few senior officers who know the country, the tribes and their methods suffice to direct affairs with the all-important assistance of the Civil and Political Officers

LETTERS TO THE EDITOR.

A Military Widows' fund, Indian Army.

Sir,

I was much struck by a letter in your January issue on the starting of an Indian Army Widows and Orphans' Fund on lines similar to the British Army Fund of that name.

I looked forward eagerly to your April number in the hope that the proposal would receive some attention from your readers, but my expectations were disappointed, and I was surprised that no one had offered the least encouragement to Colonel Edward-Collins in his efforts to call attention to one of the crying needs of the wives of Indian Army officers.

With your permission I propose to examine the question from a practical point of view and to suggest a way of running the fund so that donations could be paid out within one month of the founding of the fund.

The number of officers in the Indian Army is 3130. Let us assume that one third are married. If each officer subscribed Rs. 2 per mensem the income of the fund in one month would be in the neighbourhood of Rs. 2,000 and in a year the capital would be Rs. 24,000 less any amounts paid out.

Until a certain amount of capital had been accumulated it would not, of course, be possible to pay out the handsome sums guaranteed by the British Widows' and Orphans Fund, nor could they be paid out immediately, but something might be done in the following way. Let us assume that the fund opens on 1st January 1932. A rule would be necessary that nothing could be paid out until the end of the month. At the end of the month the Committee would meet to consider applications from the fund. In extreme cases, or in the case of many deaths during the month, 90 per cent. of the monthly income could be paid out, but still leaving a balance to be carried forward to the next month. At the end of the second month the Committee would meet again and proceed as before.

The same procedure could be carried on for a year or two until sufficient capital had been accumulated to enable the Committee to fix the amounts to be paid out and to pay them out immediately on receipt of notification of death. Even should a widow have to wait for a month before receiving the amount due to her, the sum, though small in the early days of the fund, would be more than welcome to her and would help her to carry on during the very difficult period between the death of her husband and the receipt of her meagre pension.

Yours truly,

H. MAYNARD, COLONEL,
INDIAN ARMY.

BODY ARMOUR.

SIR,

I should be grateful if any of your readers could give me some information on the subject of body armour used in the Great War 1914-18.

A non-commissioned officer tells me that his company wore armour when holding a sector of the line near the NORD Canal in December 1917. As far as he recollects, the armour consisted of three or four pieces. The top portion covered the chest and fitted round the shoulders; below that a second piece covered the stomach, and a third portion extended half way down the thighs. The top portion was shaped to fit a man, but the lower portion hung loose, and swayed about. There was no covering for the back or face.

It would be interesting to ascertain who invented this armour, how much of it was issued, and what degree of success it attained. My informant states that it was definitely bullet proof as he himself was hit whilst wearing it and felt the impact of the bullet just like "the blow of a man's fist." I confess that I have my doubts on that point. On the other hand it is said that at the end of the war all snipers wore this armour, and if this is correct, then it must have saved life, otherwise it would not have been taken into use.

Yours faithfully,

N. C.

MILITARY NOTES.

BELGIUM.

Linguistic Question.

The question of the application of the linguistic law has been the subject of recent discussion in the Chamber. It was alleged that young men had been dealt with unfairly in the matter of posting and the Minister of National Defence replied that measures had been taken to avoid this.

Organization.

One difficulty which has been brought out by the discussion of the linguistic law is that, owing to the rigidly territorial system of recruiting, it is difficult in technical units recruited in agricultural districts to find a sufficiency of recruits possessing the necessary educational qualifications for training as Reserve non-commissioned officers and officers of the technical branches.

It has been suggested that this could be remedied by substituting a central school for non-commissioned officers and officers for the present system of regimental school units.

Aviation.

(*a*) *Orders for British machines.*

The Ministry of National Defence has placed orders for 12 Avro school machines and 12 Fox two-seaters.

(*b*) *British aircraft factory.*

The Fairey Aviation Company, Ltd., is to establish a factory at Gosselies where a certain proportion of the aeroplanes ordered by the Minister of National Defence are to be built.

FRANCE.

Command of Mechanized Cavalry Units.

A ministerial circular to the following effect modifies the organization of cavalry divisional headquarters. In order to study thoroughly the employment of mechanized formations in the cavalry divisions.

