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EDITORIAL.

Indian Defence.

We heartily congratulate the authors of that long-overdue pamphlet, "Some facts and figures about Indian Defence." Written, we imagine, mainly for the civilian, the facts and figures given will be illuminating to the great majority of soldiers. Very few of us have a complete picture of what Indian Defence means; most of us imagine that a good deal more can be done with the amount allotted in the Defence Budget. Probably no part of Government expenditure gets more public and private criticism than it does; and this is due almost entirely to ignorance. The pamphlet lays all the cards on the table, and should ensure that uninstructed criticism of so-called military extravagance is less frequent. The present budget stands at about Rs. 46·20 crores, of which over Rs. two crores return to the Exchequer in the form of customs duty, income-tax and other taxes, railway transport charges, post and telegraphs, and printing and stationery. Sums of Rs. 158 crores and Rs. 77 lakhs are spent on the R. A. F. and R. I. M. respectively, and nearly eight crores represent the cost of pensions, including Great War pensions. The cost of the Army therefore is just over Rs. 33 crores now, and when prices become more normal and cuts in pay are restored, will be about Rs. 35 crores. When we consider the vastness of the country, and the complexity of its problems of defence and internal security, this is not a large sum, and even the most carping critic, when he has read the pamphlet, cannot but help feeling that we are, if anything, under rather than over-insured.

Disarmament.

The question of insurance naturally takes our thoughts to Disarmament. The majority of us must be bewildered and almost blinded by the kaleidoscope which international politicians, abetted by the press, are presenting us. The feature of the whole series of negotiations which disturbs us most is that no nation except Great Britain appears to have taken them seriously. Other nations, rightly realizing that the millennium has not been reached and that mutual antagonism is more likely to hold the field than international agreement, have taken good care that their armed preparations for war and security are not influenced. We have adopted an optimistic attitude, and have allowed our armed strength to sink below the minimum essential even for our security. What is the result ? We are powerless to implement the various misguided guarantees we have given in the interests of peace and are even less in a position to influence the international situation than we were in 1914 ! There are however welcome signs that the writing on the wall is being regarded. Mr. Baldwin's recent speech foreshadowed the raising of an Air Force to the same strength of that of the strongest power in Europe ; and as the spokesman of the present government, he must be voicing the intentions of that government. What is more comforting is that the government must feel that the public is realizing our danger, and becoming uneasy at a continued policy of under-insurance. How can it be otherwise when it is realized that our Navy and Army have been whittled down to shadows of their former selves and that our Air Force has fallen from the first to the sixth place in fifteen years ? Is there not a shiver or two of apprehension when we learn that there are twelve million soldiers in the most enlightened part of the world, to keep the peace ? What real sense of security does the League of Nations give us when we see it flouted by Japan and Germany ?

It is an established fact that the chances of war in 1914 would have been greatly lessened if Great Britain had been strong enough to have said that she would have no nonsense and to have shown that she meant it. Peace in the world is more to the interest of our " commonwealth of nations " than perhaps to any other. To do our share in keeping the peace, we, possibly more than any other nation, need a strong arm and a stout truncheon. Let us ensure that we have both.

Sport.

We have included in this number two unusual articles but we think they will be of interest and assistance to many of our readers.

The article on "Shikar" by that very well-known authority, Colonel Ross, will help many to solve the problem of what to do on short leave in India. It should also help to prevent any more of those unfortunate instances of injury to sportsmen and their beaters which have been fairly common in the jungle recently. Many of us come to India thinking it a sportsman's paradise, and are sadly disillusioned, mainly because we do not know the way to set about things. If we are prepared to work for our sport, there are red-letter days ahead with rifle and with gun for all of us still, at a cost comparatively smaller than in any other country in the world. The rules for game preservation now being framed in the various provinces should ensure better and more accessible sport for the legitimate sportsman. In this connection, we would like to draw the attention, of all our readers, to the Review of the pamphlet "Wild game preservation in India," which will be found under "Reviews" in this number.

The article on "Ski-ing in Austria" contains information which both the expert and the novice skier may find most useful. For a ski-ing holiday, many must have thought of Switzerland but ruled it out on the score of expense. First-hand and reliable information about Austria is hard to come by, and it is hoped that this article will supply the want and show that a reasonably inexpensive holiday may be spent there amid delightful surroundings and on ground which suits everyone, whether skilled or unskilled.

Travel.

We had hoped to include an article on the short two months' trip to Japan, which is becoming so popular, but space forbids. We trust that our Japanese friends will not misconstrue the reason for the popularity of this trip; we can assure them that the possibility of seeing their delightful country at very moderate expense is the reason. We get a chance to breathe a different atmosphere and to see for ourselves the beauties of the Far East; our wives, if we take them, look forward to buying the "stuffs" which are so dear to their hearts, and so cheap for their (our ?) pockets. We wonder if these trips to the Far East have any effect on the number of visitors to Kashmir. We venture to think that it must be so. We are not alone in thinking that the present

policy of the authorities in Kashmir is to make things as expensive as possible for the visitor. The cost of licenses and taxes of every description continues to rise and the time does not seem far distant when a holiday in Kashmir will be reserved only for those to whom expense is a small consideration.

The Staff Colleges.

"F. S. C." who has written the article "SOUR GRAPES" in this number is not an isolated voice crying in the wilderness. The two main points in his argument are that the military education of the regimental officer is generally neglected, and that the present numbers of officers trained for the staff will be quite inadequate when war breaks out. His solution to remedy this is to double or even treble the number of entrants to the Staff Colleges, let the "goats" pass out after a year, and the "sheep" go on to do the second year; the "goats" will fill the junior staff appointments and form a reserve for war; the "sheep" will form the cadre from which eventually the higher grade appointments will be filled. We learn from some of our friends, whom "F. S. C." classifies as lucky, that this subject has been discussed and debated, almost *ad nauseam*, at the two Staff Colleges for years, and that the consensus of opinion has always been that the present system is the best, and that a two years' course is necessary for every student. In spite of this, there are strong arguments for an alteration in the system. Expense, as suggested by "F. S. C.," will probably rule out increasing the number of first year students. Without going into figures, the extra cost would come under the following headings:—an initial and non-recurring sum for the provision of the accommodation for the extra instructors and students, and annual amounts to cover the upkeep of this accommodation, transportation charges to and from the Staff College for the extra instructors and students, pay of the extra instructors, and additional expenses to the touring grant and contingent account. We are not in a position to work out what this will come to, but both the initial expenditure and the recurring annual cost would, we think, be fairly considerable. However desirable it may be therefore to increase the number of students, the measure is bound to be ruled out of any future Defence Budget, especially an Indian Defence Budget. We think that "F. S. C.'s" system of passing only the "sheep" on to a second term would cause more dissatisfaction even than the present system.

So much for destructive criticism. "F. S. C.'s" suggestion contains the germ of another system which has found some supporters both among p. s. c., f. s. c. and other officers. The present Staff College course is divided into two terms of one year each; generally speaking, in the first term, the work of the lower formations is taught, and in the second year, that of the higher formations. It is claimed that, in a year, a student can be taught to be quite a wise "owlet," wise enough at any rate to fill adequately the junior staff appointments in peace and war. It is contended that we are trying to train a comparatively young officer as a commander or a senior staff officer of an Army or a Corps, and that we are wasting his time in doing this. It is further represented that by the time he has reached the age, (we might, with a certain amount of truth, say old age), for the command of a higher formation, the teaching of that last year is enmeshed in a forgotten cobweb in his brain, and only very occasional desiccated fragments drop into the light!

The suggested system divides the Staff College Course into a junior course and a senior course, both of a year each but not taken consecutively. For the junior course, students would be selected as at present and pass out to fill the 3rd and 2nd grade appointments. The senior course would consist of senior officers, nominated irrespective of whether they have passed the junior course or not, and from these, formation commanders and senior staff officers would be selected. If the vacancies were kept at their present figure, no extra expense, except in the upgrading of possibly four instructors from 2nd to 1st grade, would be involved. The results of this system would, it is claimed, be excellent. There would be hope for all, whether p.s.c., f.s.c., or f. t. t.e. (this, being interpreted means, those who failed to take the examination), of being chosen for the senior course, and the feeling that p. s. c. officers only can expect to reach the higher appointments would disappear; the selection of officers for these higher appointments would be simplified; and the ideas and methods of our senior blue-eyed boys would be modernized.

In conclusion, we venture to think that it could all be simplified if the stream was not so sluggish, and the headgates opened more often. Can't the Army take a lead from the Navy?

Cuts.

No one knows what they can do without, until they are forced to do without it. In War, many soldiers are amazed (and probably disgusted) at the small amount of food and drink which is necessary to keep body and soul together.

For short periods, all realise the necessity and accept the situation. To be kept too long on short rations is apt to undermine both health and, what is more important, spirits. No general keeps his troops on a " hard " scale for any longer than is necessary.

We wonder then how much longer the cuts in pay will continue. Recently we were assured in a valedictory speech that the finances of the Government of India were in as sound a position as any in the world to-day. We all accepted without a murmur these cuts in the time of crisis, but the crisis having passed, the necessity for a "hard" scale of pay has also passed.

Let us hope that 1935 will see a " Sunshine budget " in India; or should we be expecting too much if we asked for something more appropriate for the exile in India—a " Monsoon budget " ?

JAPAN AND MANCHURIA.

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

The independent state of Manchukuo now appears to be firmly established under Japanese protection, and the moment is opportune to consider how far the virtual acquisition of Manchuria will assist Japan to solve the very serious economic problems which confront her. The matter is of particular importance since Japanese policy must to a considerable extent be guided by economic necessities.

Japan's Economic Problems.

Japan, with an area of 24,600 square miles (of which only one-sixth can be cultivated), has a population of 66¼ millions. To put it differently, a country rather smaller than California contains over half as many people as the whole of the United States. With 2,750 people per square mile, Japan is the most densely populated country in the world. Though in the past the population has increased very rapidly at the rate of about one million a year, there are several factors at work which have recently tended to reduce the birth rate. The economic depression has resulted in fewer and later marriages, while birth control propaganda has made important headway throughout the country. As a result it is reasonable to assume that the rate of increase of the population will tend to fall in the future, but the effect of these influences on industry cannot be felt for some considerable time and the critical period will be during the next two decades. During this period the population is expected steadily to rise to a total of at least 85 million and it therefore follows that the problem of how to support this number must be solved in the immediate future.

There are two possible solutions. Either the surplus must emigrate or Japanese industry must be stimulated so as to absorb more workers. It is estimated that within the next ten years, nearly 9 million more workers will have to be dealt with by one or other of these measures, so that the problem is indeed a pressing one. How can the control of Manchuria assist Japan in her difficulty?

The question will be considered under three headings as follows :—

1. Manchuria as a Field for Direct Emigration.
2. Manchuria as a Source of Raw Materials.
3. Manchuria as a Market for Manufactured Goods.

Manchuria as a Field for Direct Emigration.

It has been suggested that Manchuria will provide a suitable outlet for Japan's surplus population, but it is very doubtful whether this is in fact possible. It must be remembered that prior to 1868 no Japanese was permitted to leave the country, and in consequence there is no tradition of emigration such as exists elsewhere. Furthermore the Japanese peasant is accustomed to intense cultivation of heavily fertilised and irrigated land in his own country, and Manchuria requires very different methods., The climate of Manchuria is very severe and Japanese emigrants can only survive if they maintain a high standard of living. Thus, while the Chinese inhabitant is content to live most simply in a mud hut and to eat soya bean and kaoliang, the Japanese can only exist if he is well fed on rice and fish and is well clothed and housed. Japanese labour cannot therefore compete with Chinese labour under Manchurian conditions, and for this reason it is economically impossible to substitute Japanese settlers for Chinese. There are, however, comparatively numerous openings for Japanese officials and professional men.

Manchuria as a Source of Raw Materials.

At present 7 per cent. of Japan's total imports come from Manchuria. It is hoped to increase this figure very considerably in the near future, but unless Manchuria can provide raw materials of suitable quality and at an economically advantageous price, Japanese industries will not benefit. At present Japan's imports exceed her exports and this unfavourable trade balance is not entirely wiped out by invisible exports such as shipping. As her imports consist very largely of commodities required for her industries, any attempt to restrict these imports would automatically reduce exports and thus reduce employment.

In this difficulty Japan has turned hopefully towards Manchuria as a possible source of supply of cheap raw materials. With such a source of supply under her own control, Japan would be largely independent of foreign countries for raw materials and would thus

be better able to compete with her trade rivals in time of peace and to maintain her industries in time of war.

Japan is at present dependent on foreign countries for her entire supply of raw cotton, wool, rubber and nickel and for 90 per cent. of her iron and 75 per cent. of her lead, zinc, oil and chemicals. How far can these essential commodities be supplied by Manchuria ?

The soya bean, which is used as a food, as forage and as a fertiliser, is at present Manchuria's most important export. Modern research has however led to the introduction of certain chemical fertilisers which are cheaper and more efficient than the soya bean, so that it is probable that as a fertiliser at least exports will decrease in future. It is doubtful whether Manchurian soya beans, millet or maize will ever displace rice as the staple article of Japanese diet, and unless this occurs it is difficult to imagine any great expansion of trade in these commodities. Very little rice is now grown in Manchuria, and in order appreciably to increase this crop it will be necessary to spend much money in irrigation schemes. Since Japan is for the moment able to grow all her rice requirements, it is unlikely that any serious efforts will be made to increase Manchurian production.

The cotton now produced in Manchuria is admittedly of very poor quality and insignificant in quantity. It is useless for Japanese requirements, though in ten or fifteen years' time both quality and quantity could be improved. Until then there seems no possibility of Japan being able to do without foreign cotton. A similar situation exists as regards wool. Until the Manchurian sheep can be very greatly improved—and that is a matter of many years—there is little likelihood of Australian wool being replaced on the Japanese market.

As regards minerals, Japan is chiefly interested in iron since she herself can supply barely a tenth of her annual requirements. Manchuria undoubtedly possesses large quantities of iron ore, but it is unfortunately mostly of very poor quality. It is obviously economically unsound to export ore of low ferrous content, and to build up an iron industry in Manchuria to use such material is admittedly hazardous. It is significant that the largest ironworks in Manchuria (operating under Japanese management) have never yet succeeded in making a profit. It would appear therefore that while Manchuria

can supply Japan with iron, it will still remain economically wiser to import better quality ore from foreign countries with well established industries.

Though Manchuria possesses no free oil, there are limited quantities of shale from which oil can be extracted. Up till now, however, it has been found that shale oil cannot compete commercially with natural oil owing to the high cost of production. Though Japan may consider it desirable to develop the production of shale oil in Manchuria in order to have supplies available in time of war, it is doubtful whether such oil can ever be delivered in Japan at a price low enough to compete with Russian and American oil. Even then Manchuria cannot hope to provide all Japan's requirements, unless a profitable method of extracting oil from Manchurian coal can be devised.

While Japan produces sufficient coal for her own needs, she has to import a particular type of coal for certain of her chief industries. Manchuria has limited supplies of this particular sort of coal, but after her own needs have been met she will not be able to supply all Japanese requirements. As regards ordinary coal, Manchuria can produce considerable quantities at cheaper rates than that mined in Japan, but by doing so she will compete with an already thriving Japanese industry and will naturally arouse opposition from the vested interests concerned.

Certain other minerals are known to be available in Manchuria, notably copper, lead, zinc, gold and asbestos. These will undoubtedly prove of considerable value to Japan in the future. Timber also is plentiful in the new state and a big increase in this trade with Japan may be shortly expected. At present, Japan obtains only about one per cent. of her timber requirements from Manchuria.

It will be seen therefore that there is little likelihood of Manchuria supplying Japan with any considerable quantity of raw materials in the immediate future, though in time this trade should develop so as to make Japan far less dependent on foreign supplies of certain essential requirements.

Manchuria as a Market for Manufactured Goods.

In order to increase her industrial output, it is obvious that Japan must develop her present markets and find new ones abroad. Her efforts in this direction have in recent years met with considerable

success, but only in the face of bitter opposition from those countries which found their home markets flooded with cheap Japanese goods. Already efforts have been made to close many of these markets and thus Japan is becoming more and more interested in the possibilities of Manchuria as a buyer of manufactured goods which will be required as the new state develops. Since Japan is now virtually in control of Manchuria and is thus in a position to formulate her trade policy, it is of interest to consider the possibilities of the new state absorbing the output of Japanese factories in return for raw materials. The control of a steady market in Manchuria would stimulate Japan's industries and thus help to absorb the growing population for which work must be found.

Japan's chief exports to Manchuria at present consist of cotton goods, machinery, steel, refined sugar, flour and paper. The raw materials from which these manufactured goods are made are not produced in Japan and the finished articles are merely re-exports. There seems however no reason why Manchuria should not herself supply most of these raw materials in time, and it is probable that, with cheap labour available, she will later be self-supporting as regards many of the items now imported from Japan. But for some years to come Japan must supply most of these articles. Naturally Japan will attempt to guide Manchurian development along those lines most favourable to herself, but such a policy must be very carefully handled if fierce opposition from the Chinese settlers in the country is to be avoided. A further and more pressing difficulty which will have to be overcome before Manchuria can be developed concerns the provision of capital and in this respect Japan is not in a strong position. But until money is available to open up the country and thus increase the quality and quantity of its exports, Manchuria will be unable to buy the manufactured goods which Japan is able to supply. The service of defence and internal security is still a very costly item in Manchuria and there seems no probability of this expenditure being greatly reduced in the near future.

Summary.

It would seem therefore that Manchuria is unlikely to be able directly to absorb any appreciable proportion of Japan's surplus population. As a suitable source of supply for raw materials, Manchuria has considerable possibilities, but the country needs to be developed before her produce can be made available and Japan's

needs are urgent. Similarly, Manchuria will undoubtedly in time absorb vast quantities of Japanese manufactured goods, but without strong financial assistance she cannot do so immediately. It will be observed that the whole problem is greatly complicated by the time factor. Under normal conditions Manchuria would develop steadily along conservative lines and would in due course build up a valuable trade with Japan. But Japan needs relief now and during the next ten or fifteen years when the pressure of her growing population will be most heavily felt. After that period it is confidently estimated that the restrictive measures already in operation will have become sufficiently effective to keep the birth rate steady. It remains to be seen therefore whether Japanese energy and ingenuity will be able to develop the new state sufficiently widely and quickly to enable the home industries to be further expanded and thus provide the growing population with a means of livelihood.

The matter is a vital one for Japan. Whether she was wise to use force in order to obtain control in Manchuria is a matter of opinion, but no clear outlook on the question can be obtained unless the time factor in Japan's population problem is taken into account. It was this same time factor in the population problem which decided Japan to use force in establishing her claims in Manchuria in preference to the less costly but slower method of peaceful penetration. Whether she was wise in making this decision is debatable, but that she will attempt to carry it out regardless of cost cannot be doubted.

SPORT IN INDIA.

(A Lecture given to the Officers of the Landi Kotal Brigade in 1932).

By E. J. R.

At first sight it looks as though some apology were necessary for appearing at a military lecture, and before a purely military audience, to give a discourse with such an unmilitary title. But, I think, that, if you pause and consider, you will agree with me that this subject of sports is not so unmilitary after all.

It seems to me that there are other things you want in a soldier than knowledge of drill books, other things than chess board skill in handling of troops.

You want a quick eye for country, the eye which can not only tell what is on this side of a hill, but which can guess what is on the other side as well. You want the faculty of finding your way with ease across a strange country. You want the power of dealing with men—with all sorts of curious men in all sorts of curious situations. And above all things you want the power of making decisions quickly and coolly in moments of emergency.

All these things, and many more besides, I maintain you can develop and cultivate better on your leave, when you are shooting, fishing or pigsticking in out of the way places—better and more efficiently in a shorter time—than you can in years of normal military parade ground and manœuvre work.

Then there is another point—perhaps the most important from the military point of view—the happiness of officers living in this country. Again and again one meets units whose officers are miserable in this country, who loathe the country and all its works. A unit in that state is bound to be below its form, and below its proper military value. It is not its own fault. It only means that fellows in it have never discovered what a splendid time they can have in this country if only they set about it in the right way.

I know it is a wretched country for the fellow whose tastes run entirely to social activities, to dancing, cocktail parties, and poodle faking. But, taking it all round, there are few countries in the world

which offer more opportunities to the sportsman, or to the young fellow, who has somewhere in his bones the love of rod and rifle and horse. A fellow like that can have a really first class time in this country, and if I can only persuade one or two of you who have not done so to give it a try, I will feel that I have not wasted my time or yours.