A colonel is appointed to command in each cavalry division—

The battalion of *dragons portès.*

The group of cavalry armoured cars.

He will act as a brigade commander, and as the technical adviser of the G. O. C. the cavalry division on mechanization questions, and form part of divisional headquarters with a small staff.

Changes in the Higher Command.

Marshal Petain has been appointed Inspector-General of the French National Air Defence.

The post to be filled by Marshal Petain implies the creation of an entirely new appointment. His duties will primarily be those of the co-ordination of all the services required to co-operate in the defence against air attack, which under modern conditions implies the protection of the whole of the French population and territory.

Marshal Petain has been replaced by General Weygand as Vice-President of the *Conseil Supérieur de la Guerre* and Inspector-General of the Army.

General Gamelin has been appointed Chief of the General Staff in place of General Weygand, and automatically becomes a member of the *Conseil Supérieur de la Guerre.*

Manœuvres, 1931.

The French Army manœuvres for 1931 will take place, 10th to 16th September, in the region Rheims—Laon—Rethel, and will be carried out by the 3rd, 9th and 12th Divisions under the orders of General Claudel, Member of the *Conseil Supérieur de la Guerre.*

GREECE.

The Balkan Conference.

The Council of the Balkan Conference, which was formed in Athens last October and includes delegates from all the Balkan States, met recently at Salonika. Its principal work consisted in the preparation of the agenda for the next Conference, which is to be held in Constantinople in the autumn. In addition certain other matters came up for discussion such as the draft of a Balkan pact, the unification of Balkan laws, and measures for bringing about economic co-operation.

The President, M. Papanastasion, stated that although the Governments could take no official part in the conference, they had all shown themselves favourably disposed towards its activities. He also welcomed a donation from the Carnegie Institute of 10,000 dollars to the exchequer of the Council. He pointed out that one of the main obstacles in the way of Balkan co-operation was the fear of the various Governments that their opponents at home would make political capital out of any concessions which might be made to their neighbours. The delegates to the Conference could claim to represent public opinion in the different countries and, should the people show their approval of a scheme of federation, the Governments would have less cause to lag behind public opinion from fear for their own political safety.

HOLLAND.

Military feeling in the country.

Pronouncement by the Prime Minister.

In his written reply to the report of the First Chamber of the States General, in committee, on the budget for 1931, the Prime Minister declared that the Netherland Government fully agreed with those members of the Chamber who considered that no uncertainty should exist as to whether in the event of mobilization conscripts

would fulfil their obligations, and that the tranquillity of the country should not on that account run any risk of being disturbed. Knowing that in the hour of danger they would act in the interests of the whole nation, the Government declared that they considered themselves able to overcome any opposition in the case of mobilization and that they would have recourse without delay to every means in their power against any persons who might attempt to obstruct an orderly mobilization and who would by doing so disturb internal order and tranquillity. Not only were the Government unable to admit that an ever increasing number of persons in the Netherlands held the view that the military defence of the country was no longer morally justifiable and would be contrary to the highest interests of the nation, but they believed the contrary to be true. The Government trusted that, in the circumstances in which mobilization would be imperative, they could rely on the support of that section of the nation which might hold a dissentient view. To assert that the proclamation of mobilization would emanate formally from the Government but in reality from the military leaders, was contrary to the situation existing in the Netherlands. This was borne out by the experience of 1914.

Attitude of the Social Democratic Labour Party.

It is reported that the Committee of the Social Democratic Labour Party will at the forthcoming Congress of the Party propose a motion concerning disarmament and the danger of war. In this motion, among other matters, the Congress will declare that it continues to reckon with the possibility that in certain circumstances a mobilization, on the basis of a safety guard, may be regarded as unavoidable for protection against dangers to which a war outside the Dutch frontiers might expose the population, or for the purpose of complying with League of Nations obligations. Further, that the Congress declares again that the Party will oppose with all its energy any policy which is directed at war or which causes or increases danger of war; and that it would therefore not assist in mobilizing if the order to mobilize would be, or would have to be, characterized as having warlike intentions or causing or increasing danger of war. The proposed motion also demands that the decision to mobilize shall first be submitted to the Legislature.

ITALY.

Discovery of Oil.