But first of all there is one rather damping thing I must say to you. If you are going to have much success in the line of sport in this country, you must somehow get to know something of the language. This sounds rather like hard work. As a matter of fact it is a very easy business. If you get down to it for half an hour a day, learning a few words, and keep a servant who speaks no English so that you have to talk to him in his own language, you will soon find you know enough for all practical purposes. I know it is a sweat, but you will very soon find it is worth it, and your sport will be improved by 60 *per cent.* and your pleasure in it by 90 *per cent.* as soon as you find you can yourself deal direct with the inhabitant.

Probably the most sporting fixture of the year in India is the Kadir Cup meeting. There one meets the very pick of the youngsters in this country. They are mostly cheery lads from British cavalry regiments, horse gunners and the like. They are on the average well off, at least according to Army standards, and they are all light-hearted enthusiasts who would as soon break their necks as not. Yet I was surprised last year, to discover that most of them had sweated quite a lot at the language. They find that they cannot get the best out of their pigsticking unless they know something about it, unless they can talk to the shikaris, the villagers and so on. It is well worth it.

Now, I am dealing with an enormous subject, on which hundreds of books have been written by people very much better qualified than myself, so I am going to confine myself to very general lines, and I will begin by running round the map a bit and showing you what sort of sport is in reach of various parts of India. After that I will go into more detail on the subject of shooting, for that is, I think, the business which appeals most to the majority of people.

To begin with, there is one thing which I want to say to you. Don't you believe the fellows who tell you that India is played out from the sporting point of view, that it is all shot out, and all that

sort of thing. It is very far from it, and actually, in the more out of the way jungles, there is probably more to shoot than ever there was. Where cars can go, and near big towns of course, there is not much doing. But way back in the Government forests there is definitely more game than there was twenty years ago, especially tiger.

Further, you will find the simple villager is just as decent as ever, and quite as helpful. You will find the jungle man is still the same, funny, shy little savage that he used to be. He is shy of giving information, but if you can talk to him yourself, and not through a domineering and corrupt servant, you will find he is just as ready as ever to help. He is usually like a monkey, he is always dirty, but he is a decent bloke at heart, with a sound taste in rum, and if he once gets to know and to trust you, you will be amazed at the amount he will do for you.

And now let us turn to the map and get a general idea of what sport is to be got in various parts of the country.

Let us start from the North-West corner, where we are now. Even from here, in the Khyber, you can get quite decent fishing and shooting on only a few days leave. First look at this series of ranges, which run all across from the Indus towards Pindi and Jhelum. These are the Salt Ranges and the Kala Chitta. In the cold weather you can get very pretty shooting on them, both large game and small. Firstly there is very excellent oorial stalking. They are well preserved, the heads run big, and there are lots of them. They are all in reserved forests, and you can get a pass for a week or a fortnight by application to the Deputy Commissioner concerned. Good heads run 30″ or over and with luck and care you may get one of 33″ or 34″. The stalking is very pretty, ibex shooting in miniature, and the whole trip is definitely easy. There are shikaris, very good ones, licensed and registered in each block, and when you write for a pass you can get a list of shikaris as well. You could easily get on to the best of the ground in 1½ to 2 days from here.

From here also, you can get quite decent fishing in all these streams down Pindi and Hassan Abdal way—the Chiblat, the Hurroo and so on. If you take 10 days leave, and adjust it properly and really bustle along, there is no reason why you should not be able to put in a week on a Kashmir trout beat. I did it myself some years ago from Kohat, and very good value it was.

Kashmir proper is really not much of a shooting country. Bits of it are good, but as a rule you wont do much good unless you get away over the ranges to the North or East. In two months, however, you can shoot in Asthor or the Kajnag, all of which hold good markhor, and you should get both red and black bear, and some odds and ends as well. First leave is the time for that, or right at the end of the season.

You won't get on to decent ibex ground, however, unless you can get away for three months, as generally speaking there are no good heads south of Baltistan and Nubra. If you have three months, however, you have your choice both of these or of Ladakh and the Changchenmo. In the latter you can get ammon, bhurrel and Thibetan gazelle. You will find, however, if you go far afield like that, it will be a very expensive business, for the cost increases by an arithmetical progression the further North and East you go. It is not carting your own kit which costs so much. It is the fact that you can get no supplies for your men. And when you have to carry food for your coolies as well as yourself your transport bill goes up by leaps and bounds.

If you want a fairly cheap and very delightful trip I can think of nothing better than a month after barasingh in the autumn, in some of the nullahs leading out of the Kashmir valley itself. The stags are fit to shoot by the middle of September, and it is just then they begin their annual migration into Kashmir over the passes from the North West, before they start to rut in the Kashmir nullahs. There are splendid heads to be got, and the barasingh is a first class beast and a gentleman. It is easy work for a beginner, and it takes you into a perfect country, while you will get some bird shooting as well.

East of Kashmir lies Chamba another first class hill shooting country. Here you will get tahr, ghural, serow and lots of red and black bear, while if you go farther afield, you can get on to ibex and bhurrel ground. The ibex, however, are small and a 36″ ibex in Chamba is as rare as a 42″ in Baltistan. But it is a ripping country, and easy to get to and to travel in. Again you want to go there either early or late, and avoid July and August. Chamba is, I think, the best of all hill countries for a beginner to make a start in. Conditions are easy, travel is easy, and the shikaris are definitely good and less spoilt than the Kashmir ones.

East of Chamba the hill shooting begins to die away a bit and travel is more difficult. But in Kulu, if you march hard and go high, you can get bhurrel and tahr. In Kulu too there is first class trout fishing, and there is better still in Mandi, close to the Kulu Road. The year before last I was lucky enough to get a 14½ lb. trout there, and I have no doubt there are some bigger ones about.

That about ends the list of hill shooting countries, but as you go eastwards again you get into the real jungle countries. If you look at the map you will find that eastward from Kalka, all along the foot of the main hills, there lies a great belt of jungle which runs practically unbroken till it merges into the great forests of Assam. All this is full of game; tiger, sambhor, cheetal, swamp deer and so on. From the Dun eastwards to the Nepal frontier, there are probably more tiger to the square mile than anywhere else in the world outside Nepal itself. Most of these jungles are fairly accessible, and anything from a fortnight to a month's leave gives you ample time for a shoot. I am going to talk about this sort of shooting later, so I wont say more about it now. Let it suffice to say that there are lots of tiger in these jungles and nearly everywhere there is excellent fishing as well, so that with a bit of luck it is no great feat to catch your mahseer, and shoot your stag and your tiger all in the same day.

Just south of this belt lies the great pigsticking belt of Northern India, the Ganges Kadir, the Jumna Kadir, and the banks of the Gogra and so on—centered on Delhi, Meerut, Muttra, Lucknow, Cawnpore and Bareilly and he would be a difficult man to please who couldn't find somewhere to spend a delightful leave from any of these places.

East again you will find Assam a delightful place to shoot and fish in, and in decent reach of Calcutta. You can get bison, buffalo and elephant and some of the jungle holds rhino : as well, if you can get leave to shoot them.

You have not to go very far south when you get into shooting country again. Nearly all the Central Provinces are in reach of good shooting. There are not quite so many tiger there as there are in the U. P., but on the other hand the jungles are, as soon as you get off the beaten track, less shot over, and the tiger are easier to get. You haven't got the same unbroken stretches of jungle, while water is scarcer and game is more localised. A great many of the C. P. jungles hold bison too, particularly Hoshangabad and South Chanda, while

the sambhur there are the best in India. You have, however, farther to travel by road as a rule to get to the better jungles, and that makes it a bit more expensive than the U. P.

Bombay Presidency is not much of a sporting country until you get down to the very tail end of it, but some of the Southern jungles in Kanara and so on are quite first class both for tiger and bison, and are in easy reach of places like Belgaum. Actually Kanara is about the only place in India where they will not only let you, but encourage you, to shoot elephant, and though there are not many good bulls about you can still find a few.

From here South to the very tail of India there is shooting and fishing in reach of you everywhere if you take the trouble to look for it. Mysore, Coimbatore, the Nilgiris, all hold lots of tiger and bison, and it is lovely country as well. Finally, the best spot of the lot—Travancore—at the very tail of them all. I think this is the very best spot I have ever been in for game, climate and scenery. The high range is anything up to 8,000 feet above the sea, with a cool breeze always blowing. The tops are great stretches of moarland, peat bog and bracken. The nullahs running up to them are dense tree forest where the game lies up in the day. If you are out on the tops in the morning you will see game as you never dreamt of it before, elephant, bison and sambhur, feeding out on the moorland as the red deer do at home.

Now enough of geography. I have tried to show you that wherever you are in India there is always sport in fairly easy reach. I will now try to give you an idea of how to set about fixing a shoot. I am not going to say much about Kashmir and hill shooting, partly because I haven't been shooting seriously there for some time, and conditions change there very rapidly, and secondly because your best way of making a start there is to write to a decent agent and get them to fix you up. It is a rotten way of doing things, and costly, but I do advise it for the first time until you have had a chance of looking round and learning the ropes for yourself. After you have done one trip there and been really bitten by it, you will know how to set about it yourself, and you will be able to cut adrift as you want to. Hill shooting is wonderful sport and takes you into the finest country in the world, but it has one great disadvantage. You are, and must be, very dependent on your shikari. Even the best men I know can't hope for much

success unless they have a first class shikari, and personally I like running the show myself, and standing or falling by my own knowledge and endeavour.

Now jungle shooting is very different in that way. In places like the U. P. for instance, there are no shikaris worth the name at all. You will want some sort of an *admi* to tie up for you and act as a sort of jemadar cooly, but that is all your shikari need be. The sport in jungle shooting is not the shooting of the beast. It lies in producing the beast to be shot. If you do that yourself you will love it. If you don't it will soon bore you stiff. So take my advice and from the start try to run the show yourself.

This isn't nearly so difficult as it sounds, if only one uses one's brains and is ready to profit by experience. I know that personally I started completely on my own, but from the very beginning I managed to achieve quite a reasonable amount of success. Anyhow, a tiger you get through your own efforts is worth half a dozen got in any other way, and if you persist in trying you will soon find you know far more about it than do those big noises who shoot their two or three hundred but let somebody else do the work.

The first difficulty is of course to know where to go for a shoot. Well, don't be led away by second hand tales of shooting in zemindari and that sort of country. There are good zemindari jungles, but there are precious few, and the best place to shoot is nearly always a good bit of Government Forest which is properly preserved and which cannot be over-shot. Find out, therefore, about a decent shooting district somewhere in reasonable distance, and write to the Forest Officer for one of the blocks in it. Remember—if you want to get a first class block you must write to the Forest Officer so that your letter gets to him three months to the day before your shoot is to begin. If you are even two or three days late you will find that the best blocks have gone. These Forest Officers are nearly all very helpful and courteous people, but remember that it is not part of their business to provide you with assistance or information. They will nearly always do so, but as an act of courtesy not of duty. Be polite to them, therefore, but remember that everything they do for you comes out of a busy man's time, so don't worry them more than you can help.

As soon as you have got your permit, write to the local Civil Official, the Deputy Commissioner or the Collector, and ask him very

kindly to warn his subordinates that you are coming into the district shooting and to ask them to give you assistance with regard to supplies, transport and baits. Some time before you arrive send one of your own men with a letter to the Tehsildar at your base giving exact details of what you require and the dates.

If possible go a day or two early and call on the local Civil Official and the Forest Officer personally. If you can manage that it is worth hours of letter writing.

If you are going after tiger you can economise in all things but one-baits for tying up. You must have lots of these, and you must have them in lots of time. Nothing is so maddening and so futile as having lots of tiger about and nothing to tie up for them. Baits (young buffaloes) are not too easy to get as a rule, and wherever you are going, it is nearly always worth while sending two or three men on at least a week ahead to buy them for you. You will want at least ten for a fortnight's shoot and often more. They are the most expensive item of your shoot, but they should not cost more than seven or eight rupees apiece. Try and get them concentrated in your jungle a day or so before you arrive.

I won't attempt to give you an elaborate list of stores and things you will want. Remember that most of the places that you will go to will produce practically nothing in the way of supplies. Even chickens and eggs will be have to be brought in from two or three marches away. You may get milk, but quite probably not. You must have chaguls for keeping your water cool, alum and chlorine for purifying it, and some simple drugs, quinine, aspirin, castor oil and the like.

Whatever you do, don't forget a surgical outfit. Antiseptic, say mercury perchloride and carbolic, a syringe for cleaning out wounds, a pair of forceps and dressings. You may get somebody bitten by a tiger and i you haven't got the proper stuff to treat him properly he will probably die and almost certainly lose a limb.

Now, having got into your jungle, what are you going to do about catching your tiger ? Well, there are two normal methods of tiger catching, and you will generally have to use one or the other according to the nature of the country. Beating is one and sitting up is the other. Beating is the easiest and the most certain if the country suits and you can get the necessary men ; so beat if you can.

Whether you are going to sit up or whether you are going to beat, there is one thing you must do first and that is to localise your tiger. You have got to tie him down to one locality, and you can only do that by getting him to kill, and lie up somewhere in the vicinity. Remember this, however. When you tie up for a beat, you want your tiger to lie up somewhere quite close to the kill. You tie up, in fact, at a place where he can drag the kill straight into lying up cover. When you tie up to sit up over the kill, you want to tie up where your tiger cannot drag into lying up cover, for if he does you will frighten him away when you come out to sit up.

People are always telling you that tigers in certain districts never come back to their kill. Don't you believe it. Nearly every tiger will come back to his kill if he thinks all is well and if he is quite undisturbed. What usually happens, however, is that when you arrive to sit up he is lying up somewhere near. He hears the noise and clears away, and has the sense to know that there is trouble about, and so, if he does come, he comes frightfully cautiously and generally spots you. Over and over again when you are coming out to sit up, you will hear, as you approach the kill, a khakur or a cheetul bark a couple of hundred yards away. You think they are barking at you. They are not. They are barking at the old tiger, who has heard you coming and is quietly slinking away. Well, you can't very well blame him if he is too cute to come back to his kill after that.

Remember that, of all the animals in the jungle, the tiger has much the best hearing. He will hear things that you think are utterly impossible. I have seen a nervous tiger stop and start at the sound of a leaf dropping 100 yards away.

But, with all these difficulties, one has a great advantage. In the hot weather a tiger practically must lie up close to or in water during the hottest part of the day. He will generally choose a shallow, muddy puddle under the shade of a rock or an overhanging branch. Therefore if you are trying to tie up for a beat tie up near shade and water. If you are tying up to sit up, tie up several hundred yards at least away from water. Then put up your machan and sit up in it in the hottest part of the day, sometime between 12 and 3. Never let anyone approach the kill in the morning, unless the vultures show signs of coming down on it. If they do that, get someone to go up quietly and cover the kill from sight.

About beating. The tiger is about the easiest animal in the world to beat, if you set about it the right way. He is easily moved, and has certain definite lines of travel, and he is quite easy to turn in a natural direction. He will nearly always make for high ground or hills, if there are any about, so always beat to the hills.

Although he follows the bed of a nullah at night and when hunting, he will not follow a nullah bed when beaten and will always stick to the ground above it. If your nullah has flat jungle on either side, with steep hills above that again, he will nearly always come along just at the bottom of the steep hill. If there is a low ridge or bank running along the length of the beat he will often come along the top of it so as to get a view, and if your nullah forks with a little ridge between the two branches, that is a likely place for a gun.

Remember there are several ways he may move, and where you haven't guns to cover them all, you must have stops. Good stops and plenty of them are much more important than beaters, and as a rule you will want twenty or thirty stops to 10 or 15 beaters. Stops should as a rule be silent until they see the tiger. If he is going forward they must not make a sound. If he is coming towards the side of the beat, all they have to do is to tap very gently on a branch and that will turn him at once. A noisy stop will scare a tiger and make him unmanageable, so that he will break back or through the side of the beat at a gallop. If he comes to the guns at all he will come too fast for accurate shooting and the guns will probably only wound him, and there will be a real mess up. The ideal beat is when the tiger is only moved, not driven, and when he comes to the guns at a walk without having seen the stops at all. Never force a tiger. The art in beating is to get a tiger on the move along the line he wants to go.

If you are cute you will often be able to run a little beat with only half a dozen men or so. There is one pet tree of mine from which I have shot three tigers in five beats. Each time I have beaten the place immediately after hearing of the kill with the 5 or 6 orderlies I have had in camp with me. Two I use as stops, where two paths go out at the side. The rest simply walk up the nullah talking towards me. Three times the tiger has walked quite unconcernedly up to my tree. Once he lay in an odd corner and got away up the hill side out of range, and on the other occasion he was not at home. This beat is about 300 yards long, and the widest strip of holding jungle is about 50 yards across.

One thing you must do, is to do your reconnaissances and lay out your beats before you get a kill. Reconnoitre your beat, put up your machans and work out all the details of your beat before you tie up at all. After you have reconnoitred each beat, then begin tying up for it. If you tie up first and reconnoitre afterwards, it's a million to a monkey that you put the tiger off when you come out to arrange the thing.

Don't try and put your guns too much in the open. A tiger will dodge the open, or gallop across it. It is easier to kill a walking tiger dead in fairly thick cover, than it is to hit a galloping one in the open. What you want are dead tigers not wounded ones. Don't fire at a tiger between you and the beaters unless you can kill him stone dead.

Remember that the first thing you want in a beat is to get your tiger on the move well ahead of the beaters. If the beaters practically tread on him, he will get flurried and start galloping about and then you can't control him. If you get him quietly on the move well ahead of the beat you can do what you like with him, for the stops can turn him quite easily, and he will give a much easier chance to the guns.

It is sound, therefore, where the beat is fairly long and cover is thick, for the beat to start with a hell of a noise and often a shot or two, so as to wake him up and get him on the move; after that, the more quietly the beat comes along the better.

All these principles apply equally to beating with elephants. You can run most beats on these lines with two or three elephants. You post the guns in trees in exactly the same way as you do for an ordinary beat, you want the same arrangements for stops, but you use your elephants to replace the coolies in the beat line. Never in the ordinary course of events try to beat a tiger up to a gun on an elephant. The elephant is bound to make a noise and the tiger will turn away from him.

And now comes the next point. Suppose your tiger does come to the guns and they have a shot at him, what next? It is, on the whole, unusual to drop a tiger in his tracks, even if you make a perfect shot. Hit through the heart he will generally gallop on and drop dead anything from 30 to 100 yards away. If it is thick, and you are not fairly experienced, you won't know whether he is dead or not.

Well, one thing I always advise you to do. During a beat always have a reliable man 70 or 100 yards behind you up a tree on the line a tiger is likely to go. His business is to sit perfectly quiet and watch what happens after you have fired. If the tiger is dead, he will be able to tell you. If he has cleared right off, again he can give you his line. Anyhow he will save you a lot of trouble.

Even if your tiger is said to be dead, be very careful about how you approach, for dead tigers have an awkward knack of coming to life again suddenly. I know of a case not very long ago where a Sapper and his wife shot a tiger one evening. They got down, went up to it, opened its mouth and looked at its teeth, then went back to camp. Next morning it had shifted about 300 yards away, and died all over again.

Take your glasses and see if he is breathing. Approach from the non-business end from behind a tree. Finally have some good big rocks thrown at him, and when two or three of these have hit him, then you can approach with safety. This applies equally to all dangerous game.

If a wounded tiger moves on, either out of sight or into cover, then the trouble begins. Don't be in a hurry to go after him. Set reliable men up trees to watch and listen in the direction he has gone, and sit down for an hour or so to let him die or stiffen.

Try to make out where he was hit, and the nature of his wound. If he was hit through the heart or lungs, he would blunder straight forward, crashing blindly through bushes and things, often chucking up a lot of blood from his mouth and nose. If hit through the heart he generally drops dead without making a noise. If a fatal lung shot, he often gives a lot of coughing roars as he gallops, and often as he dies.

A shot through the stomach only leaves blood for a short distance, and often a little fat. He may go for miles, and he may be able to fight three or four days later. If he is hit in the liver he generally goes some way, and then dies quietly. Again there is little or no blood, and both with a liver and a stomach wound, he often doesn't flinch or speak to the shot. A shot in the foreleg or breaking the bone below the shoulder brings him down on the spot, blundering and roaring on the ground. Give him another if you can if he does that. If you don't hand him another he will suddenly recover and

go off almost as though nothing was the matter with him. If you get up to him again, moreover, he will fight like hell, and the worst turns up I have had with tiger have been from a shot like this. A shot in the foot is the devil, both with tiger and panther, and though it doesn't impede their activity much, it usually makes them blind with rage. They often don't go far and when you get up to them they fight like hell. I very nearly got bitten by a panther which had been hit in the foot. A fellow I was out with had a shot at him over-night in a field outside the jungle. In the morning we went to see what had happened. We found a little blood leading off to the edge of the jungle at the bottom of a high bank. When I got to the bushes at the edge of the jungle, the beast leaped at me from about 15 feet up the bank, without sound or warning. I was rather taken aback, but managed to get him between the eyes in mid-air. I dodged him and he hit the ground stone dead. It was 19 feet from where he took off to where he hit the ground, and he took off about 15 feet above ground level. Some "lep," and his wound hadn't worried him much.

Remember the first thing you must do with a wounded beast is to locate him, and the second is to get round him so that he cannot get away or move without your knowing it. When you have done that you can take your time over shooting him. If he has an obvious line of retreat through fairly thick stuff, don't follow through it. Put men up trees to watch. Take one or two men and work along a high bank or somewhere outside the cover, till you find a more open bit. Work very carefully across it, putting men up trees, and stoning every bit of cover before you get to it. If no tracks lead out of it, get observers up trees all round it. Work it out with stones and so on till you move him. One of your men will probably be able to spot him or his exact whereabouts, and in time you will get him marked down so that you will eventually be able to get up a tree yourself where you can see to shoot him.

Never cross a nullah until you are quite certain the far bank is clear. Wounded tiger and panther will often cross a nullah and stop on the bank on the far side. Never approach them from downhill. Always from above. Work every bit of cover out as I said above, never going into it, always working round it, and gradually working it out until you are sure it is clear. Never approach any bit of cover

however small, till a reliable man has really looked into it from a tree, and till you have had it really properly stoned out.

Don't take a great crowd with you. Five or six reliable men whom you can trust and control are worth 50 who will get out of hand. Work in complete silence, you will nearly always locate him first by a sound—a growl—a groan or the birds making a noise at him.

The danger is not generally at the start. For the first half hour or so everybody is frightfully careful, and you can keep your men in order. As time goes on, however, and after three or four hours of it in the hot weather, everybody, including yourself, will get fed up and begin to take risks. That is when the accidents happen. You must absolutely steel yourself against getting slack, for the moment you do, your men will too, and one of them will get killed.

If you don't find him the first day, if he is badly wounded, he will have gone to water. If he hasn't he will be dead. So search all the likely water round, taking the same precautions.

If you lose him your responsibility does not end. You have let loose a terrible danger in the jungle for miles round. You must warn all the local inhabitants, the forest guards and anybody else whose business may take them into the forest. If you don't somebody quite unconnected with the show will get hurt, and that will be your fault.

I give you these three rules, which are the only possible basis or dealing with this business of tigers. Firstly: Never fire at a tiger unless you are practically certain of killing him dead. If you fire risky shots you are not only risking your own life, which is foolish, but other people's lives, which is criminal.

Secondly: If you do wound a tiger, it is up to you to take every possible step to kill it. Don't take unnecessary risks, but if it is humanly possible, you must kill it, otherwise some wretched villagers, who has nothing to do with the show will get killed while the tiger may turn man-eater. Thirdly: If you wound a tiger, it is up to you to hold the baby. In other words, if anybody gets bitten by it, it should be you, not one of your men. So don't let them take any risk that you wouldn't yourself. Above all things see that they do what you tell them, for it is no excuse for having a man killed to say that he didn't do what you told him.

Following a wounded tiger on foot is a very slow and very tiring business, but if you take these precautions there is no very great danger.

It should be possible, in nearly all jungles, to work the show so that you have 20 or 30 yards between you and any beast. If he charges from that distance you should be able to stop him. If you can't you have no right to be out shooting.

If you are charged by any animal, and if you shoot a lot, sooner or later you will be charged—don't be in too much hurry to shoot. Get your first barrel off fairly early. If it doesn't stop him, keep the second till he is quite close. It is a good deal easier to kill a beast at 15 feet than it is at 20 or 30 yards. I wouldn't let them come nearer than 10 or 12 feet if I were you, because even a dying tiger if it hits you may give you quite a nasty bite.

I am afraid I have harped rather on this business of tiger shooting, firstly because it appeals a lot to me, and secondly because I think to shoot a tiger is the ambition of most people who come out to this country. What I want to make clear to you is that it is not nearly so difficult as people think, even if one hasn't got the assistance of the local Rajah. Don't think tiger are scarce, because they are not. There is no great difficulty in two good guns getting three or four tiger in a fortnight in a decent block, even in these highly civilized days. Finally, about cost. I can't go into extensive details here, but remember this. Tiger shooting is by no means an expensive sport. On the whole, and when done on a small scale, I doubt if it is as expensive as small game shooting. Anyhow the cost is very much what you choose to make it.

There are two or three items which you cannot get away from. Firstly, your baits. You will want about 10 of these for a fortnight, and they should not cost you more than Rs. 80/- for the lot.

Transport is the next important item. The cost of it depends, of course, on two things. Firstly, the amount of kit you have got along with you, and, secondly, the distance you have to go from railhead. Bullock carts can go into most places you will want to shoot, and they will cost you three rupees per cart for a marching day and half that for non-marching days. You must be very luxurious if one bullock cart apiece does not suffice. In many places you will have to keep your carts permanently with you, for you can't get them in the jungle if you want to make a sudden move.

Taking cost as a whole, if you don't expect to drag beer and soda about with you, a bachelor will find that his all-in expenses from

railhead to railhead will be either a little less or very little more than his normal expenses in cantonments for the same period. What his transport and his baits cost him will be saved in club bills and in not being able to take his girl friend to the pictures.

The last serious shoot I was on was very efficiently run from the financial point of view (NOT by me). My share of everything from railhead to railhead was Rs. 176/-. We were three guns. We originally intended to be out for fifteen days, but we chucked it at the end of nine, having got five tigers, a panther and three or four stags. It would, as a matter of fact, have cost us very little more if we had stayed our full time, for a few extra days makes practically no difference to capital expenditure, and we could get transport when required locally. I would, however, like to emphasize the point that whisky was our only alcoholic drink—no beer or soda, and the financial side was being run by a fellow who knew the business absolutely inside out.

And now time is up. I must apologise if I have stuck too much to one branch only of my subject. I have done my best to suggest to those of you who haven't tried it, one way, at least, of making the best of this country. If I have only succeeded in persuading one or two of you to give it a try, our time will not have been wasted. I can only hope that if you do give it a try, and you do find a tiger, that some of the precautions I have suggested to you will put you in a more favourable position when it comes to deciding the major problem of who eats whom.

CO-OPERATION BETWEEN THE ARMY AND THE R. A. F.

By "Mouldy."

Introduction.

Attention has recently been directed to this subject by the issue of the new manual "The Employment of Air Forces with the Army in the Field" and by the Air Co-operation Exercise held at Army Headquarters last May. This article aims at amplifying certain points contained in the manual referring to reconnaissance; it is not concerned with the action of bombers and fighters.

The importance of a sound system of co-operation needs no emphasis, but it is equally important that all officers should have a working knowledge of that system. This is especially true in India, where aircraft often have to work with small columns and improvised staffs in minor operations on the North-West Frontier. Even more valuable than the theoretical knowledge of the system is a practical knowledge of how the other service works. This involves personal liaison between commanders and staffs concerned during operations, but it has also a wider implication—it is incumbent on all officers of both services at all times to get to know each other. Only in this way can we construct a really solid foundation on which to build up our system for war.

During the War, when the Royal Flying Corps was a part of the Army, all pilots had some knowledge, based on personal experience. of how the Army worked. With the creation of the Royal Air Force as a separate service, this ceased to be the case, and by degrees the number of pilots with Army experience decreased, until now there are few R. A. F. officers below the rank of squadron leader who have ever served in the Army. Even before the R. A. F. was created, it was found essential to have an intelligence officer in each squadron. This officer was originally provided from among the pilots in the squadron, but later an army officer was appointed for intelligence duties and for liaison between the squadron and the army formation in which it was serving. This officer, called the Branch Intelligence Officer, was the chrysalis from which emerged the present Intelligence Liaison Section.

Air Reconnaissance.

Reconnaissance is divided into strategical and tactical, the latter being sub-divided into medium, close and artillery. These terms are an indication of the kind of information which each form of reconnaissance aims at obtaining, and this is the distinction which should be borne in mind when deciding on the type of reconnaissance to be ordered.

Frequent confusion arises as to the difference between medium and close reconnaissance. The former is concerned mainly with the administrative and reserve area behind the enemy's battle position and is directed to obtaining information about location and movement of reserves, formation of dumps, activity at railheads, etc. Close reconnaissance requires a detailed examination of the enemy's battle area in order to obtain information of immediate tactical importance such as will affect the course of the battle within the period covered by the order, *i.e.*, the next 24 hours.

The normal method of communication between air and ground in tactical reconnaissance is W/T (two-way) for medium and R/T for close. It may often occur that close reconnaissance will be required to work beyond the range of R/T, and in this case it must be decided whether to use R/T and make the pilot fly back to within range in order to send his observations, or to use W/T instead. It must be remembered that, whereas R/T can be intercepted by listening sets allotted to subordinate formations such as forward brigades, W/T can only be received at the H/Q controlling the reconnaissance. These decisions should be made as a result of consultation between the R. A. F. commander and the General Staff.

In addition to strategical and tactical reconnaissance, there are photographic and night reconnaissances. These are often combined with other forms, particularly photographic with strategical and medium. Night reconnaissance may be employed when the enemy has adopted movement under cover of darkness to escape observation. The results which can be expected from night reconnaissance vary considerably with the state of the moon, and natural cover is very much more effective against air observation by night. It has been found, however, that pilots flying at 1,500 feet can see bodies of troops, even on roads lined with trees, when the moon is about half-full. The glowing ends of cigarettes and the lighting of matches show up very easily to an observer in the air.

Parachute flares exist at Home but not in India; they can only illuminate a small area and are more suitable for searching definite points such as railway stations or cross-roads where enemy movement is known or expected to be in progress, than for reconnaissance over large areas in the hope of discovering an unlocated enemy force.

Pilots are trained to carry out all forms of reconnaissance for which the squadron to which they belong is used. This involves strategical, night and photographic reconnaissance for Day Bomber squadrons, and all forms of reconnaissance for Army Co-operation squadrons. In India, Day Bomber squadrons are also used for tactical (except artillery) reconnaissance on the North-West Frontier, and their pilots receive some training in medium and close reconnaissance as well.

Day Bomber squadrons are, however, handicapped in tactical reconnaissance since they are not fitted with R/T, nor equipped to pick up messages. It would be an advantage in frontier warfare if they could pick up messages, since it is often difficult to operate tactical reconnaissance with no means of communication from ground to air other than W/T pack sets in mobile operations.

Army Co-operation squadrons are organised and equipped for all forms of reconnaissance; they possess R/T, W/T, message picking up gear, and one way W/T for artillery work. These squadrons have an establishment of twelve aircraft and can provide twelve sorties, each of about two hours, over the reconnaissance area, in a day. For limited periods this can be increased to eighteen sorties. Similarly, the period of two hours per sortie is governed by the fatigue of the pilot rather than the endurance of the aircraft, consequently, when flying conditions are good and enemy opposition is not serious, this period can be slightly extended, if need arises.

Allotment and control of squadrons.

The scale of allotment of squadrons is given in the manual, but their actual allocation by G. H. Q. to Corps, and by Corps to Divisions, depends on the situation and the requirements it involves.

As an example, we will suppose an exped tionary force of two Corps, each containing two Divisions, and having under G. H. Q. control two A. C. Wings, each of three squadrons. The employment of these squadrons at the outset of a campaign may be considered

in three phases—

(*a*) before completion of concentration ;

(*b*) after concentration and before contact ;

(*c*) after contact has been gained.

First Phase.—From the moment war is declared the C.-in-C. will require information. This is obtained by Strategical Reconnaissance, which may be carried out by A. C. squadrons if distance and the air situation permit, but will otherwise be done by Day Bombers.

No ground formations have yet taken the field, consequently, no sub-allotment of squadrons is required and the whole R. A. F. contingent will be retained under G. H. Q. control.

Second Phase.—The opposing forces are now moving forward, G. H. Q. is necessarily getting left further back and control on the ground has to be decentralised to Corps. This will involve the need for aircraft under Corps control to give early information of the enemy's movements on the Corps front.

At this stage G. H. Q. will still be needing Strat./R. and may be using A. C. squadrons for this ; each Corps will require Med./R. on its own front, and quite possibly a considerable amount of photography of the area where the battle is expected to take place.

Probably G. H. Q. would allot to each Corps during this phase a Wing H. Q. and two squadrons, retaining two squadrons under the C.-in-C.'s control.

Third Phase.—When contact has been gained, further decentralization takes place on the ground ; Divisions are now really in control, and they in turn must delegate considerable responsibility to their leading brigades. Divisions must have early information of what concerns them intimately and must, therefore, have their own aircraft ; Corps will require a wider picture and G. H. Q. a wider one still. The first requirements during this phase are thus Strat/R. for G. H. Q. which will probably have to be done by D. B. squadrons, since A. C. squadrons will be fully employed on the remaining tasks, *viz.*, Med/R. for Corps, probably Photo/R. as well, and Cl/R. for Divisions. Divisions may also require photographs, but at this stage it is best to co-ordinate all demands for photography through Corps H. Q.

A probable distribution of A. C. squadrons is now one to each Division and one under each Corps H. Q.

When the battle is in progress, advanced guards are deployed and artillery has come into action, Arty/R. will be required in addition to everything else; Corps may require it for medium batteries engaged on C. B. work and Divisions will want it for their field brigades.

Some centralization has now taken place on the ground; Divisions have assumed control from leading brigades and, as the battle further stabilises, Corps assume closer control over Divisions.

The reconnaissance requirements are now Strat/R. for G. H. Q.; Med/R., Photo/R., and Arty/R., for Corps; Cl/R., Arty/R., and probably Photo/R., for Divisions. At this stage it is quite likely that Corps will be unable to obtain its full requirements from one squadron; in such cases it is easiest to replace all three squadrons directly under Corps (through the Wing H. Q.) and allot so many sorties for each task from each of two squadrons "on the front of" one Division apiece. The third squadron plus the balance of the other two remains available for the reconnaissance required by Corps.

Working for two formations at the same time entails a greater strain on the squadron commanders and I. L. sections, and no squadron must ever be ordered to work for more than two masters simultaneously.

The Intelligence Liaison Section.

Prior to the issue of "The Employment of Air Forces with the Army in the Field," there was no manual which contained a full explanation of the functions of I. L. sections. In this book, however, the matter is treated very fully and it is only necessary here to amplify one or two points.

(*a*) Instructions to pilots: When giving instructions to the pilot, the I. L. O. goes through with him on the map the "Tasks in Particular" laid down by the General Staff and together they work out the order in which the pilot will fly over the various places named. Two factors have to be considered, the order of priority of tasks and economy of flying time and the result is often a compromise between the two.

(*b*) The ordinary method of transmitting information to the Army is by means of a daily "Summary of Information." The

latest known situation of all bodies of troops which have been reported is shown on a tracing to fit over the map in use; the text of the Summary includes the deductions made by the I. L. section as to what has happened during the day and what is likely to happen next. It has been found on manœuvres that the I. L. O., working in the comparatively peaceful atmosphere of the ærodrome, frequently arrives at a more correct appreciation of the situation than the staff at formation H. Q. who are constantly subject to interruption.

The Summary also contains a heading "Special Points," under which are included matters of particular interest such as the presence of A. F. Vs., negative information of any further bodies of the enemy believed to be in the area, location of refilling points, headquarters, and anti-aircraft batteries.

The S. A. O. makes up a tracing for R.A. staff showing the positions of all reported enemy artillery. This is called a "Hostile Battery Chart," and is accompanied by a "Hostile Battery Sheet" showing in tabular form how each battery was reported and what action has been taken, together with the S. A. O.'s deductions as to its nature and remarks on the success or otherwise of the shoot.

(*c*) The assistance afforded by the I. L. O. and S. A. O. to the squadron commander in training his pilots assumes greater importance in war than in peace, since young pilots will have had less preliminary training in Army matters. The I. L. O. and S. A. O. are expected to be able to teach pilots the elements of Army organisation and tactics, so that they will be capable of making reasonable deductions in the air as to where to look and what to expect to find there. Though pilots are not allowed to send down deductions in their messages, but report only exactly what they see, there is no reason why they should not make mental deductions on which to base their reconnaissance. This can only be done if the pilots have some familiarity with the enemy's organisation and tactical methods.

(*d*) From the Army point of view it is important to remember that the I. L. section cannot function properly in the instruction of pilots unless it is kept fully and constantly up-to-date with all the available information. It is suggested that the officer responsible for intelligence should ring up the I. L. O. 40 or 45 minutes before each sortie leaves the ground, and give him the latest information. This will then be passed on to the pilot, who reports to the I. L. O. half an hour before his sortie is due to start.

Staff Duties.

Reconnaissance of any kind necessitates the issue of full and clear orders if the maximum value is to be obtained from it; more especially is this so in the case of air reconnaissance when the greater range at which it is carried out enhances the importance of a good appreciation and sound forecasts of enemy movements and dispositions.

All that is required to be included in orders is clearly given in the manual, but there are one or two minor points which seem to cause confusion.

(*a*) The reconnaissance area should cover all the Tasks subsequently detailed. It is the area within which reconnaissance of a particular type may be expected to take place, not an area of which every nook and corner will necessarily have to be searched.

(*b*) A good deal of misconception seems to exist as to the distinction between "Task in General" and "Tasks in Particular." The former is to show the general purpose towards the attainment of which the day's reconnaissance should be directed, and it should cover all developments of the situation which can reasonably be anticipated. The "Tasks in Particular" serve to focus attention at the beginning of the day on those areas or lines of approach which the enemy is expected to use. These will naturally vary as the situation alters, and the tasks are, therefore, subject to change by the General Staff or, in default of their orders, the squadron commander concerned.

(*c*) Under the heading "Reports" only one time need be given. This should be the time by which information on the first task in particular is required. The pilot will, thereafter, report all he sees automatically and no other times should be laid down unless the receiving station on the ground is only able to open intermittently, in which case the times of opening and closing should, if possible, be stated.

Intercommunication.

The constant interchange of information which is required between the General Staff and the squadron working under it, without which full value cannot be obtained from air reconnaissance, necessitates the best possible communication between the H. Q. and the squadron. This should, whenever possible, take the form of telephone

and may involve the sacrifice of other important lines in the Divisional signal system. The amount of cable being strictly limited, it is often not possible to provide this link with the ærodrome in use. In such cases it may be possible to use an advanced landing ground nearer to the Divisional H. Q., and to which a telephone line can be laid. The I. L. O. will then work at this landing ground, to deal with the instruction and interrogation of pilots and the rapid transmission of information to the General Staff. The S. A. O. will remain at the main ærodrome to deal with photographs. Aircraft employed on close and medium reconnaissance will touch down at the advanced landing ground both on its way out on patrol and on its way home, and the pilot will report there to the I. L. O., but no aircraft nor ground installations will be permanently located there.

The ideal position for an advanced landing ground is close beside the Divisional H. Q., but this is rarely obtained and, particularly in India, it may be impossible to find one at all. When this is the case and distance precludes the use of telephones, recourse must be had to W/T.

The Army is responsible for the provision of this link with the ærodrome, while the R. A. F. provide all communications between aircraft in the air and formations or units on the ground.

Air Photography.

The Army has accepted the responsibility of reading, interpreting and annotating all air photographs demanded from the R. A. F. Annotation is the duty of the General Staff, but all officers should be able to read photographs and have some knowledge of interpretation. Reading means the ability to recognise natural features on a photograph: interpreting means recognising the marks made on the ground by troops as well as the troops themselves; annotating means marking on a print the results of interpretation, so that those unskilled in the latter can obtain full value from the information contained in the photograph.

Types of Air Photographs.

Photographs are of two types, vertical and oblique.

(*a*) Verticals are map-like. They are taken with the camera pointing straight down at the object and may take the form of pinpoints, (*i.e.*, single prints to show some particular spot) or mosaics

(*i.e.*, a series of overlapping prints covering a larger area and producing a picture like a map).