Italy's lack of coal and oil is not only a serious economic handicap in time of peace, but also constitutes a weak link in her industrial organization in case of war. The recent discovery of oil in promising quantities at Fontevivo, near Parma, is therefore of great potential importance for Italy and has aroused the greatest interest throughout the country.

In 1924 the Fontevivo area had been noted as a likely petrol zone, and in 1926 the A.G.I.P. (Azienda Generale Italiana Petroli) commenced a systematic examination of the ground. In 1929 gas at high pressure was tapped, but no oil was discovered. During 1929 and 1930 several more borings were made without success, until finally, early in February this year, a return to the original boring quite unexpectedly yielded a copious gush of oil. Tests for quantity and quality are in progress, and though optimistic forecasts have been made, the official report must be awaited before forming an estimate of the importance of the news that Italy has "struck oil."

MOROCCO.

French Zone.

Raid on the Doiu Menia.

According to a message from Oran some 200 native raiders attacked the tents of a friendly tribe, the Doui Menia, on the southern confines of Morocco and Algeria on 25th December. The raiders made off with 100 camels but were overtaken by the Colomb-Bechar air squadron, the mobile column from Abadla and a squadron of armoured cars. A stubborn engagement followed in which the French forces had slight, but the raiders heavy, losses.

Tafilalelt area.

On 28th February General Giraud's forces occupied the Taouz oasis on the edge of the Hammada area. There was no opposition. This success gives the French command of the most important watering-places used by the raiders on the Algero-Moroccan frontier.

Tadla area.

On 9th March a surprise attack by the French on the Tassemit and Tizi-Noughni heights near Beni-Bellal was successful, and resulted in the submission of an important fraction of the Ait-Said-ou-Ali tribe and the establishment of communication between the northern Ogra position and the Sgatt position in the south.

Progress has been made in negotiations with the Ait Atta, a tribe comprising a large number of warring elements, which occupies an extensive territory.

General.

According to official French military opinion, their position in the northern sector of the dissident area has been stabilized very satisfactorily, and the pacification of the Tafilalelt area is being gradually assumed. It is considered, however, that under the present policy of peaceful penetration, it will take a long time to "clean up" the Middle Atlas, though this area does not now contain more than some 30,000 dissidents.

PORTUGAL.

NEW MINISTER OF WAR.

The following is a short biographical sketch of Colonel Julio Alberto de Sousa Schiappa de Azevedo (infantry):—

Born in January, 1874. His early history appears obscure until 1907, when he took part in some campaigns in Africa, including Cuamato, for service in which he received the order of Torree Espada. He subsequently held the appointment of Chief of the Police at Loanda. As a major he commanded the 3rd battalion of the 33rd Infantry Regiment, and subsequently was promoted colonel in 1922 and appointed to command the 24th Regiment. Colonel Azevedo afterwards commanded the 19th Infantry Regiment. He did not take part in the Portuguese Expeditionary Force to France.

In 1919, during one of the attacks on the Castelo de San Jorge, Colonel Azevedo was seriously wounded whilst opposing the advance of the mutineers.

Prior to his present appointment as Minister for War, Colonel Azevedo was commanding the 1st Military Region at Oporto, a post which is usually entrusted to officers of exceptional personality in view of its importance and distance from Lisbon.

PERSIA.

Review of troops.

On 22nd February, the tenth anniversary of the *coup d'état*, the Shah held a review of troops of the Central Garrison in Tehran. This parade was the largest and most important that has been held in Persia for many years, as the strength of the troops on parade was approximately 10,000. After the inspection, demonstrations of bayonet drill, cavalry tactics, &c., were carried out.

Transfer of telegraph lines in Persia.

On 28th February, the Indo-European Telegraph Department of the India Office and its telegraph company handed over their land lines in Persia to the Persian Government after more than sixty years service in the country.

The development of wireless communications between Great Britain and India, Iraq, &c., has now deprived the Persian land lines of much of their international importance, and wireless has replaced them as an alternative to the cable system in the Persian Gulf. The relinquishment of these lines is also satisfactory to the Nationalist spirit in Persia, as the Persian Government wish to own and work all telegraph lines in their own country.

SPAIN.

Reorganization of the Spanish Air Service.