The camera must be so placed that the film is parallel to the mean level of the ground in order to avoid distortion due to the introduction of perspective. Even then only the actual centre of the print is exactly accurate, due to variation of scale in different parts of the print, especially when the ground is not level. Verticals are, however, accurate for bearing, *i.e.*, angles can be measured accurately on them, and they are sufficiently accurate for distance for tactical use.

Pairs of overlapping verticals viewed through a stereoscope show the relief of the ground features, that is—they show the ground as it actually appears to a man looking through the bottom of an aircraft.

(*b*) Obliques give a bird's eye view, or panorama. Since this introduces perspective, neither distance nor bearing are constant on any part of the print, nor can the north point be marked on them. They do show the shape of the ground and give some idea of where dead ground occurs.

They may take one of three forms, a pinpoint (*i.e.*, a single print of some particular object), a side-overlap (*i.e.*, a series of obliques taken to show a river bank or coast line), or a forward overlap (*i.e.*, a series of obliques taken to show successive views as they would appear to an aircraft flying up a valley or along a road).

Uses of Air Photographs.

(*a*) Topographical; either to supplement existing maps or in conjunction with Survey Companies, R.E. to produce new maps at a scale of 1/20,000. Various details can be obtained from photographs; the existence of tank obstacles, possible routes of advance for A. F. Vs. or other arms, probable areas in which the enemy may be concealed, some information regarding the condition of roads, depth of water in rivers, etc. In mountain warfare, they are extremely useful in working out picquetting. It is not suggested that the positions of all picquets can be selected in advance from photographs, but some idea can be obtained from them of the strength of picquetting troops likely to be required.

Again, when preparing a defensive position, if a commander is for some reason unable to go forward and examine the position from

the enemy's point of view, a series of overlapping obliques will give him a very good idea of how the position will appear to the enemy and which are its most vulnerable points. Obliques are often of great value to junior leaders in making their tactical plans and explaining these to their subordinates. Particularly is this so when the ground is devoid of obvious tactical features and vision is limited by hedges or standing crops.

(*b*) Reconnaissance.

i. Strategical reconnaissance aircraft depend almost entirely on the camera for recording information. Such matters of importance as new rail or road construction, new camps, collections of rolling stock, etc., are faithfully reproduced on the photographs.

ii. Medium and close reconnaissance areas, if photographed, will supply detailed information regarding trenches, machine gun emplacements, battery positions, wire, signal communications, etc. and, most important of all, tracks. These last are often the only clue in mobile warfare where no digging has been done; they appear at once on most kinds of ground and are clearly shown on photographs. Full value can only be obtained from such information when previous photographs of the same area are available for comparison.

Demanding Air Photographs.

The value of air photographs diminishes as time elapses between the demand being made and the photographs being received. Therefore, the Army must demand the minimum number of prints required, and must make their demands in such detail that the R. A. F. can give a 100 per cent. result the first time. The detail required is given in "The Employment of Air Forces with the Army in the Field," Chapter IV, Section 21·6. In addition to the points mentioned therein, in the case of side overlap obliques it is advisable to state clearly any particular part of the ground which must appear on them (*e.g.*, a river bank or coast line) and the line along which they should overlap, since the basis of these prints will never be one continuous line and the gaps between the lower halves of photographs may omit something which is of importance. When deciding on the number of prints required, it should be borne in mind that the average capacity of a squadron photographic section is 600 prints from 100 negatives per day, but this may be increased in emergency to 600 prints from 300 negatives.

Training.

The importance of a knowledge of air co-operation to all officers makes it essential to take every possible opportunity of training. There are certain " experts " available to assist in this, namely officers of the R. A. F. ; at A. H. Q. the G. S. O. for Air Co-operation ; and in each Command in India an I. L. section complete. These officers can help by lecturing, staging demonstrations of the work of I. L. sections, or advising on the air co-operation aspect of T. E. W. Ts. or exercises with troops, whether the R. A. F. is co-operating or not.

Local courses in air photography can be conducted by I. L. Os. and S. A. Os., and form a part of the syllabus for Command Intelligence courses.

For artillery co-operation, useful practice in the drill and communications can be obtained by both R. A. and R. A. F. from air shoots with 15-pdr. guns, and from exercises on Raikes or Coryton ranges and on picture targets.

No tactical exercise involving a force of an infantry brigade or more can be considered complete unless air co-operation is included, since in India it so frequently happens that aircraft do work with brigades in minor operations on the North-West Frontier.

Conclusion.

This article has aimed only at amplifying the manuals recently issued, in the hope that a more general interest in the subject may be aroused, and even that some of the readers of this Journal may be provoked to say either " This is not enough " or—far more likely—" This is too too much."

SOUR GRAPES OR THE "ELITE" *VERSUS* THE "UNEDUCATED MASSES."

By F. S. C.

I like sour grapes. I am a disappointed man, and the iron has entered into my soul. I have failed to acquire the mystic and all powerful letters "P. S. C." after my name in the Army List. So, in my rage, I am going to be cantankerous and curse the whole system whereby officers in the army are taught how to be efficient officers in the army; and how they are not so taught. I repeat, I like sour grapes.

Some, indeed, have the luck—(*you* may say brains, industry, intelligence, efficiency, etc.—I still say "luck," though not necessarily "good luck") to pass into the Holy Places of Camberley or Quetta. The majority are taught "soldiering" (in a planned out, consecutive and uninterrupted course of study under expert instructors), only at Sandhurst and Woolwich at the age of 18, or at the Senior Officers' School at the age of, say, 40 or 45. During the intervening twenty or so years, the authorities "decentralise" (what a useful word!) and put the onus of teaching on to lower commanders to teach yet lower commanders; and, of course, the civilian crammers supply what "Authority" does not provide. In theory this is admirable; in practice often lamentable.

Some commanding officers know their jobs and can teach the mysteries of tactics brilliantly; are these commanding officers always equally as good at, say, law or administration? And if they are such brilliant super-men, is it not a pity that their knowledge and guidance is only disseminated among the few (at most thirty or so) officers in their own unit? And these would only get a complete course if they eschewed their leave and were never taken for a court-martial or other duty on the day of the most instructive *TEWT* or most interesting lecture.

Some commanding officers are not as good as others (They shouldn't be commanding officers, says "Authority." No, but they sometimes are). Most of the officers under them learn what they can by chance, some by industrious reading of F. S. R. and other uninspiringly written military bibles; a great many give up the contest and learn nothing. Units in some stations, *e.g.*. Bermuda, Hong

Kong and some places in India, can practice none of the doctrines preached by the most Napoleonic commanding officer.

And after all this, why should "Authority" interest itself in what junior regimental officers learn—still less how they learn it? There are lots of civilian crammers and surely there is always a supply of painstaking "p.s.c." professionals who run the show while the amateurs hunt, flirt, stick pigs, drink beer and hit polo balls.

(Now you see why I like sour grapes. I mean why I am proud of my title of "F. S. C." I am arguing backwards. All this should have been "para. I, sub-head (*a*)." The examiners were quite right, for without such orderliness of expression I "never would do for A or Q").

But if the army had to expand and cope with a big war, it would need (somewhat suddenly) hundreds of brigade officers, R. T. O's., liaison officers, etc., as well as many good regimental officers capable of teaching civilians to fight. The true blue-blooded P. S. C. officer is far too rare a specimen to be wasted.

Moreover, would it not be rather a good thing if most of the officers in an army thought on the same lines, according to the same system, and had a common foundation of knowledge and principles? (A voice:—You would cramp all initiative, and tie people down to a set, stereotyped doctrine, "according to the book." I reply:—You might as well say that to be taught the laws of harmony or to take lessons in voice production makes musicians all compose the same tunes, or sing the same songs.)

I suggest that it might be useful to the Authorities to have among their voluminous statistics a list of officers who, though not among the aristocracy of militarism with "p.s.c." to their names, can at least be regarded as above the common herd a respectable bourgeosie in fact, which, like all bourgeoisies, will be snobbish enough to ape its betters.

At present one is either "p.s.c." or just nothing; a mere insect struggling after The Light, picking up a tag here, a phrase there, an idea from this colonel, a theory from that one; among herds of others struggling haphazard with greater or lesser degrees of interest or energy.

Why should not the normal Staff College course be reduced to a year or six months, and the entrants doubled or trebled? The

commandant and instructors should, after such a period, be able to select a few who were worth keeping on for a special second course of one year. This second year would really be a school for Napoleons; a preparation for the Imperial Defence College. It might even be amalgamated with an enlarged Imperial Defence College.

From the students who had done both periods would come future G.S.Os. I, and other exalted prelates in the military hierarchy.

From the normal, one-year students would come brigade majors, staff captains, junior intelligence officers, some military attaches, and bottle washers of every sort. Also, incidentally, regimental officers who had received a sound methodical and consecutive grounding in tactics, administration, etc., based on a common doctrine by good teachers.

Without trespassing in the realms of fantasy, I believe this scheme, or one based on similar ideas, might even cause interest in soldiering to be a common feature among the "Uneducated Masses" instead of being the prerogative of the "Elite." By a wider dissemination of officers who had learnt something of Imperial and European problems, the narrowness and monotony of mess life and conversation might be relieved—but perhaps this is almost too Utopian to hope for.

In the days when I was foolish enough to spend my money on a civilian firm, to learn militarism for the Staff College examination, I was told to put headings:—"Introduction" "Conclusion" etc. in my essays. I didn't do it enough, it seems, anyhow I failed; I have no "conclusion;" the whole essay is an "introduction," and ends with a question.

What are the objections to these elastic and disgruntled ideas? I hope the next number of this journal will be full of them, for this essay is written arrogantly and aggressively in order to elicit opinions on this subject from my elders and betters.

I know "Expense" will be the first objection. Of course it would cost money; how, or why, or how much I don't know, but all changes and innovations for the better seem to cost prohibitive sums. My answer is:—We spend money on improving tanks, improving light automatics, improving aircraft, even improving uniforms—why not spend a little on improving officers?

TWO LECTURES ON THE MESOPOTAMIA CAMPAIGN.

6TH NOVEMBER, 1914, TO CAPTURE OF KUT-AL-AMARA ON 29TH SEPTEMBER, 1915.

BY MAJOR J. E. SHEARER, M.C., 15TH PUNJAB REGIMENT.

1. *Scope of lecture.*

I can only give you a brief outline of this campaign in these two lectures, so I shall spend as much time as I can on making the campaign as alive and interesting as I can for those of you who have not been in Mesopotamia by telling you s much as I can in the time available about local conditions, and in endeavouring to point out the main lessons of this campaign. I shall give you a sufficiently full outline of the narrative of the campaign to give you the pegs upon which to hang your more detailed reading, but I shall keep this outline as short and as simple as possible.

For your reading I would recommend that the Staff College "Critical Study of the Campaign in Mesopotamia" up to April 1917, should first be read, and that then you should read the Official History, Volume I, to fill in the necessary details. If you try to wade through the Official History without first getting a clear picture in your mind of the essentials of the campaign, you will only get hopelessly fogged. The Official History contains a mass of very interesting detail, but it makes no criticisms and does not try to point out any lessons and so is only suitable for the more advanced study of the campaign.

The "Critical Study" is a book "for official use only" and cannot be purchased; but copies of it have been issued by A. H. Q., India, to all military libraries and to all officers' messes.

2. *General Description of Mesopotamia.*

Mesopotamia, (or Iraq, as it is now generally called), is entirely different to any other country I have ever seen. I have heard it aptly described as "a river, with belts of palm trees on each bank, and then miles and miles of damn all." But the "Tommy" who invented that description used a much stronger expression than "damn all," and he did not realize that even the palm trees fade out about 100 miles above Basra; so the maps with which I was myself issued when I first landed in Mesopotamia were not of much military value. They showed the Tigris beautifully printed in blue, but the rest of the map was more or less blank.

Unless you have seen the country it is difficult to realize the absolute flatness and "nothingness" of the landscape. So you can see that with no features at all upon which to take compass bearings, or by which the troops could recognize their objectives, it was unbelievably difficult to write clear orders or to maintain direction in our attacks.

3. *Mirage and Dust.*

These difficulties were greatly increased by mirage and dust. Mirage habitually distorted everything, so that even after months of experience it was impossible to trust one's own eyes. Large lakes were seen where no water existed at all: a single camp flag would look like a galloping Arab: a flock of ration sheep a few hundred yards distance would look like a charge of mounted Arabs with their cloaks flapping in the wind: and most strange of all, an untidily-dug trench parapet 18 inches high would look at 300 yards range like a range of sand-hills; while sometimes the mirage would entirely hide a real cavalry squadron at a few hundred yards range. Field glasses only accentuated the distortion of the mirage. So you can understand the unhappy position of Commanders and Gunners trying to carry out a personal reconnaissance or observe from their O. P's.

In the dry season these difficulties were accentuated by dust. Dust devils were everywhere blotting out the landscape, and the dust raised by the strike of bullets was so thick that infantry advancing under accurate enemy small arms fire could only see about 50 yards and so were virtually fighting under night conditions.

4. *Mud and flooded Areas.*

During the hot weather the Tigris and Euphrates are so low and full of sand-banks that navigation becomes slow and difficult; but during the cold weather the rivers come down in tremendous floods which, if uncontrolled, would inundate the whole country. In fact Lower Mesopotamia is merely a huge river delta built up by the flood-mud of centuries. These floods are controlled to a certain extent by large earthen "bunds" along both banks of the Tigris, but the result is that the T r s becomes a raging torrent with a 5-knot current flowing well above the level of the surrounding country. So any break in these "bunds" floods a very large area of country, often at very short notice.

In addition to these "casual" marshes there are also enormous permanent marshes, all too shallow and too full of reeds for navigation, in Southern Mesopotamia (*vide* Sketch Map No. 1). Consequently many of the attacks in this campaign had to be carried out in Arab canoes, called "Bellums."

The mud round these marshes and inundations is peculiarly tenacious; and during the cold weather sudden, very heavy rain storms are also frequent. These render the whole country impassable for wheels in a few hours and reduce infantry movement to about one mile an hour with great exertion.

So you will see that mud, often quite unexpectedly, was of great tactical importance during the cold weather.

5. *Drinking Water.*

In spite of all this water lying about there is practically no drinkable water anywhere except in the main rivers. The water in all the permanent marshes, as well as in most of the winter inundations, is too strongly impregnated with Epsom salts to be fit for drinking either by man or animals.

So operations had necessarily to follow the main rivers, and our attacks had to be frontal ones, as lack of drinking water made wide turning movements impossible.

6. *Climate.*

Mesopotamia is a country of extremes. The heat in summer is intense, going up to 130°F. in the daytime, but dropping as much as 60°F. at night. During the summer the flies and mosquitoes are unbelievably numerous, spreading disease broadcast, for no man or animal was ever really free from diarrhœa on account of the Epsom salts in the water.

North of Amara the heat is a dry one and so is easier to bear, but in the marshy areas further south the heat is a damp one and so is very trying indeed.

The winters are beautifully cool in the daytime, but with heavy frost at night north of Qurna But in the winters our troops had to contend with frequent rain and sleet storms and with the mud and floods to which I have already referred. So we all agreed out there during the War with the Arab saying "When Allah made hell, he found that it was not bad enough. So he made Iraq—and added flies."

7. *Communications.* (*See Map No.* 1.)

As I have already said, Lower Mesopotamia has been made by layer upon layer of mud left by centuries of floods, so there are no stones at all there. Consequently, there are no metalled roads. In the dry season this mud gives a hard, springy surface where wheels can move anywhere; but as soon as it rains, wheels stick in the mud. Consequently, unmetalled roads would be useless and also do not exist. These facts combined with the shortage of drinking water, necessarily mean that the rivers are the only main communication routes in the country.

There are five main rivers in the area covered by this lecture. These are the Tigris and Euphrates, which join in two places, at Qurna and at Kurmat Ali. From the latter place to the sea their combined waters are called the Shatt-al-Arab. (Incidentally, Qurna is supposed to be the original Garden of Eden, and possesses the largest mosquitoes I have ever seen.)

The Karun flows from Persian Arabistan into the Shatt-al-Arab at Mohammarch. Near the junction is Abadan Island where are situated the Anglo-Persian Oil Company's refineries and shipping wharves. The oil wells are at Maidan-i-Naftun in Persia, and the oil comes 150 miles by pipe-line through Ahwaz and down the Karun river route to Abadan Island. The bulk of the oil supply for our Navy at that time came from this source, so the protection of this pipe-line was of the utmost importance to us.

The fifth strategically important waterway is the Shatt-al-Hai, which flows from the Tigris at Kut-al-Amara into the Euphrates at Nasiriya. This is not really a river at all but a natural overflow from the Tigris. Its water can be controlled at Kut-al-Amara, so it provided a useful line of advance for the Turks upon Basra, but would have been a dangerous route for us northwards from Nasiriya before we had captured Kut-al-Amara.

8. *Land Transport.*

When Indian Expeditionary Force "D" first landed in Mesopotamia their transport was on the ordinary Indian organization of pack mules and A. T. carts for 1st Line Transport and camels for 2nd Line Transport. The area of the original operations was too wet to be suitable for camels, while no local grazing at all existed for them. So they were soon almost all returned to India as useless mouths to

feed. Our supply problem was always difficult, as practically no local supplies except dates were obtainable, and even our firewood had to be brought from India. Date palms will not burn and there are no other trees in the country.

After the return of the camels, our 2nd Line Transport consisted entirely of local Arab sailing-ships, called "Mahailahs." These can sail but more often had to be towed slowly and laboriously against the current by their crews.

So, even had water carts been provided, none of which existed with I. E. F. "D" at that time, our troops could leave the vicinity of the large rivers only with 1st Line Transport. Thus wide turning movements were out of the question, and our troops were always committed to frontal attacks, and any pursuit of the defeated Turks was always impossible except in river-craft.

9. *River Transport.*

As you will see when you read the details of this campaign, the supply and transport problem was always the rock upon which "G" plans crashed.

Ocean-going ships of limited draft could reach our base at Basra, but the process of unloading them there was appallingly slow. Up to 1918, when modern wharves and appliances had been built, it was quite normal for a ship to take 39 days to unload at Basra.

Once ashore, troops and stores had to be sent up-river in shallow-draught river steamers and lighters. Each steamer had a lighter lashed to each side of it. This clumsy arrangement made movement slow against the strong current in the flood season, and slower still when the rivers were low and full of sand-banks; but it was the only possible way of carrying the necessary tonnage with the inadequate number of river steamers available. There were no railways south of Baghdad until the end of 1916, nor were sufficient river steamers available until that same date. The General Staff were unaccountably "slow off the mark" in asking for more river steamers and for a railway. The latter was at first refused by the Finance Department of the Government of India as an economy measure; and suitable river steamers took many months to build and send to Mesopotamia, and 20 of them sank at sea *en-route.*

I shall give you more details on this subject later.

The Turkish supply problem was an easier one than ours. They floated men and stores downstream in rafts which were broken up at their destination and used as firewood.

10. *Ordnance and Medical Services.*

India had been "bled white" for both Ordnance Stores and Medical Services for France and East Africa, so I. E. F. "D" came off particularly badly in both these respects.

Our artillery was a heterogeneous collection of obsolescent pieces, and gun ammunition was short.

The medical officers did their best, but our casualties were far in excess of anticipation; while the proportion of wounded to killed was unusually high, as the dead flatness of the ground enabled the Turkish small arm fire to cause us appreciable casualties at ranges up to 2,000 yards. So our medical services could not cope with the large numbers of wounded who suffered horribly in consequence.

11. *Arabs.*

The Arabs were a constant thorn in the flesh of both sides. They were treacherous to a degree and fiendishly cruel to the wounded, whom they always brutally mutilated whenever they got the chance. In every fight a swarm of Arabs could be seen hovering round the flanks, ready to dash in and cut up the wounded and stragglers of both sides whenever they got a chance. The Turks often used Arabs as allies, but that did not prevent their Arab auxiliaries from harrying their Turkish "friends" in a retreat.

So every plan of attack had to be complicated by arrangements to protect the flanks and rear of the fighting troops from Arab marauders.

12. *Objects of the Campaign.*

I cannot give much time to the confusing and complicated question of the objects of this campaign; but I shall give you a brief resumé of this question now, in order to clear your minds about it, and I shall refer again to it from time to time during this lecture.