By Royal decree of 8th January, 1931, the Spanish Air Service is to be completely reorganized. Hitherto the service has consisted of two branches, the airship service and the aviation service, and the personnel, although merely seconded from their units, have had the privilege of wearing a special uniform. By far the most important branch is, of course, the aviation service, and this branch, in its present form, is now to be abolished, and the wearing of a special uniform will cease. Officers at present serving in the branch must

make application within 15 days if they desire to continue under the new *regime*, and if they do not so desire, or if their application is not granted, they will return to regimental duty forthwith.

Note.—The appointment of Director-General of the Air Service will be abolished in the new reorganization.

TRAINING CONTINGENT.

In accordance with the new recruiting laws the Annual Training Contingent (*cupo de Instruccion*) has been formed and orders issued for the posting of the recruits.

This contingent consists of two groups—who will receive elementary instruction during a period of 3 months; these are:—

Ordinary service men	..	40,357
Cuota men	..	5,527

These figures were not included in the total given for the year's contingent, which numbered 90,000.

TURKEY.

NAVAL AGREEMENT WITH U. S. S. R.

On 2nd March a protocol was signed at Angora by the Turkish Minister of Foreign Affairs and the Soviet Ambassador by which the two Governments concerned agreed not to increase their present naval forces in the Black Sea or adjacent waters. It is also provided that six months' notice is to be given by either Government before ordering or beginning to build any new units intended to increase their naval strength.

Over a year ago the Russian Black Sea fleet was increased by the transfer of a battleship and a cruiser from the Baltic. Since then the Turkish fleet has been greatly strengthened by the recommissioning of the battle cruiser "Yavoux" (*ex* "Goeben"). The object of the new agreement is to establish the *status quo* in the Black Sea and prevent competition in naval armaments. It may be recalled that a somewhat similar naval agreement formed part of the Treaty concluded between Turkey and Greece last October.

NOTES ON MILITARY REVIEWS.

"Revue Militaire Francaise."

(Published by Berger-Levrault, Paris. Price, 5-50 francs.)
December, 1930.

1. *The Co-operation of the various Arms.* By General Brossé.

An excellent article emphasizing the necessity for the combination of every arm in any military operation, and therefore for a thorough general knowledge of the possibilities and best use of each on the part of every officer. Notwithstanding the much increased fire power and variety of armament of the infantry to-day, the writer concludes that infantry unsupported are unable to carry out an attack against an enemy with modern armament, with much chance of success or without heavy losses.

2. *Strategical Success—Tactical Successes.* (Part I.) By Colonel Loizeau.

A study of Schlieffen's plans for the invasion of France in 1914, with a view to showing that strategy and tactics are interdependent, but that the main strategical principle of a plan of campaign must ever be kept in mind and tactical blows effected accordingly.

3. *The 10th Corps at Charleroi, 20th-24th August,* 1914. (Part II.) By Commandant Larcher.

Continues the narrative of the operations of the 10th Corps, 20th—24th August, 1914. Some interesting sidelights are shown on the spirit of the regulations of 1913 for attack, and the results in the attack on Arsimont in which the most obvious measures for local protection, reconnaissance, liaison and artillery support appear to have been entirely neglected.

4. *The Winter of* 1915-1926 *in Morocco.* (Conclusion.) By General Vanbremeersch.

An interesting account of a small operation carried out with a view to occupying and fortifying an observatory in the dissident territory to cover the preparation for an important operation.

January, 1931.

1. *The 9th Division in* 1918. (Part I.) By General Gamelin and Commandant Petibon.

Extracted from a series of lectures given, by General Gamelin's instructions, to the Brazilian Army. The operations selected exemplify movement and are not confined to static warfare; therefore, notwithstanding changes or impending changes in armament and methods of movement, General Gamelin considers useful lessons can be learnt from them. The operation studied in this part is the action of the 9th Division in support of the retreating British 5th Army near Noyon.

2. *Strategical Success—Tactical Successes.* (Part II.) By Colonel Loizeau.

This article continues to show that the tactical successes gained by the Germans early in 1914 failed to achieve the excellent strategical plan of Schlieffen, owing to lack of co-ordination of effort by Moltke.

3. *The 10th Corps at Charleroi, 20th—24th August,* 1914. (Part III.) By Commandant Larcher.

Throws graphic light on the fog of war, as experienced on 21st and 22nd August, by the 20th Division in support of the 19th Division, and particularly on the results of the bad system of liaison and communications existing in the 10th French Corps.