(*a*) In October 1914 the expedition was originally ordered by the Imperial Government against the wishes of the Government of India, with the main object of safeguarding our naval oil supply from the Anglo-Persian Oil Company.

There were also subsidiary objects such as impressing the Turks, Arabs, Egyptians and Persians that we were fully capable of checkmating their intrigues against us.

(*b*) By April 1915 our easy initial successes encouraged the Government of India to extend our hold on the country. General Nixon, the Force Commander, was then instructed :—

Firstly, to retain complete control of lower Mesopotamia.

Secondly, as far as was compatible with the first role, to safeguard the oilfields, pipe-line and refineries of the A. P. O. C.

Thirdly, to submit plans for :—

(*i*) The effective occupation of the whole of the Basra Vilayet, which included Amara and Nasiriya and,

(*ii*) for a subsequent advance on Baghdad.

Thus we see that the safeguarding of the oil fields was gradually sinking in importance in the minds of the Government of India; but that that object remained the main object of the Imperial Government's policy in Mesopotamia.

(*c*) After much correspondence between the Government of India and the Secretary of State, the Imperial Government grudgingly sanctioned first the advance to Amara and Nasiriya; then the advance to Kut-al-Amara in order to deny the use of the Hai to the Turks for an attack on Nasiriya; and finally in November 1915 they agreed to send two Indian Divisions from France and sanctioned the disastrous advance on Baghdad which resulted in the seige of Kut-al-Amara and was responsible for all our troubles in Mesopotamia in 1916.

(*d*) The Government of India, on the advice of General Nixon, but against the wiser protests of General Townshend, seem to have been lured into an unwise extension of their objective without adequate troops and with extremely inadequate maintenance transport. Our successes up to the capture of Kut-al-Amara in October 1915 were gained against comparatively weak and indifferent quality Turkish Arabian troops, with only a small leavening of real Anatolian Turks; but from that time onwards reinforcements eventually totalling 60,000 first-rate Anatolian troops from Gallipoli had to be fought. When advising the advance on Baghdad General Nixon did not believe our intelligence reports

about 30,000 anatolian reinforcements being already close at hand; but, even so, he seems consistently to have appreciated the situation from the "G" point of view alone and to have ignored the "Q" difficulties.

(*e*) The big lesson we can learn from this unfortunate controversy is, therefore, that in undeveloped countries, "Q" problems must be given full weight, otherwise maintenance is almost bound to break down and the best laid "G" plans will fail. "Q" must not be allowed to dominate "G" or plans will become unnecessarily "sticky"; but "G" and "Q" must work together, each being given their fair share of the balance.

This lesson is just as true of operations on the N.-W. Frontier of India as it was in Mesopotamia in 1915.

13. *Division of the Campaign into Phases.*

This campaign falls into six main phases.

These are:—

(*i*) The occupation of Basra and the capture of Qurna.

(*ii*) The Turkish attempt to recapture Basra.

(*iii*) Operations in Arabistan to reopen the oil pipe-line about Ahwaz.

(*iv*) The capture of Amara.

(*v*) The capture of Nasiriya.

(*vi*) The capture of Kut-al-Amara.

I shall run through each of these phases briefly, going only sufficiently into detail to give you a connected narrative and to bring out the main lessons of each battle.

14. *Phase (i).—The occupation of Basra and capture of Qurna.*

(*a*) *Landing at Fao.*

On 6th November, 1914, the leading elements of Indian Expeditionary Force "D," (the 16th Indian Infantry Brigade under Brigadier-General Delamain), landed at Fao and captured the obsolete fort there practically without opposition, war with Turkey having been declared the previous day.

The only importance of Fao, which is situated at the mouth of the Shatt-al-Arab, is that it was the head of our telegraph cable for India.

(*b*) *Landing at Sanniya.*

On 7th November the Fao landing party re-embarked and General Delamain's whole flotilla moved up-river and spent the 8th to 10th November disembarking without opposition at Sanniya on the right bank of the Shatt-al-Arab two miles above the oil refineries on Abadan Island.

General Delamain's original intention was to advance to attack the Turkish force which was concentrated a few miles further up-stream; but he changed his mind when he got news of an impending Turkish counter-attack. He was greatly outnumbered and out-gunned by the Turks, and his wireless broke down and prevented him getting any news at all about the remainder of the 6th (Poona) Division's probable date of arrival; so he stayed where he was in a perimeter camp. I want you to note the perimeter camp, as I shall point a moral from that later.

The Turkish counter-attack duly materialized on the 11th November and was beaten off after some difficult fighting in the thick date plantations; but General Delamain did not follow up his success, partly because he was informed of a further impending counter-attack by 10 Turkish battalions, but principally because heavy rain on the 12th and 13th made the ground impassable because of mud. You will remember my previous remarks about the tactical influence of mud in Mesopotamia.

(*c*) *Landing of G. O. C., 6th (Poona) Division and 18th Indian Infantry Brigade.*

On 14th November General Barrett, the G.O.C., 6th Poona Division, arrived and assumed command. He had with him the 18th Indian Infantry Brigade and some guns; but this reinforcement did not complete its disembarkation until the 17th November owing to the strong current and entire lack of proper landing facilities.

The same day General Barrett received orders from India that his objective was now Basra, which he was to capture as soon as he felt strong enough. He was also informed that the remainder of his Division would embark at Bombay on the 19th November.

This latter reinforcement could not arrive in the Shatt-al-Arab until about 28th November, but, although greatly outnumbered by the enemy, General Barrett decided to attack forthwith, as he knew that the attitude of the local Arabs and the safety of the Oil Refineries depended upon his rapid success.

(*d*) *Action at Saihan.*

On 15th November the 16th Indian Infantry Brigade successfully drove in the enemy's advanced troops at Saihan in order to cover the disembarkation of the 18th Indian Infantry Brigade and attached troops.

(*e*) *Battle of Sahil.*

On 17th November the 16th and 18th Indian Infantry Brigades defeated the enemy's main force at the battle of Sahil after a hard fought battle.

The plan of attack was, roughly, to attack the enemy's open right flank and drive them towards the river bank where they would be dealt with by our ship's guns. But this plan had to be entirely altered during the course of the battle because it was found that the shallow water and the thick date groves on the river bank prevented the ship's guns from seeing their targets, and because the enemy's very well-concealed trenches extended so far inland that their outer flank would have been difficult to turn.

Soon after the advance commenced, a sudden, heavy rainstorm converted the whole battle-field into a quagmire in which our cavalry could not move out of a walk and our guns could scarcely move at all. This was followed by a heavy mirage and finally by a dust storm, both of which so blinded our artillery O. P's. that the enemy were enabled to retreat from their positions in daylight and were able to take away guns which they had abandoned earlier in the day.

General Barrett did not use his cavalry to exploit his success on account of the heavy mud. So the Turks were able to retreat with much less loss and demoralization than would otherwise have been the case. The Mesopotamian climate had greatly handicapped the attacking force, as was usually the case.

(*f*) *Lessons of the Battle of Sahil.*

(*i*) *Orders looking too far ahead.*—This battle illustrates the unsoundness of issuing detailed attack orders without previous adequate reconnaissance of the enemy's dispositions. The original orders contemplated turning the enemy's right, but this was found to be impracticable, and entirely different orders had to be issued during the battle. This caused great difficulty in co-ordinating the final assault.

Would it not have been sounder to have issued orders only for an advance in a concentrated formation, with the cavalry well ahead,

searching for information about the enemy ? This would have avoided wasting time and men by attacking the enemy's wrong flank first; and it would have given General Barrett a stronger force with which to give a decisive knock-out blow at the vital point of the enemy's position.

(*ii*) *Use of Cavalry.*—The Divisional cavalry regiment was used to cover the outer flank of General Barrett's force during the advance. Was this sounder than giving them the reconnaissance role suggested above ? The official history does not help us on this point; but there would certainly have been a swarm of mounted Arabs hanging about like jackals wide round our flank, waiting to pounce upon our wounded. So some sort of mobile flank protection was imperative.

Probably it would have been sounder to have used the bulk of our cavalry regiment for the reconnaissance upon which to issue detailed attack orders, leaving the flank protection to be provided by infantry, with the addition of one or two troops of cavalry only.

(*iii*) *Exploitation of Success.*—Subsequent events proved that the enemy were at this stage of poor quality, so a vigorous pursuit by our cavalry would probably have had an immediate decisive effect. The mud and mirage stopped this; but nevertheless, we should always remember to use our cavalry in rôles where they can get the maximum advantage from their mobility. This principle was consistently forgotten throughout the first three years of the Mesopotamia campaign.

(*iv*) *Use of Engineers and Pioneers.*—Both the companies of sappers and miners with the force were used in the firing line as infantry and suffered heavy casualties. This was an obvious mistake, because engineer casualties take many months to replace. There was no lack of urgent legitimate engineer work at the time, as the force was being maintained only with great difficulty on account of lack of proper landing piers, etc.

The Pioneer battalion was also used as infantry, although it was kept in reserve and presumably did not lose many men; but the same principles apply to their use as for Engineers.

You will find that sappers and miners and pioneers were consistently used as infantry in every battle of the period covered by this lecture.

(*g*) *Occupation of Basra.*

On 22nd November Basra was occupied without further opposition, the Turks having retreated to Qurna, at the junction of the old bed of the Euphrates with the Tigris.

(*h*) *Capture of Qurna and consolidation of Basra.*

After certain naval reconnaissances of the Turkish position at Qurna had been carried out, General Barrett decided to capture that place in order to consolidate his hold on Basra.

Consequently, on 3rd December a small mixed force consisting of one Indian battalion of the 16th Indian Infantry Brigade, one Indian battalion and one British infantry company of the 18th Indian Infantry Brigade and one field battery was despatched up-river in steamers, escorted by 3 naval sloops and 3 armed launches. You will observe the strange breaking of organization (*i.e.*, two battalions from two different brigades, commanded by a senior C. O. with no additional staff Similar breaking of organisation was frequent throughout the whole campaign.)

This small force failed to capture Qurna, but remained in observation on the opposite bank of the Tigris until reinforced on the 6th December by the remainder of the 18th Indian Infantry Brigade. After stiff fighting on the following day, the Turks were dislodged from the left bank of the Tigris and a flying bridge was put across the Tigris on the 8th December. On the 9th December the Turkish commander surrendered with 1,000 men and 7 guns. This made Basra and the oil refineries secure for the time being, although it is evident that General Barrett had already appreciated that an eventual advance to Amara and Nasiriya would be necessary before Basra and the oil fields could be considered properly secure. He also sent out a "feeler" to the Government of India to ascertain their views regarding a rapid advance to Baghdad, which he and his political adviser considered could easily be captured at that time owing to the low morale of the Turkish troops. They considered that the early capture of Baghdad was advisable as it would have a steadying effect upon the powerful Arab tribes between Basra and Baghdad.

(*i*) *Transport situation with regard to an advance on Baghdad.*

It seems strange, however, that, in making the above suggestion, General Barrett should not have strongly pointed out the transportation difficulties, which by then were already acute.

The remainder of the 6th (Poona) Division had landed at Basra by the end of the first week in December 1914, so from the 'G' point of view General Barrett's troops were ample for the advance to Baghdad. So far, at comparatively small cost, his two leading infantry brigades had attained his original objectives, had destroyed most of the 38th Turkish Division and had captured 1,200 prisoners and 21 guns. But the 'Q' situation was "parlous" in the extreme. The 6th Division was immobile by land, as practically all its 2nd Line Transport camels had been returned to India, as I have already told you.

The river transport situation was little better. It consisted only of 3 river steamers and 17 lighters, (*i.e.*, sufficient to carry two infantry battalions with supplies for one week). On 23rd November a R. I. M. officer with the force had recommended the immediate order of 12 more river steamers; but this was not considered to be urgent and the proposal was dropped by Force Headquarters, in spite of the fact that transport was already insufficient to maintain detachments at Amara and Nasiriya had those places been occupied then. So a rapid advance to Baghdad was palpably impossible at that time from the maintenance point of view.

In January 1915 General Barrett modified his former decision and asked for 7 more steamers and 2 more lighters. These were supplied by the Government of India in May 1915; but by June 1915 the Tigris had become so shallow that most of the new steamers could not ply above Qurna. Therefore it became impossible to carry out simultaneous operations on the Tigris, Euphrates and Karun as the same shallow-draught steamers had to be used in turn in each of those theatres of operation.

Consequently in July 1915 Force Headquarters demanded still more shallow-draught steamers and lighters, but such difficulties were encountered in supplying these and sending them to Mesopotamia that it was not until June 1916, that sufficient river transport had arrived in the country to have made the capture of Baghdad a really practical proposition from the 'Q' point of view.

15. *Phase (ii)—Turkish attempt to recapture Basra, December* 1914 *to April* 1915.

(*a*) *Turkish Dispositions, December* 1914 *to February* 1915.

During the early part of this period the main Turkish Force was opposite Qurna. During January disquieting information was

received that the Turks had sent some regular cavalry and infantry to Ahwaz and had raised the Arabs there against us by the proclamation of a "*Jehad*", and that the oil pipe-line had been cut in the Ahwaz region.

Further disquieting reports were also received that four Turkish Divisions, two of which were first class fighting ones composed of Anatolian Turks, were being drafted to Mesopotamia to recapture Basra. This report later proved to be an exaggeration; but the 35th Turkish Division actually did move down *via* Baghdad and Nasiriya to Barjisiya wood, some 6 miles west of Shaiba. This advance was carried out deliberately, a chain of supply depots being formed by the Turks as they advanced.

Up to the middle of February a Turkish attack was expected on Qurna, but by that date the floods began to make their appearance and soon rendered Qurna safe from attack.

(*b*) *British dispositions and reinforcements, December* 1914 *to February* 1915.

Up to January 1915 the bulk of the British Force was at Qurna and Basra with a small detachment at Shaiba. In January the Government of India sent an additional Indian infantry brigade (the 12th) from India, and in February two Indian cavalry regiments and a horse battery arrived to form the nucleus of the 6th Cavalry Brigade; but the original cavalry regiment remained as divisional cavalry and did not join this new cavalry brigade.

The situation on the Karun had become so serious before the arrival of these reinforcements that General Barrett sent a detachment of one Indian battalion of the 18th Infantry Brigade to Ahwaz in January, and later reinforced it by one Indian battalion of the 12th Brigade, 30 rifles of the Dorsets from the 16th Brigade and one section of mountain artillery.

Doubtless General Barrett had very good reason for making this detachment from three brigades instead of from one brigade under its own brigadier and staff, but this heterogeneous detachment suffered severe reverses and had very soon to be reinforced. This is yet another example of the tendency to which I have already referred of always making "scratch" detachments in this campaign, instead of detaching complete formations under their own commander with his own staff to assist him.

(*c*) *British Dispositions, March* 1915.

In March 1915 General Barrett was informed that two more infantry brigades would be sent to Mesopotamia in the near future. He then reinforced the Ahwaz detachment by the 12th Infantry Brigade, ½ squadron of cavalry and a field battery (less one section), and leaving only one infantry brigade (17th) in the area Qurna—Kurmat Ali, concentrated the remainder of his troops in the area Basra—Shaiba in order to meet the Turkish threat on the latter place. By this time I. E. F. ' D ' totalled 13,500 rifles, 900 sabres and 40 guns.

(*d*) *Formation of I. E. F., " D " into an Army Corps under General Nixon, in April* 1915.

On 9th April 1915, General Nixon landed at Basra and assumed command of I. E. F. " D." The 30th and 33rd Indian Infantry Brigades also arrived as reinforcements. The Force was then organized into an Army Corps of the 6th and 12th Divisions. But the 12th Division was in reality little more than a reinforcement of infantry. The divisional artillery consisted only of one Territorial field battery and two immobile batteries of heavy artillery; while there were no other divisional troops except signals and two companies of sappers and miners. There was no divisional medical organization at all for the 12th Division. So the 6th and 12th Divisions could not operate together as they had to borrow each other's divisional troops for any major operations.

(*e*) *Situation at Shaiba at the beginning of April* 1915.

By the beginning of April the situation around Basra became acute. A Turkish force of about 6,500 regular troops and 11,000 to 18,000 Arab auxiliaries was steadily approaching Basra from the direction of Nasiriya and Shaiba. Our Intelligence Service had kept General Barrett well informed of this movement, but had exaggerated the strength of the Turks.

The British forces were at that time distributed as follows :—

(*i*) *At Shaiba*, in an entrenched and wired perimeter camp :—

16th Ind. Inf. Bde.

18th Ind. Inf. Bde. (less one Bn. at Ahwaz).

One Bn. 17th Ind. Inf. Bde.

Div. Tps. 6th Division, (less Dets. at Qurna and Ahwaz).

6th Cav. Bde. (less ½ Sqn. at Ahwaz).

(*ii*) *At Qurna* and *Kurnat Ali* :—
17th Ind. Inf. Bde. (less one Bn. at Shaiba).

(*iii*) *At Ahwaz.*

12th Ind. Inf. Bde.

One Bn. 18th Ind. Inf. Bde.

½ Sqn. Cav.

and a few guns and sappers and miners.

(*iv*) *In process of disembarking at Basra, or en-route there.*
30th and 33rd Ind. Inf. Bdes.

So, quite unavoidably, only a little more than 1/3rd of the total British force was available to meet the Turkish attack on Shaiba. This shows the good Turkish strategy of demonstrating at Ahwaz and Qurna while their main attack was developing towards Shaiba and Basra.

(*f*) *Topography of Shaiba Area.* (*Vide* Sketch Map No. 2).

Shaiba lies about 9 miles S. W. of Basra, and the ground between those two places was entirely flooded at this time. The only ways by which our troops could cross that flooded area were in "bellums" (native canoes) direct from Basra to Shaiba (9 miles by water), or by wading for 6 miles towards Zubair and then moving a further 4 miles northwards to Shaiba along the edge of the flooded area. Reinforcements from Basra could not therefore arrive quickly.

Our perimeter camp at Shaiba was defended by a wire fence and a single row of strong points linked up by fire trenches. It had no depth at all with which to meet a determined attack.

The final Turkish camp was at Barjisiya Wood and their L. of C. ran from there through Shwaibda and Nukhaila close to the western edge of the flooded area.

From Shaiba the ground rose steadily to the line of South Mound, about half way between Shaiba and Barjisiya Wood. There is another low ridge running N.N.W. from the Watch Tower. Beyond this latter ridge the ground falls away in a gentle glacis slope to Barjisiya Wood. As you will see later, the Turks made full use of this reverse slope when we attacked Barjisiya Wood.

Finally, you will see that the high ground which I have just mentioned makes a big bight into the edge of the flooded area.

The topography of the whole of this area was well known to our Cavalry Brigade before the battle.

(*g*) *Narrative of Battle of Shaiba, 12th to 14th April.*

(*i*) *11th April.*—During the night of 10th/11th April the Turks reached Barjisiya Wood and went into camp there. This fact was duly reported by our cavalry at dawn the next morning; and the 11th April was spent in desultory fighting between the Turkish cavalry and our own, while our infantry awaited attack at Shaiba.

It was thought that the Turkish plan would be to attack Shaiba Fort, the key of our perimeter defences, by regular troops, combined by attacks on both flanks by their Arab auxiliaries. This surmise proved to be correct, except that the Arab auxiliaries showed their usual unreliability and treachery. During the battle they did not fight at all, merely waiting in swarms on the flanks to see which side was going to win; and they mercilessly harried their Turkish friends when the latter were retreating after the battle.

(*ii*) *12th April.*—The expected attack started at 05-00 hours on 12th April; but it consisted only of a fire fight at long range. The enemy's main force withdrew at 08-00 hours, leaving a large body of Arabs on North Mound, and snipers on the rest of our front. A second attack started at dusk, but this faded out during the night.

Meanwhile, the 30th Infantry Brigade and 30th Mountain Battery had made an unsuccessful attempt to wade from Basra to Shaiba by the Zubair route; but had to return to Basra to collect "bellums" before crossing by the direct bellum route the next day.

(*iii*) *13th April.*—On the morning of 13th April the 6th Cavalry Brigade was sent out to clear up the situation. It found the enemy dug in in considerable strength on North Mound, and then returned to camp with that information, after having attempted to gallop the mound with one squadron only. The only men who actually reached the mound were the Squadron Commander (Major Wheeler) and his Senior Indian Officer, who were both killed on their objective. Major Wheeler was awarded a posthumous Victoria Cross. But why was one squadron sacrificed when the whole Cavalry Brigade was present and could easily have captured the objective?