4. *Bailen* (*21st July,* 1808). (Part I.) By Colonel A. Grasset.

The story of an army corps blockaded in a country in a state of insurrection. Pure narrative and of no great interest.

February, 1931.

1. *The 9th Division in* 1918. (Part II.) By General Gamelin and Commandant Petibon.

Describes the tactical developments which took place in the Noyon sector, between 25th and 27th March, 1918, while the 9th French Division was engaged in supporting the retreating 5th British Army. This chapter includes an interesting summary by General Gamelin of the best method of organizing a definite position of resistance after a series of rearguard actions, with especial reference to the action of the outpost troops in each case.

2. *Strategical Success—Tactical Successes.* (Part III.) By Colonel Loizeau.

Discusses Falkenhayn's strategy as Chief of the General Staff in the case of war on two fronts, and Ludendorff's opinion that in his solution lay the worst error of the war. The writer enumerates the various important tactical successes achieved in connection with the offensive undertaken on the Eastern and Western fronts respectively, and attributes the fact that they were not exploited strategically to Falkenhayn's lack of vision.

3. *The 10th Corps at Charleroi, 20th-24th August,* 1914. (Part IV.) By Commandant Larcher.

A somewhat monotonous tactical narrative of the withdrawal of the 19th Infantry Division from its position near Varsival to the heights Cortil—Mozet. The lack of communication between divisional headquarters and regiments, and of any adequate knowledge of the progress of operations is most noticeable.

REVIEWS.

In the Wake of the Tank. By Lieut.-Colonel G. Le. Q. Martel, D.S.O., M.C., R.E.

(*Sifton Praed & Co., London*), 15*s*.

With the publication of this book the author has succeeded in clearly placing before the public the circumstances which have led up to the present state of mechanization.

The first fifteen years of mechanization he roughly divides into :— The War period ; the experimental work carried out after the War, which resulted in the evolution of the Vickers Medium Tank ; the development of cross-country transport ; the experience gained from the Armoured Force on Salisbury Plain; and the present day progress with Tanks.

Was it advisable, the author asks, to have used small numbers of Tanks in 1916, when actually only two companies were available to toe the line on the Somme ? Their employment on that occasion was, generally speaking, a failure. Should they not have been retained till a large number was available ? Actually, the first massed attack of Tanks was not staged until November, 1917, at Cambrai. Their initial success during that action is a matter of history, and their employment coincided closely with Major-General (then Colonel) Swinton's proposals of 1916.

Success was obtained through surprise, the employment of Tanks on suitable ground, and the substitution of Tanks for an intensive preliminary barrage. This success was obtained in spite of the fact that the Tank was no longer a 'secret.' Those supporting the early employment of the Tanks, argue that, "the correct mechanical design of Tanks and their proper tactical employment could not have been achieved without this preliminary test." To this the author replies, "That in the Tank was found the answer to the machine gun," and that, "If a commander sees an invention or new weapon which strikes at the root of his main problem and difficulties, he is justified in taking the risk and employing it as a surprise and banking on it." There is a lot in what he says. The success at Cambrai insured the future of the Tank. Shortly after that action, the Medium 'A' Tank arrived in France and was successfully employed during 1918.

After briefly describing the plans made for the proposed 1919 offensive, the author deals with post-war experiments which culminated

with the production of the Vickers Medium Tank. The development of cross-country transport naturally followed, and the progress made after the War and the reasons why wheeled cross-country vehicles were selected for general purposes in preference to tracked vehicles are clearly shown in Chapter X.

Lt.-Col. Martel, who served with the Royal Tank Corps during the War, was himself responsible for producing the fore-runner of the present Light Tank. For various reasons, however, he was unable to proceed with experiments. Messrs Carden and Loyd then came into the picture, the result being the Carden-Loyd Light Tank and Machine Gun carrier. Experiments are still being carried out and the reader must not imagine that finality has been reached in Light Tank design.

The Chapters on the "Passage of Tanks over obstacles," and "Anti-Tank Defence" should be carefully read, especially the latter, which will always need very careful thought during operations.