Later in the day, the 16th Infantry Brigade captured North Mound, and then cleared away the remaining enemy in the vicinity of Shaiba. The 6th Cavalry Brigade finally charged the retreating

enemy and caused them considerable loss. But General Melliss, who had assumed command at Shaiba that morning, ordered all our troops to return to camp for the night. That night was quiet, as the enemy had retreated to Barjisiya Wood. The enemy casualties during the day were estimated at 1,000, including 400 prisoners and 2 guns.

(*iv*) *14th April.* (*See Sketch Map No.* 2).—At dawn on the 14th April, General Melliss could see from an O. P. that large bodies of the enemy were in the direction of South Mound; but he did not know where the enemy's main force was. He had no aircraft with which to ascertain the enemy's dispositions before making his plan. However, he rightly concluded that the enemy had been badly shaken by the previous two days fighting and so decided to seek them out at once and destroy them without waiting for the 30th Brigade to arrive from Basra.

At 09-00 hours the force moved out from Shaiba with South Mound as its first objective which was captured easily by 11-30 hours.

The formation used for this advance is interesting, as it proved to be a bad one. The 16th Infantry Brigade, covered by cavalry patrols, moved straight on South Mound in artillery formation. Straight behind the 16th Infantry Brigade came all the Artillery and Divisional Headquarters. So far so good; but as General Melliss expected the enemy's main strength to be about Zubair he unfortunately echeloned back the whole of the 18th Infantry Brigade to protect the left rear of the 16th Infantry Brigade, and placed the cavalry Brigade on the right flank, in the "bight" in the floods to which I have already drawn your attention. It is easy to be wise after the event, but it is difficult to follow General Melliss' reasoning in this. He was not to know at this early stage of the battle that by placing his Cavalry on the right flank he would lose a golden opportunity of destroying the enemy at far less cost than his troops actually suffered; but surely his best plan would have been to put all his cavalry from the start on the open left flank, where they would have had room for mounted action; and where, by moving out wide, they could most quickly find out for him exactly where the enemy's main body was, and give him timely warning of the counter-attack he was expecting from Zubair?

Soon after South Mound was captured it became evident that the enemy were holding Barjisiya Wood and were not in the direction of Zubair at all. Consequently the two rear battalions of the 18th

Infantry Brigade were counter-marched to the right of the 16th Infantry Brigade.

While this redistribution was being made, General Melliss made a personal reconnaissance and convinced himself that the enemy's right was in line with the Watch Tower, but he was unable to fix the Turkish left. The two courses open to him were :—

(*i*) to outflank the enemy's right and roll them up on to the marsh ; or

(*ii*) to find the enemy's left and put in his main attack there with the object of driving them off their L. of C.

Unfortunately he chose the latter course and sent his cavalry brigade to find the enemy's right flank while his infantry attacked more or less due West from South Mound. The result of this was that the cavalry never found the enemy's left flank at all, which actually extended right up to the mud on the edge of the flooded area, and so spent the day using dismounted action and doing no good at all ; while the infantry attack became a frontal one, which only succeeded after many hours of very determined and gallant fighting at a cost of over 20 per cent. casualties ; the total cavalry brigade casualties for the day being only 22 men.

The infantry fight is an interesting one and was a " Soldiers' Battle " in that its success was due entirely to the determination and courage of the regimental officers and men. Orders never reached companies at all, so our men never really knew their objectives. Everyone merely advanced straight ahead and fought whatever enemy he could see. I have already drawn your attention to the glacis slope from the slight ridge running N.N.W. from the Watch Tower. The Turkish trenches were skilfully sited on the reverse slope of this ridge, so that they were entirely invisible to us until our men topped the ridge, but our men were on the sky-line to the Turks at ranges varying from 400 yards to 900 yards, with not a scrap of cover of any kind. At first our men had to kneel or even to stand up to see to fire at the Turkish trenches. The fire fight lasted with dogged determination all day in spite of the intense heat of lying out all that time in the sun. At about 16-00 hours the Turkish guns ceased firing and then our infantry, who had by then fought their way to within 200 yards from the Turkish trenches, charged with the bayonet and captured the whole of the enemy's first position. The enemy in their second

position surrendered just as our men were preparing to assault it, and the whole position was in our hands by 17-00 hours.

The results of this battle were strategically very satisfactory. Our casualties for the three days fighting were 1,200: but the Turks lost twice that number from their regular troops alone (*i.e.*, 33 per cent.) and the remainder retreated to Nasiriya, harried all the way by their former Arab allies. Basra was made permanently safe and the surrounding Arab tribes declared their friendliness to the British.

But our troops did not pursue at all. Had they done so, that Turkish force, the stoutest fighters of whom escaped to fight against us again, would probably hav ceased to exist: but our cavalry were spread about dismounted on the wrong flank and so were not available for pursuit; our infantry were exhausted; there was no transport to bring food out to them in their battle positions, and General Melliss was afraid of the treachery of the Arabs if our troops remained spread out in battle outposts for the night, so he ordered the whole of his force to return to Shaiba for the night instead of pursuing the defeated Turks.

Next morning our Cavalry moved out as far as Nukhaila and captured a certain amount of material, but the Turks had all got clear away by then and had removed all their guns.

(*h*) *Lessons of the Battle of Shaiba.*

This is an interesting battle and well worth detailed study. Some of its main lessons are briefly as follows, although there are many others which you can think out for yourselves—

(*i*) *The Plan of Attack.*—One of our Staff College Instructors had a saying that "The Best is the Enemy of the Good" (*i.e.*, that in war it always pays best to adopt a reasonably good plan quickly and carry it out with vigour and determination, instead of wasting time trying to find the best plan).

In this case General Melliss very quickly found the enemy's right flank. Had he then attacked that flank with vigour, meanwhile moving his cavalry round to that flank too, there seems little doubt that he could have put in a mounted surprise attack from the enemy's right rear and rolled up the whole enemy force northwards into the flood and completely wiped out the Turkish force with much less loss to his own troops than actually occurred. The ground admirably suited this plan.

Instead of this, he kept on extending northwards, trying to find the enemy's open left flank, which did not exist, in order to drive the enemy off their L. of C. This waste of precious time caused us many more casualties and very nearly resulted in a drawn battle.

(*ii*) *Cavalry must use their Mobility.*—I think there is little doubt that the 6th Cavalry Brigade were badly handled throughout. Their mobility and surprise action, which are the greatest assets of cavalry, were not used at all. They were used in the confined space on our right flank where they had no room for mounted action. So they had to get off their horses and act as weak infantry throughout the battle. And they were not available to turn the Turkish retreat into a rout when the Turkish resistance broke down at 16-00 hours.

F. S. R. II emphasizes all these points.

(*iii*) *Use of Reverse Slope Positions in Defence.*—The Turks gave us an excellent example of the advantages of a reverse slope position. The Turkish position was invisible until out infantry were well within rifle range of it; and then our infantry were always on the sky-line to the Turks and gave them excellent targets, while our men found it difficult to see the Turkish trenches and to fire at them without greatly exposing themselves. Our artillery found it even more difficult to bring fire to bear on these " blind " Turkish trenches.

But, on the other hand, the Turks were using a two-edged tool, for they could not have seen the movement of our cavalry had General Melliss used the crest-line to hide the move of his cavalry from our right to our left flank, preparatory to the surprise mounted attack suggested above.

(*iv*) *The " Fog of War."*—However, as I have already said, it is easy to be wise after the event. We must remember that neither side had any aircraft during this battle, so " the Fog of War" was greater than it is likely to be in modern battles in the future. And, also, the mirage very greatly increased General Melliss' difficulties in obtaining any reliable information at all. I have already emphasised this point in the introductory part of this lecture.

(*v*) *Use of Perimeter Camps.*—You will remember that I called your attention to the use of a perimeter camp as a refuge by General Delamain after his original landing at Sanniya. The same tendency was very marked at Shaiba, where our force originally defended a perimeter camp instead of a proper defensive position in depth, and

then returned to that perimeter camp after each successful day's fighting on 13th and 14th April, thus each night giving the enemy peace in which to pull himself together.

Perhaps this was the result of too rigid an application of the principles of Mountain Warfare, which before 1914 was the principle training of the Indian Army. Perimeter camps are certainly necessary against trans-frontier Pathans: but we proved in 1916 and 1917 that they are not necessary against Arabs who are even more expert thieves than Pathans, but have not the same courage in attack. But the habitual use of perimeter camps certainly has a tendency to make troops feel and behave rather like a beleaguered garrison, and so are liable to undermine their offensive spirit unless this psychological effect is carefully guarded against.

16. *Phase (iii)—Operations in Arabistan to reopen the Oil Pipe-line about Ahwaz.*

The Turkish counter-attack on Basra having been defeated, General Nixon's next move was to reopen the Anglo-Persian oil pipe-line. The Admiralty were becoming very anxious about this as the oil supply had by now been interrupted for some weeks.

General Gorringe was despatched to Ahwaz with the remainder of the 12th Division, the 6th Cavalry Brigade, and all the Divisional Troops of the 6th Division.

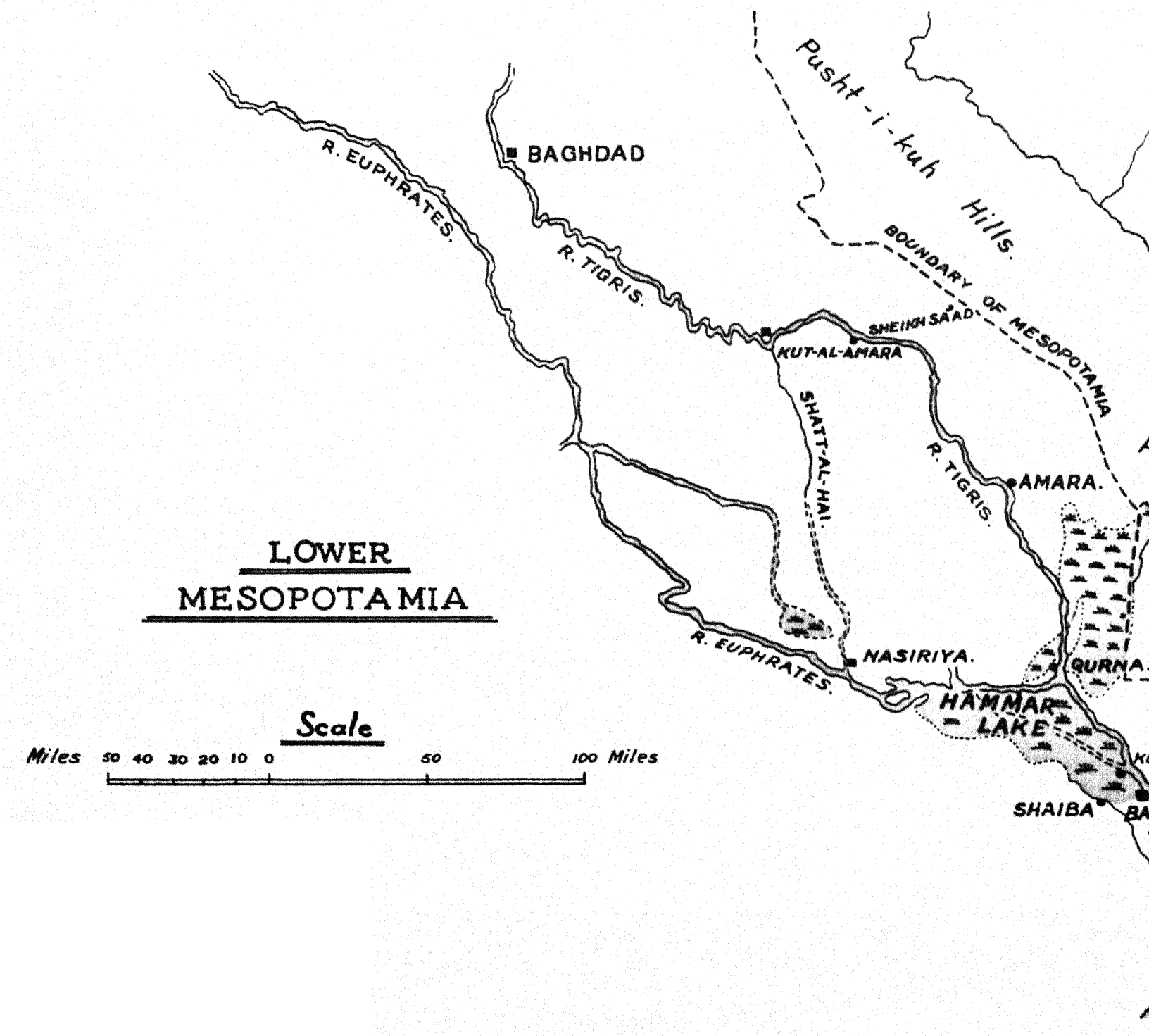
By the end of May 1915, General Gorringe had reopened the pipe-line, had cleared Arabistan of the Turks, who had retired to Amara *via* Bisaitin, and had punished the local Arabs for their former treachery at Ahwaz.

17. *Decision to advance to Amara.*

I have already given you a concise resume of the stages through which the main policy in Mesopotamia was gradually extended from the original limited objective of the capture of Basra to the over-ambitious attempt to capture Baghdad in 1915.

At this stage the Secretary of State grudgingly sanctioned an advance to Amara, preparations for which had been going on for some time in consultation with the Government of India. The capture of Amara was, therefore, General Nixon's next move.

(*To be continued*).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QURNA.
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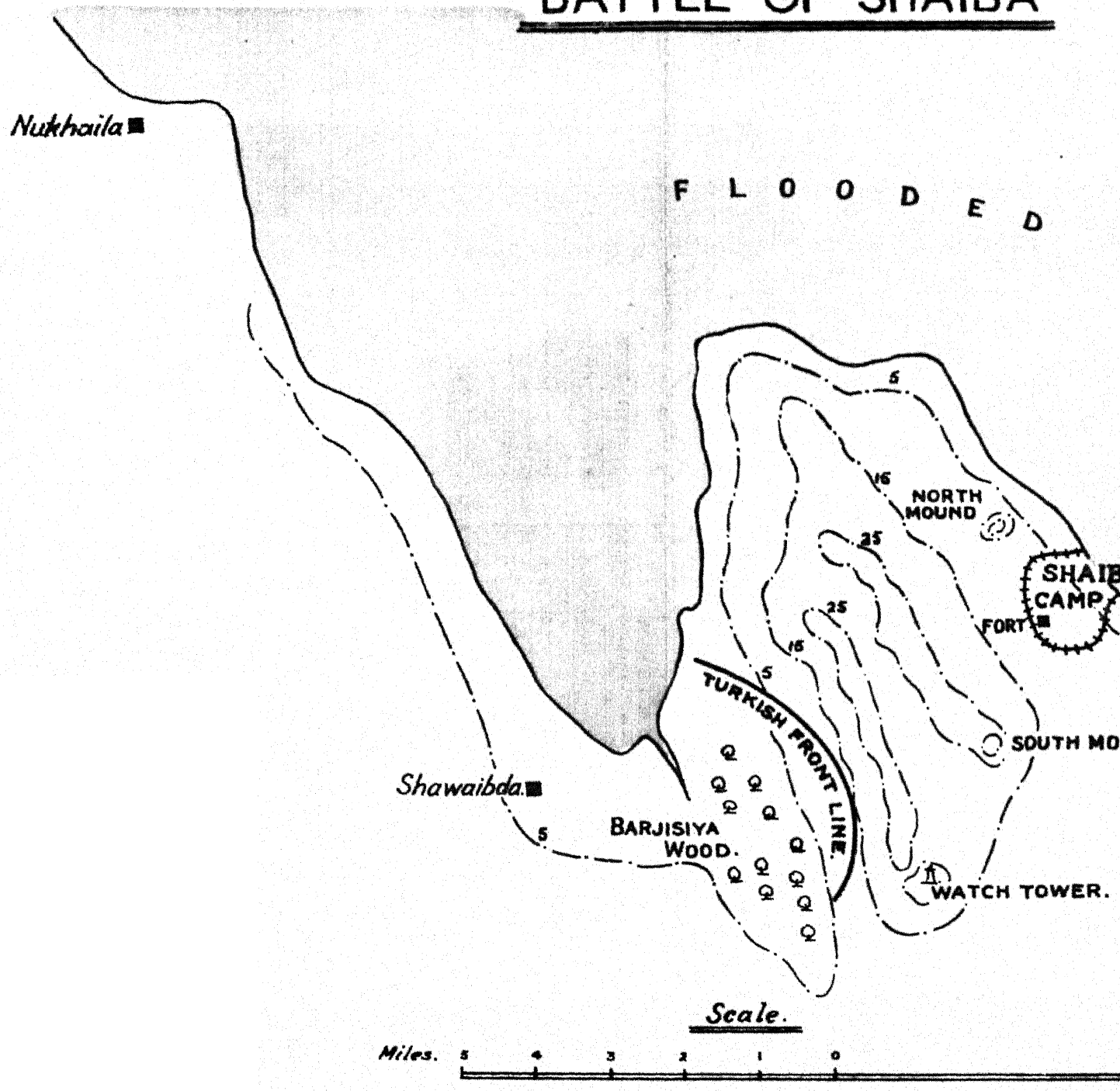
BATTLE OF SHAIBA



RIFLE TRAINING.

By Lieut.-Colonel C. W. Sanders, 1st Punjab Regiment.

(This article is written from the point of view of training the army in India.)

Very considerable efforts are being made by those responsible for the training of our army to keep up with the ever-changing nature of modern warfare due to the rapid stream of scientific inventions and improvements. But it is submitted that one exception is our training with the rifle. In fact the recent annual rifle course has in general gone right back to that of pre-war days.

The immediate reply to this statement will very truly be that our standard of musketry in 1914 was extremely high and we were able to inflict enormous casualties, especially in France, with our rifle fire and with the same rifle as we use now. This is unquestionable ; but it is contended that circumstances have changed so considerably now that the training must be altered in order to meet them successfully. In 1914 our chief opponent was the German and our training for a high rate of accurate rifle fire was directed against the dense attacks he was practising then. These we were able to stop owing to the target he gave us in the early days, due to a grave error on his part. The Germans, judging largely by the capability of their own rifle, decided that our army could fire eight rounds a minute, much the same as his own troops; consequently, basing his attacks on this assumption, he advanced in three waves with little extension between men; the first wave was to be sacrificed, the second to reach our trenches, and the third to capture the position.

But, owing as much to the position of our bolt head on the rifle as to our training, excellent though it was, we could fire 12 to 15 aimed rounds a minute under active service conditions. Consequently none of the three lines arrived and our troops were given targets which we are not likely to meet again. But what was the part played by the rifle as the war continued ? More and more was it supplemented by automatic weapons and guns and became a weapon for isolated targets at close ranges and for assault action.

What will be the picture of a modern battle field ? Will we require to shoot at long range, *i.e.*, over 400 yards except with skirmishers or picked snipers ? Consider the special supporting fire now

available in the infantry alone as compared to 1914, and this does not yet seem to have reached finality.

Let us envisage an attack against a modern army. We will see nothing, until the infantry come within 400 to 300 yards of the foremost position. Our casualties will come chiefly from machine-guns, from artillery and certainly from some form of chemical invention—and our leading troops will not see what is hurting them. Therefore they must go on and are being trained to go on as far as is at all possible, trusting to the supporting fire detailed to help them, and to tanks perhaps moving ahead of them, and unless or until they reach their objective, or are held up by a strong point, our riflemen may not fire a shot. But they must be taught to engage odd targets, each man thinking for himself and dealing with situations on his own. This is the basis of L. I. tactics and requires every form of training to assist in developing initiative and resource in the man and the junior leader.

In the defence we will not be faced with waves of advancing unprotected infantry, we must be prepared to deal with infiltration tactics by troops amply supported by fire specially detailed and our targets will be small and fleeting until they reach the closest ranges. Therefore the bulk of our infantry require training for this.

How ?

Not by firing most of their rounds at an obsolete target in order to obtain an artificial result on which may depend a fair proportion of their daily pay.

A standard is necessary, but let us make it a more practical one.

Can our N. W. F. tribesman afford to fire hundreds of rounds at upright paper targets ? And is his standard of shooting low when it comes to the test ?

It is urged that a more practical system of training be introduced and one that is more in accord with the modern methods of teaching, namely, by producing a practical result as early as possible and which will, incidentally, ingrain in the man the habit of shooting to kill with his first round.

With this object in view the following suggestions are submitted :—

(*a*) Liven up recruits' training.

(*b*) Introduce a more practical annual rifle course for the trained soldier.

(*c*) Introduce a practical standard by which to test a unit's war fitness with the rifle.

Let us consider these suggestions in order.

(*a*) *Recruits' Training.*

An Indian recruit spends about 40 hours at the elementary lessons of aiming, firing and care of arms before firing a shot himself and seeing a shot fired. Is this in accordance with the training method of demonstration, etc., as advocated by schools of instruction, and do the schools really "demonstrate and practice ?" Instructors may think they are demonstrating, etc., but what do they demonstrate—the standing position, the lying position, etc., etc., with meticulous details which are unnecessary.

The most important lesson in any subject is, or should be, the first. At this stage you deal with an empty brain, thirsting, consciously or otherwise, for information and impressionable to a degree that can never again be attained. It is, therefore, in this lesson that the student should be given a vision of the possibilities of his subject. It is suggested that at his first lesson the recruit should look over the sights of a rifle correctly aimed at a "*chatti*" or similar target and clamped down and that he should press the trigger and see an immediate result from his first round. He will never forget it and will want to do it again. He will at once get some idea of the rules for aiming and it is held that he will take far more interest and consequently far less time in learning to shoot. "This is a practical demonstration." Instead of this his instructor, with the present system, cannot help surrounding himself with mystery which can only be unfolded lesson by lesson for 40 hours.

This example might be multiplied—but sufficient has been said to indicate the writer's ideas as regards elementary training. As a contrast to the amount of preliminary training before firing, can any reader remember how much he did before producing excellent results in the very high standard required of a public school shooting VIII ?

(*b*) *The annual rifle course.*

It is submitted that the main alterations required are as follows :—

(*i*) Practical targets.

(*ii*) Encouragement to kill with the first rounds.

(*iii*) Bridge the gap between range and battle practices.

Again picture the modern battlefield in attack or defence. What targets will the rifleman see ? Does he normally aim at a contrast

bull's eye, anything up to three feet off the ground or hurt his immediate enemy if his bullet does not find its mark? Then why do we trouble to impede the flight of millions of bullets by shooting them through large paper targets, a hit on any part of which counts at least one point? Almost as much use to let the bullet be aimed direct at the stop butt. We would at least keep the markers' heads down similarly to those of the enemy in a trench.

It is submitted that as soon as a recruit can fire a consistent group and has learnt to apply his fire to the present form of range target, he should never again in his service fire at such an impractical mark unless he falls off so much as to require elementary revision. A target to stimulate reality should be near the ground and of a practical shape. At the same time the value of a ricochet, which up-to-date, has been looked upon with horror, should be recognised and points credited during range practices. In order to show where "misses" have gone there can be invisible paper above the aiming mark, for this reason only, but not to count any point. As soon as possible all firing should be at hit or miss falling targets. The advantages of these targets are—

(*i*) They produce an immediate result.

(*ii*) They make the man change his aim from one enemy to another.

(*iii*) They minimize the possibility of falsifying results.

For later collective practices, where "area" shooting is necessary the screen would still appear to be the best and most convenient target, marked off in rectangles similarly to M. G. targets.

A suggested pattern of target is given at the end of this paper.

The next point is the annual course itself. It is submitted that even the revised course does not sufficiently bridge the gap between the range practice and the battle practice. Although the former should be reduced to a minimum and be a definite lead up to the practical firing, it is still too long and uses too many rounds. The only advantage to the man and to the State in the case of a good shot now is to let him off firing a certain number of practices. This is sound as far as it goes. But there is still no incentive to that essential outlook of killing your enemy before he kills you. This can be obtained by fixing a standard score of, say, two or three hits out of five rounds; every round saved by obtaining the standard score at once to count one or more points; rounds saved to be made available

for some form of extra practice or used for the higher training of men who are selected as special skirmishers and sharp-shooters in the envisaged Light Infantry method of attack.

This system is simple to work both in slow and rapid practices if the latter are carried out against a row of falling targets.

It is submitted that firing on the range at targets as suggested above will, in itself, go a long way towards making our annual rifle course practical and to bridging the gap between range and field practices.

(*c*) The figure of merit for classification practices is now not included in the annual weapon training return, but it still has to be worked out and shewn to inspecting officers should they call for it. This is a step forward, but it is submitted that a more practical test should be devised for obtaining a standard of fitness. The writer is not against a certain practical competitive standard and the results of firing range practices will always be interesting. But the only test of a unit's war efficiency with its weapons is in the field under conditions approximating as much as practicable to those likely to be met with on active service. If, therefore, instead of judging by the results of range practices, a unit was tested by the Brigadier watching certain sub-units, selected by himself, firing simple battle practices, based on the warfare suitable to the terrain in which the unit was stationed, it is held that a much truer, higher and more realistic standard would be attained. In order to practice for this, C. Os. should be allotted rounds saved by the introduction of a smaller course on the range and classify his men and section leaders in "competitive practices" designed to suit the ground and carried out either on the range where necessary or in the country where possible. It should be on the result of these practices that a man should be recommended for his proficiency pay and leaders and sub-units tested for efficiency.

The annual course might thus be divided into the following parts :—

	Rounds.
Part I.—Individual Instructional	40
Part II.—Individual Qualification	35
Part III.—Competitive Range Practices	35
Part IV.—Battle Practices	30
C. O.'s pool for zeroing, grouping and Brigadier's Inspection	30
	170

A suggested rifle course is attached. In Part III the practices can be altered to suit local conditions. This course is largely based on one which Colonel L. M. Heath, prepared and was allowed to try out experimentally with interesting results while commanding the 1st Bn. 11th Sikhs. The writer is greatly indebted to him for allowing him to make use of his notes in general, the publication of the revised targets he used with the course and the course itself. He has however made one important alteration *i.e.*, the inclusion of individual rapid practices in each part.

This latter point is a matter of opinión, but it is held that rapid fire is still most essential and requires considerable training. He has further altered the name of Part II to "Qualification" instead of "Classification" as classification now is carried out in Part III and under the Brigadier's direction.

Should the suggestions be considered and C. Os. be given more freedom in making the annual weapon training courses more "live" and more suited to local conditions. it is submitted that our rifle training will take a greater share in developing the skill and initiative of the soldier in addition to its special task of fitting the army for using this weapon in the field.

SUGGESTED ANNUAL RIFLE COURSE.

Part I.—Instructional.

Number of Practice.	*Range.*	*Position.*	*Rounds.*	*Standard.*	*Target.*
1	200 Yds.	Lying ..	5	3 hits	Lying figure.
2	200 ,,	Sitting or kneeling.	5	3 ,,	Trunk figure.
3	300 ,,	Lying (rest)	5	2 ,,	Lying figure.
4	300 ,,	Lying (rapid)	10	5 ,,	,,
5	400 ,,	Lying (rest)	5	2 ,,	(Falling) lying figure.
6	150 ,,	Standing (quick) with bayonet.	5	3 ,,	Standing figure.
7	200 ,,	Snapshooting from trench.	5	2 ,,	Trunk figure.
			40		

Colonel Heath allowed only those who qualified at 200 and 300 yards to fire at 400 yards. The writer would like all ranks to have practice at this range in Part I. A maximum rate fire was not included in the previous course but this is a matter for consideration.

PART II.—QUALIFICATION.

Number of Practice.	*Range.*	*Position.*	*Rounds.*	*Standard.*	*Target.*
8	150 Yds.	Standing (quick) bayonet.	5	3 hits	Standing silhouette exposure 3 seconds.
9	200 ,,	Lying (quick)	5	3 ,,	Falling iron figures or plates.
10	200 ,,	Sitting or kneeling (snapshooting).	5	3 ,,	,,
11	300 ,,	Lying	5	3 ,,	,,
12	300 ,,	Lying (rapid)	15	5 ,,	,,
			35		
13	400 ,,	Lying (rest) ..	Rounds saved up to five.	3 ,,	,,

NOTE :—Anyone scoring 3 hits in each practice will cease fire and count one point for each round saved ; these rounds being available for practice at 400 yards.

PART III.

COMPETITIVE PRACTICES—FOR TESTING INDIVIDUALS BY SECTIONS AND THEIR LEADERS.

Practices to include Individual and Collective fire at plates and screens, or other targets suitable to environment from 300 to 600 yards, with not more than one practice at 700 or 800 yards.

The practices will include—

Aiming off for movement.

A maximum rate of fire practice at a markable target, *i.e.*, row of falling plates or rectangled screen.

A section practice of say 15 rounds at a rectangled screen where no points gi en for the first five hits on each rectangle.

One fire and movement practice.

The course to be the same throughout the unit or station and results to be registered.

ROUNDS 35.

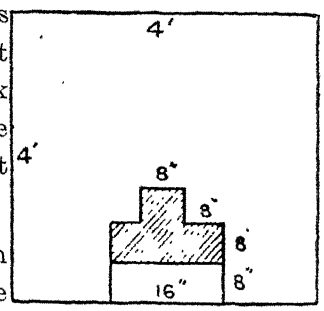
Part IV.—Battle Practices.

It is realized that actual sections cannot always fire as such owing to administrative difficulties, but, provided men are practised in firing collectively, they will receive the training required and the important factor of practising section leaders will be possible at any time.

The best results undoubtedly would be obtained if all companies, etc., could carry out this part (*iii*) during the early stages of company training as part of that training. In this case they would be invaluable as a test of section leading based on a scheme previously carried out as a T. E. W. T., or with blank. They would also lead up to actual battle practices.

A pattern of target as used for Colonel Heath's course but slightly altered is as under :—

For instructional practice a conventional head and shoulders target on a 4 feet square paper-covered target of a darks hade to be called "lying figure."



The aiming mark is shaded and hits on this to count three points. The light coloured rectangle below the aiming mark to count one point so as to bring out the value of aiming low and allowing credit for ricochets.

Ricochets to count two points if on the aiming point and one point on the part below.

Remainder of the target to be used for indication of shots only.

Targets on these lines to represent kneeling and standing figures could be made and called "Trunk figure" and "Standing figure" either on a square paper target for instructional practices or the present "Silhouette" targets, of falling variety for choice, for qualification practices.

For Parts III and IV targets varying from rectangled screen to falling plates, *chattis* and baskets could be used.

COURTS-MARTIAL *v.* CIVIL COURTS.

By Brigadier L. M. Peet.

The questions in Parliament on the Baillie-Stewart trial by General Court-Martial in England show a prevailing state of ignorance as to Courts-Martial. It may, therefore, perhaps be of interest to compare Courts-Martial with Civil Courts. This article deals primarily with British Civil Criminal Courts, and chiefly with Courts-Martial under the Army Act, but the remarks apply *mutatis mutandis* to all Courts-Martial.

The Civil Courts in England are Courts of Summary Jurisdiction, commonly known as Police Courts, Quarter Sessions, and Assizes, the first corresponding in powers more or less to District Courts-Martial, and the last two to General Courts-Martial, but the personnel of these Courts is very different in training to that of members of Courts-Martial.

With the exception of the Assizes, which are conducted by Judges, and the Courts in London and certain of the larger towns and cities, the Courts are on the average composed of persons who are entirely without any legal training whatsoever.

In London and a number of provincial towns Stipendiary Magistrates, who are Barristers of several years standing, sit as Courts of Summary Jurisdiction, with or without Justices of the Peace, and take responsibility.

In other cases the court is composed of lay J. Ps., who may be advised by the Clerk of the Court. This clerk, except in London, is usually a Solicitor, but frequently he is a practising Solicitor and, therefore, cannot give the necessary attention to cases in Court and, in any case, he is not in authority and can only advise.

Now, who are these lay J. Ps.? They are generally persons chosen from all political parties, and frequently appointed merely as a reward for political services, without regard to their suitability as J. Ps. This criticism does not apply to the few women magistrates. In the case of the men their appointment is often the result of 'wire pulling.' Their suitability may be judged by a quotation from the Lawbreaker by E. Roy Calvert and Theodora Calvert, on which much of this article as to British Criminal Courts is based.

> "The chairman of a Staffordshire Bench told a young man who was giving evidence on his own behalf a few years ago,

'Now young man, not so fast, not so fast. You must ha' done summat or you wouldn't ha' been summonsed.' "

The legal minimum for a Bench at a Police Court is two J. Ps. or one Stipendiary Magistrate.

The next Court is the Quarter Sessions, which consists of the same J. Ps., except in some 100 cities, which are presided over by a chairman, who is called a Recorder, and is a barrister of five years standing, and is sole judge. The other Courts are generally an unwieldy mass of J. Ps., who use the occasion of a Quarter Sessions as a good opportunity for showing themselves on the Bench, and meeting their contemporaries at lunch.

At a Quarter Sessions there is a jury, except when the Quarter Sessions is hearing an appeal from a Court of Summary Jurisdiction.

The writer is acquainted with one J. P., who is a retired Judge of the High Court, and whose remarks are very scathing as to the Courts of Summary Jurisdiction and Quarter Sessions he has attended. He compares them very unfavourably with the average Criminal Court in India, and often comes back almost speechless with indignation at the trials at which he has been present.

I have no comment on the Assizes, at which a Judge presides, other than that being human they sometimes err, as is shown by the cases quashed by the Court of Criminal Appeal.

The members of a Court-Martial are composed of officers who, from the day they joined as cadets at Sandhurst, Woolwich, etc., receive training in law, and until promoted Major have to pass a series of examinations in law, and, in addition, those who go to the Staff Colleges have to pass in law to obtain admission, and their training in law is continued at the Staff Colleges. Further at the Senior Officers School there is also legal training. Also all officers before they sit on a Court-Martial are required to attend, as officers under instruction, as many trials as possible. Therefore even the most junior member of a Court-Martial has some legal knowledge, while the President is an officer of experience, especially at a General Court-Martial where, if possible, he is a General or Colonel.

A soldier, accused of an offence, is first brought before his Company Commander, who has certain limited powers of punishment. If he exercises those powers the soldier can always complain to his

Commanding Officer, but such complaints are very rare. Reports of such punishments must be made.

If the offence is one with which the Company Commander cannot deal, the accused is taken before his Commanding Officer. The latter hears the case and either dismisses it, remands the accused for trial by Court-Martial or awards punishment himself, with the proviso that, if his award entails any forfeiture of pay, he must ask the accused if he will accept his award. If he fails to ask this question the award is illegal and will be quashed. The awards of a Commanding Officer are inspected by the Brigade Commander periodically.

The soldier has the same right of complaint against the award of a Commanding Officer, but very rarely exercises this right.

Thus no summary award can be given without scrutiny by higher authority. If a case ends in remand for trial by Court-Martial the evidence is reduced to writing and again considered by the Commanding Officer, who may decide to dismiss it, award punishment himself, subject to the proviso mentioned above, or apply for trial by Court-Martial.

In the latter case the Summary of Evidence is sent to the Staff concerned and perused by a Staff Officer who submits it to his Commander with his obsrvations. If the Commander decides on trial, he gives his orders to this effect and approves the charges. If in doubt he sends the case to the Judge Advocate General's Department for advice. In fact every case of a civil offence must be so referred. Thus it will be seen that before a trial is convened great care is taken to see that there is a good case. The only exceptions are those where an accusation is made and it is in the interests of the accused to get his name cleared by a trial.

It may be as well here to describe the Judge Advocate General's Department, as the comparison between Court-Martial and Civil Courts largely rests on the existence of this Department.

In England the members are military and civilian, but all are barristers or solicitors and the Judge Advocate General is a K. C. Many trials are conducted in England by the Department, which often furnishes Prosecutors and all Judge Advocates required.

In India the members are all of the Indian Army, and may or may not be barristers or solicitors, but all are required to pass a

five days examination in law and must obtain 80 per cent. of the total marks possible to pass. The quality of the standard required may be judged by the fact that a Cantonment Magistrate of several years standing failed to pass it.

The two Departments are entirely separate but correspond direct, and the main differences are that the Department in England is independent, being a joint service for the War Office and the Air Ministry, while the Department in India is attached to the Adjutant-General's Branch at Army Headquarters, and has more work, having to deal with, besides the Army and Air Force in India, the Indian Army, Indian Air Force, and often with questions affecting the Indian Marine; also frequently the Indian States refer questions to the Judge Advocate General in India in regard to their own forces.

Owing to the immense distances in India and the smallness of the numbers of the Department, members of the Department cannot attend so many trials as in England, but in recent years members have travelled as far as Aden and Burma from Simla to do so. In other cases, where the number of trials precludes such attendance, a capable officer is selected by the Convening Officer, and a Memorandum of Instructions for his use prepared by the Department, if personal instructions cannot be given.

Now let us compare what happens, when a man has been convicted by a Civil Court, with the procedure after conviction by Court-Martial.

There is a right of appeal from a conviction by a Court of Summary Jurisdiction to Quarter Sessions, but this is largely illusory, since, as a preliminary, £50 surety is usually required which naturally few of the persons convicted can produce.

In 1930, according to the Lawbreaker, there were only 267 appeals from these Courts, but out of these 74 were quashed, and in 81 other cases the sentence was modified. There were 665,332 trials by these Courts in 1930. What would have happened if the majority of these persons convicted had been able to appeal?

There were 8,384 persons tried the same year by higher courts, and from these, *i.e.*, Quarter Sessions and Assizes, appeal in 261 cases was made to the Court of Criminal Appeal. In these appeals no surety is required, but there are generally lawyer expenses. The Court of Criminal Appeal quashed 23 cases altogether, also two sentences, and substituted sentences in 26 others.

In all cases of conviction by Civil Courts there is no scrutiny of the case, except in the case of an appeal.

There is an enormous difference in the case of Courts-Martial. It is true that technically there is no right of appeal, as such, from a conviction by Court-Martial, but a soldier has the right of complaint, and any such complaint as to conviction or sentence is treated as if it was an appeal. In 1932 there were only 10 appeals in India, and the majority of these were only against the sentence.

When a trial is finished the proceedings are sent, according to the directions on the Convening Order, either to the Confirming Officer, or to the Judge Advocate General's Department.

In the former case the trial is first scrutinised by a Staff Officer, who puts it before the Confirming Officer with his observations. If the Confirming Officer is in doubt he can refer to the Judge Advocate General's Department.

Where there is a conviction he can order a revision of the finding or sentence, not confirm the proceedings, or confirm, and it must be remembered that no conviction is legal until it has been confirmed. Thus a trial is scrutinised by at least two persons with some legal training, and often by three, one of whom is an expert.

There is a further difference from procedure in Civil Courts since at a Court-Martial the whole proceedings of a Court must be recorded, and all the evidence and the record of a District Court-Martial is kept for three years, and of a General Court-Martial for seven years.

But the scrutiny of trials is not ended yet.

If the Confirming Officer acts without asking for advice, the proceedings go to a member of the Judge Advocate General's Department in a Command in India, and then to Simla, where it is again scrutinised by two of the officers of the Department, including the Judge Advocate General in India, who personally goes through every trial.

Each scrutiny in the Judge Advocate General's Department is a virtual appeal and the proceedings are viewed in the light of decisions by the Court of Criminal Appeal, and, if this Court would have acted in any case, that action is taken.

Every trial under the Army Act is then sent to England, where it is again scrutinised by the Judge Advocate General's Department there.

Therefore, in every case, at the least, there are virtually four appeals plus two scrutinies by a Staff Officer and a Confirming Officer. If the accused makes a complaint there is further scrutiny both by the Judge Advocate General's Department and by the Confirming Officer and his Staff, and by the next higher authority also. In an extreme case the scrutiny, besides that by the Judge Advocate General's Department, may be by every Commander from a Brigade Commander upwards to His Excellency the Commander-in-Chief, and also by three to four officers in the Adjutant-General's Branch at Army Headquarters, including the Adjutant-General in India, followed by the Judge Advocate General's Department in England, the Army Council and His Majesty the King.

There is another great difference as regards the sentences awarded by Court-Martial and those by Civil Courts.

A soldier once tried by Court-Martial is clear of all known offences. Though not a matter of law, this is a matter of practice.

A soldier charged with many offences is not generally tried for all of these. The major offences are selected, and a Court is unaware that any others have been committed. The only case where they are aware of these, is if there is more than one charge sheet and the Convening Officer has directed that in case of a conviction on any charge sheet the rest are not to be proceeded with.

Even then, the Court awards sentence only for the offences of which an accused has been convicted, and ignores the other charge sheets entirely.