The formation of an "Armoured Force" on Salisbury Plain in 1927 was the natural outcome of post-war mechanical evolution. Chapter XIII refers to the idea underlying its formation, and the reasons why it was disbanded, *i.e.*, "That a force of this kind could not carry out the variety of jobs which might be required of it in war." From the experience gained, it was considered, "Brigades or small formations of Armoured Fighting Vehicles, the units composing them being similar in character, were required." Hence the publication of "Mechanized and Armoured Formations, 1929."

The author states the necessity of training the officer of the future to be 'mechanically minded.' It is agreed that this is essential.

In finally summing up present-day progress with Tanks, Chapter XVI includes reference to the experimental Heavy Tank and the modern Armoured Car. The latter is referred to on page 213 and is presumably, the Lanchester six-wheeled Armoured Car with armament of a ·5-inch and a ·303 inch machine gun co-axially mounted in the turret, and a ·303-inch machine gun placed to the left of the driver.

In conclusion it may be said that the book fills a long felt need and is not so technical as to be beyond the "ken" of the least mechanically minded individual.

B. A. H-W.

The Battle of Dora. By H. E. Graham.

(*Messrs. William Clowes & Sons, London*, 1931). 5*s*.

When writing of armoured forces an author must of necessity draw heavily on his imagination. Many enthusiasts who have gone into print on this subject have allowed fancy to run riot to such an extent that the general public has become suspicious. No doubt these writers have deliberately exaggerated and over-stated their case both to shake the military mind out of its stolid conservatism and to inspire in the tax-paying public an enthusiasm for a costly experiment. Whatever may have been the result upon the latter there is no doubt that overstatement has made the former less ready to accept easily the claims of the enthusiast for armour. The author is well aware of this and has skilfully disarmed a too severe criticism by acknowledging in his preface the weaknesses in his story. He admits that the situations have been created deliberately to suit the case.

He describes a possible way of handling an armoured force under certain circumstances and, in doing so, he has tried to break away from the conventional and deliberate methods which the late war and its overwhelming automatic small arm fire forced upon us. It may be claimed that in his story he has violated some principles of war, but few battles would ever be fought if opposing commanders invariably adhered rigidly to them all. The secret lies in recognising which are being ignored and so seeing clearly the risks taken.

The Battle of Dora is a story not beyond the bounds of possibility. It deals with the exciting adventures of an Independent Armoured Brigade which is part of an army of one cavalry and six infantry divisions. It is given a task similar to that actually assigned to a somewhat differently constituted mobile brigade during manœuvres on Salisbury Plain last year ; that is, firstly to intercept and delay the arrival of enemy reserves and then to take part in the main battle.

By a wide and rapid movement the independent Armoured Brigade places itself to a flank and in rear of the enemy's army. Early next morning it attacks a reserve division which is moving up towards the main army. Subsequently it finds itself able to intervene in the main battle and take part in the resulting pursuit.

The interest in the book lies in the unusual Parthian tactics adopted by Brigadier John Carburettor, commanding the Independent Armoured Brigade. The author warns us that had the situation been different other methods would have been adopted by this energetic officer. It is probable that John Carburettor had studied Colonel Lawrence's tactics in Arabia and found here an opportunity to apply them.

The adventures of various portions of the Armoured Brigade are described without comment. No digressions on "principles" or "lessons" are introduced here to interrupt the story, to these a final chapter is devoted. Since the object of the book is to present certain tactical methods, administrative matters are not given in great detail but enough is said of them to show their bearing on the movements of this armoured force.

The book has been made easy to read by the introduction of the human element so often lacking in treatises on armoured forces. The author has attempted to reproduce the atmosphere of a typical brigade or other headquarters where a spirit of lightheartedness conceals considerable intensity of purpose. He shows that the army does not consist of "neurasthenics, psycho-analysts, deathsheads or débauchées as certain *pseudo* war chroniclers would have us suppose."

It is questionable whether the solution given in this book of the problem confronting the commander of the Independent Armoured Brigade would have received high commendation at a promotion examination. Nevertheless it is success which counts in war and in this case the tactics were successful and would probably have been so in actuality under like circumstances. The exploits of the Asiatic conquerors of the Middle Ages have been studied for inspiration. Mobility and ruses were freely used by these successful leaders. The author sees in a speedy armoured brigade a weapon well suited for a repetition of their tactics and in this book he has applied this idea to a modern situation.

W. G. H. V.