In cases tried by Civil Courts, however, the only way an accused can obtain a clear sheet is to ask the Court in awarding sentence to take into consideration other offences known to the police. Therefore frequently a Civil Court awards sentences for offences on which the accused has never been tried at all.

In 1930 no less than 35,115 indictable offences were thus cleared up without being the subject of trial.

Such persons have no opportunity of making a defence on these offences, except to the police, while in the case of soldiers they have

three, before the Company Commander, the Commanding Officer, and at the taking of the Summary of Evidence.

There is no chance in the case of soldiers that, once acquitted of an offence, they will be immediately re-arrested on leaving the Court and charged with another known offence as one frequently sees happen after a trial by Civil Court. There are no "cat and mouse' dealings in the services.

Further, the members of a Court know the circumstance, life, and effects of a sentence on an accused, and are not completely ignorant of all these as in a Civil Court. The sentences of a Court-Martial are awarded with due consideration of these factors, and all reviewing officers also have them in mind.

It is true that a Confirming Officer, when making his decision as to confirmation or non-confirmation, may take into consideration matters of which the Court was unaware. Many Confirming Officers refuse to do this if they know anything detrimental to the accused, but always consider anything in their favour. If they do consider these other matters, it is only in regard to making a decision as to confirming the sentence as awarded, or commuting, reducing or remitting it. A Confirming Officer cannot increase a sentence.

To revert to the trial itself there is a further difference in favour of a Court-Martial. The Poor Prisoners Defence Act has extended the facilities for the defence of poor persons, but it does not apply to all cases, and many persons are sent to prison undefended, unless they can pay a lawyer.

At a Court-Martial every soldier is entitled to a Defending Officer, and few, except barrackroom lawyers, do not exercise their right. These Defending Officers take great trouble in their duty, invidious though it sometimes is, in fact the more invidious the greater care taken. In a recent unpleasant case, for instance, where the Defending Officer knew the accused was guilty, he fought for him throughout the whole trial and made an excellent final speech.

The total number of trials by Court-Martial under the Army Act in India in 1932 was 551, out of which there were 58 acquittals, 11 trials were not confirmed, *i.e.*, the Confirming Officer was not satisfied with the conviction, and eight were quashed after confirmation. It is suggested that in spite of the continuous scrutiny on each trial, a virtual dealing with each case as the Court of Criminal Appeal would have

dealt with it, the small number of trials found unsatisfactory compares very favourably with the record of Civil Courts in England in 1930, leaving out of consideration the number of cases tried by Civil Courts, which were not scrutinised at all, because there was no appeal almost certainly owing to the lack of funds of those convicted.

A few years ago under Martial Law Military Courts were established, and a Senior Civil Judge was incorporated to act with the Court. He commented extremely favourably on the conduct of these Courts, their ultra-impartiality, their carefulness, and the strict attention paid to every point in the trials. The Military Courts were soon abolished, and this Judge had to try the cases by himself, and he kept expressing his regret at the abolishment. These Military Courts acted exactly in the same manner as Courts-Martial.

There is no claim that every Court-Martial is a model of perfection. Cases do occur where extremely curious verdicts are given and where serious errors are made, but the correction of these is not delayed until a complaint is forwarded by the person convicted. In fact very rarely does an accused realise there have been any errors.

No such case is possible, for instance, as occurred recently, where a soldier was convicted by a Civil Court, awarded six months imprisonment, and served three months of the sentence, when the conviction was quashed by the High Court on the grounds that the Court had no jurisdiction. The soldier convicted was himself unaware of this, and the quashing of the conviction was obtained by action from Army Headquarters. Cases have occasionally occurred when a Court-Martial has acted without jurisdiction, but the trials were promptly quashed before the soldiers concerned had time to serve any sentence.

Also no such conviction is possible at a Court-Martial as occurred recently in a French Court. The case was technical and tried in a Country Court, and the presiding Judge was certain that the jury could not follow the evidence, though he himself was satisfied of the guilt of the accused. To his surprise the jury brought in a verdict of guilty. He met one of the jury afterwards, who said to him, " We weren't going to be thought any more ignorant than people in Paris."

The number of acquittals shown above disclose how reluctant a Court-Martial is to convict without very clear evidence. Many of these acquittals were clearly of persons guilty of the offences charged,

but the Courts generally obviously acquitted, because not satisfied that all reasonable doubt was removed. Of the convictions quashed or not confirmed, the accused was again in many cases clearly guilty, but something possibly prejudicial to his interests occurred, and action accordingly was promptly taken.

The Criminal Courts in India consist of Magistrates of different status and powers, Sessions Courts and High Courts. There are no appeals for the lesser sentences of some of these, such as up to one month's imprisonment or Rs. 50 awarded by a Sessions Court, or fine up to Rs. 50 by Magistrates. In other cases there is a right of appeal.

In all cases some sort of record of the gist of the evidence and proceedings is made, and in the majority of cases the full evidence is recorded. These records may be asked for and inspected by the higher Magistrates, Sessions and High Courts, and some years ago, at least in one Province, a High Court Judge made tours of inspection of the lower Courts.

The writer was privileged to be present on one of these tours, but was debarred from being a spectator of the telling off's administered to certain of the Magistrates, but saw the approach, somewhat unwilling, to the room of correction. These tours at any rate on the part of High Court Judges in some provinces, seem to have lapsed.

The position, therefore, in India appears to be more satisfactory than in England.

With regard to Courts-Martial under the Indian Army Act, the chief differences are the Summary Court-Martial, and the possibility of an acquittal not being accepted.

The sentence of a Summary Court-Martial requires no confirmation, but the case is immediately scrutinised in the Judge Advocate General's Department, and then sent to the Brigade or District Commander with advice as to legality, or whether the proceedings should be quashed or the sentence modified. Acquittal by a Summary Court-Martial is final.

The practice of the Civil Criminal Courts in India is followed as to acquittals by other Courts-Martial, and such acquittal requires confirmation, and therefore can be sent back for revision. I can only recollect one case in the last 14 years when this was done.

The same scrutiny of these Courts' proceedings takes place as in that of trials under the Army Act except that the proceedings do not go

to England, which would be a useless procedure, as the Judge Advocate General's Department there have no acquaintance with Indian Law.

The Courts-Martial under the Indian Army Act are generally fewer than under the Army Act. In 1932 there were 242 trials, out of which there were 10 acquittals, seven cases quashed, and one sentence remitted.

In spite of the litigious tendencies of Indians there were very few complaints either as to conviction or sentence.

To sum up the case, the points in favour of a Court-Martial are,—the Court is composed of trained officers, the accused is defended, unless he declines defence, he is punished only for an offence on which he has been tried, he is clear of all known offences after trial, and each trial is carefully scrutinised many times, and in all cases the person convicted has the right of complaint, and no expense to the complainant is involved in this virtual appeal.

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THE DISARMING OF THE NATIVE TROOPS AT MIAN MIR, MAY 13TH, 1857.

A PRIVATE SOLDIER'S NARRATIVE.

BY C. T. GREY.

Before setting down the very interesting and hitherto unpublished narrative of Private John Stratton of the 81st Foot, it is necessary to preface it with an account of the strength of the troops at Lahore and Mian Mir (now Lahore Cantonment) in May 1857 and of what arrangements were made previous to the parade at 4-0 a.m. on the 13th of that month with which Stratton opens his account.

The troops were as follows:—

81st Foot (now the 2nd Bn. the Loyal North Lancashire Regt.).
Two troops Bengal Horse Artillery (2nd and 3rd, 2nd Brigade).
Four Companies of Foot Artillery (Nos. 1,2, 3, 4 of the 4th Brigade).
8th Bengal Light Cavalry.
16th Bengal Native Infantry.
26th Bengal Native Infantry.
49th Bengal Native Infantry.

The 81st were very weak having lost very heavily from cholera in 1856 when no less than four hundred men, women and children of the regiment and of the Foot Artillery succumbed in the second of the six great epidemics which devastated the troops at Lahore and Mian Mir down to 1872. According to the Punjab Records, their total strength was about five hundred and fifty. The Horse Artillery were armed with 9-pounders and the Foot Artillery with bullock-drawn 12 and 18-pounders which, not being sufficiently mobile for the surprise movements intended, were not brought to the disarming parade.

One company of the 81st formed part of the garrison of the Citadel, the remainder of which consisted four companies of sepoys.

At that period the sepoy regiments were never less than one thousand strong, especially those in the Punjab which were generally about twelve hundred strong.

Until the 7th of June the troops were commanded by Brigadier-General Stuart Corbett, Colonel of the 16th Bengal Infantry, after

which date commenced the feeble and vacillating *régime* commented upon by Stratton and his gunner friend. By the morning of the 12th of May the reports of the many outbreaks convinced the Civil and Military authorities that the disarming of the troops at Lahore and Mian Mir was imperative. Together with these reports secret information and intercepted letters had revealed a concerted plot between the native troops in the fort and the cantonment to rise on the 17th and massacre all the Europeans.

It may seem strange that with so many British troops the sepoys should have contemplated such a rising, but the fact was that, inspired perhaps by the adulation accorded by the authorities to their military exploits in recent wars, they considered themselves fully equal, individually, to British troops, and moreover, they had the dreadful example of Meerut where two thousand British soldiers were kept idle while the mutineers ravaged, burnt, and murdered at will. It will be noted that Stratton writes bitterly of the treatment of the British soldier and the contempt in which he was held, which is correct enough, for native soldiers were exempt from flogging, but British soldiers were flogged before the garrison. Besides this, all commissariat and treasure guards as well as forts and arsenals, were entrusted to sepoys, the British soldier, whether of Queen's or Company regiments, being considered unreliable.

The measures for disarming the native troops were concerted in perfect secrecy, the staff and commanding officers only being informed ; and further to disarm suspicion, a ball was held at Government House on the night of the 12th which was kept up until shortly before the time fixed for the parade. At midnight two companies of the 81st were sent secretly to take over the Citadel and disarm the sepoys therein. Another company was marched to Shalimar and there 'embussed' in ekkas (four men to each) in which they arrived at Fort Govindgarh, Amritsar, thirty miles away, just before dawn and disarmed the native garrison.

The letters now quoted were given to me some years back by a grandson of Mr. Henry Gregory who, in February 1857, founded a small weekly journal named the "Punjabee," which ceased to exist in the following January. They were the originals of letters published in this paper and preserved by Mr. Gregory, who had intended to write an account of the Mutiny in the Punjab. These letters are from subordinates in the public services and private soldiers and are

interesting as contemporary accounts, hitherto unused, containing incidents from an unusual point of view.

Private John Stratton's letter reads :—

MEEAN MEER, 30*th June*, 1857.

DEAR MR. GREGORY,

In response to your request for some account of the disarming of the Native troops at Meean Meer on the 13th of May last, I send you the following :—

On the morning of the 10th of May the whole of the troops at Meean Meer were paraded on the great parade to hear read the General Orders concerning the fate of Mungal Pandy and Issoorie Pandy, mutineers hanged at Barrackpore. That evening orders were issued for another general parade on the following Monday, though the reason was kept a very profound secret, the Brigadier having acted on the very wise principle that two can keep a secret providing that one knows nothing about it. There were many surmises, all said to be true, but all equally wrong. Monday morning came and at three a.m. our remaining five companies paraded and were served out with service ammunition. "Loosen your service ammunition" said the Colonel. Then were we all seized with a "Whats-up" sort of feeling-curiosity being all a tip-toe, with every one's eyes opened to their full extent and the drums of our ears stretched a long way above concert pitch. Because you must know, Mr. Gregory, that we were all blessedly ignorant as to the especial favours to be dealt out to us by these generous sepoys on the following Friday. Many thanks to them for their kind intentions? They also were as ignorant as to what was to happen to them, and I believe were told that there was to be a field day for which blank ammunition would be served out to them on the parade ground. So they marched on the ground quite cheerily, the band of the 16th Native Infantry playing "There's a good time coming," though what it was, none of us even suspected. Well, we were all formed up in line of contiguous columns and a letter was read from the Governor-General in Council to the sepoys telling them what fine fellows they were, and how much honour was supposed to belong to them. Such nice mellow words!

"Countermarch by sub-divisions round the centre of battalions" said our Brigadier, and he said it so low and cool that one imagined

he was afraid of disturbing the delighted musings of those faithful sepoys. At the same time, a wave of the hand set the Horse artillery in motion and, by the time the counter-march was completed, the guns were in position, unlimbered and bearing on our columns. Being on the right of the Grenadier Company, I heard the Brigadier say to our Colonel, " Take your battalion and draw up in line behind the artillery ; load with ball and be ready if required to fire." When this movement was completed, the Colonel said " Men, let there be no hesitation ! fire with the utmost effect."

" Oh ! thought I," this is to be a pitched battle, so I began to count the odds by numbering the files in their front divisions by which I made the lot to number about 3,500, including the cavalry. As there were only five companies of our regiment each averaging 29 files making about 290 in all, they were about 12 to 1. Now, to bring the artillery into account. There were about 300 paces between the sepoys and the guns, of which there were twelve in all each loaded with shrapnell containing about 250 bullets per shell. Each gun could get off three rounds before the enemy got to them and, as they were in close column, 9,000 bullets would have a very killing effect."

Just as I had arrived at the conclusion that, by the time the sepoys reached us, the artillery would have left them about 4 to 1—just about a fair odds, we heard the command " Pile Arms," and a few minutes later saw them pile and then march back from their arms for about 300 yards. They were then halted and ordered to *Bito* and the cavalry to dismount, which they all did, their European officers moving to the flank out of the line of fire of the guns. And then, as if by magic, there appeared on the ground about 200 bullock carts. Two of our companies slung their rifles and, falling out, loaded up the muskets and cavalry swords which they dropped on the ground when they backed out and joined the sepoys.

And now that the secret was out, didn't John Sepoy stare with looks that seemed to say, " sold, sold," which they truly were, for they saw that their hellish designs were frustrated as they beheld their arms marched off with a guard of two of our companies to Lahore Citadel. " What made you give up bunduk, John ? " said one of our men to their camp colour man. His answer was to point to the artillery guns. Argument enough. Blessings rest on every hair of your venerable old head, our Brigadier. To you all owe their most sincere thanks for your deep penetration, your prompt and cool

measures, and your fearless examples have saved many, if not all Europeans, from cruel and treacherous murder.

It is now divulged that the intention of all the regiments was to rise simultaneously on Friday, the 17th of May, those in the fort being ordered to kill all the Europeans there, seize the treasury, and release the Nawab, held prisoner there, to act as their leader, whilst those at Mecan Meer were to do their best to fall suddenly on us and murder all they could. There would thus have been three infantry and one cavalry regiments, leadered, moneyed and fully equipped and there is no doubt that, once successful, thousands of others would have rallied upon them. We were thus made fully aware that, but for the precautions, similar massacres to those at Delhi and Meerut would have been here enacted.

Now all precautions have been taken. The officers wives and children have been sent off to the fort and those of our regiment and the artillery put into a central bungalow which is guarded night and day by the Foot Artillery who have been armed with muskets. They were on the disarming parade but had no guns or even muskets, though there were plenty of spare rifles in our stores belonging to the men who died of cholera last year. Everybody is healthy, though the continual standing to arms and day and night patrols are very harassing, and we are all inspired by the example of our Brigadier who is everything to be desired, though he joined the army as far back as 1819. But he is not now in command, having been superseded by General Gowan a very sleepy looking old gentleman.

Now may we ask, what about the British soldier? He who was considered by the sepoy worshippers as a sottish, blackguardly ruffian quite unfit for any decent society. Once again, has the time come when the unflinching valour of this drunken brute will be appreciated; and now must the worth be felt of these scoundrels who know no fear and are as ready to rush to the mouth of the cannon as to that of the rum bottle. Notwithstanding all the vaunting reliance on the sepoy, these despised English soldiers must now be your saviours and the avengers of the slaughtered men women and children, for whose deaths the sepoy will answer with every drop of his blood. They who survive our bayonets and bullets must be blown from guns or hung from the gallows.

Apropos of the gallows. On the 10th instant, we were paraded to see the execution of eleven prisoners condemned by a court-martial.

The gallows had been erected opposite the lines of the 16th Native Infantry and the prisoners, all heavily ironed, were marched beneath it. But it was all a mockery, for the gallows would not have supported 11 cats, let alone eleven big men, and there was no hangman present. Even the prisoners smiled sardonically at what they saw was an empty flourish. They were marched back and reprieved by our new General who, everybody says, is far too lenient and very different to our Brigadier in every way.

This morning we sent a company and a firing party to bury the sergeant major of the 26th Native Infantry, an old man of about 70, who died yesterday of sunstroke. He was very well liked by the sepoys, apparently, for a great number followed the body right up to the gate of the cemetery."

Comment on the extreme age of the European and Indian officers of the East India Company is frequent enough in accounts of the Mutiny. The same rule prevailed in the case of the European N.C.O's. for the inscription on the tomb of Sergeant Major Robert Campbell of the 26th Native Infantry states that he died at the age of sixty-seven having served the company for fifty eight years. The same inscription states that he left six daughters, fourteen grandchildren and fifty-two great grandchildren living and, quaintly enough, concludes—" Erected by his widow in token of her gratitude." The next letter is dated the 6th of August and reads :—

" Dear Mr. Gregory,

The disarmed 26th Native Infantry broke out into open mutiny on the 31st, about noon. Hearing of a great disturbance in their lines, the Commanding Officer, Major Spencer, with his Quartermaste Sergeant and some native N.C.O's., went into the lines to see what was the matter. They were all attacked and killed, Major Spencer being struck down by an axe from behind and the Quartermaster Sergeant, the Havildar Major and a pay Havildar were killed with swords and clubs. One officer (Young) who went to their assistance was slightly wounded before he escaped. You may be unable to understand how, in the face of five companies of British Infantry and two whole batteries of Horse Artillery, the mutineers of the 26th managed to get away almost unscathed. It was purely due to indecision and incompetence on the part of those in authority, though they say their hands were tied by the General. As usual, the 26th fell in by companies for roll call and,

after they had fallen out, commenced the row which ended in the death of their Major and the others. Though the General knew of the murders, he would not allow the main guard, which was composed of forty men of ours under a sergeant, to fire on the mutineers as they ran past, though they begged to be allowed to do so. As soon as he could make up his mind, the artillery were permitted to fire on the empty lines which they knocked to pieces, making such a dust that most of the few who remained got away under its cover. A few who had eaten so much curry and chuppaties that they were unable, or too old, to run, were blown to bits. But you may ask, where was the Brigadier of whom you have boasted so much ? Oh : he was there alright, looking daggers, blunderbusses, shrapnell shell and fixed bayonets. Some say that they heard him say "Oh ! G.E. why don't you let me loose " ! though who and what he meant seems to be a mystery, unless the General has put a gag on him.

After a time they put some of our men on the limbers and went off after the sepoys with small result. Corporal Mullens of our regiment was killed by falling off a limber and the gun going over him. However, those poor sepoys have fallen in with an unfettered person who put an effectual end to the lot of them with a great smell of gunpowder. They must have been sorry they did not remain in Meean Meer under the fostering care of their guardian. We are in hopes that the others will rise and give us a chance at them, but they must be waiting for a chance to murder their officers first. Our Brigadier rides through their lines every day with a " Who'll knock off my hat " ? look on his face. But they won't meddle with him because he might kick off the trammels and seriously hurt some of them as he did, some he blew from guns this morning. Their fragments are still lying on the parade ground with the pigs, the crows and the dogs disputing over the titbits. "

The next letter we quote is from Gunner Marston of the Horse Artillery.

9th August, 1857.

DEAR MR. GREGORY,

I can assure you that the matter of the escape of the 26th mutineers, after murdering their major and sergeant major (sic), is a matter of great vexation to all the troops, especially the artillery who were most stupidly mismanaged by all in authority. Though from the

time of the alarm until we were in the saddle and limbered up was only about five minutes, we stood idle for quite half an hour before any one could find resolution to order an advance. Indeed, had it not been for an infantry officer who brought some men to be put on the guns, we might never have moved. When we did we went off at a gallop and here again was displayed the most lamentable stupidity and indecision. At one time we were madly galloping over the plain, then towards Shalimar or Lahore, until it struck someone that there might still be some sepoys left in the 26th Lines. On this wise hint we galloped off there and sent dozens of shots into almost empty huts until stopped by our worthy old brigadier. I don't think he could have known the actual condition of the ammunition of our troop, which is made up by the native factotum of the battery commander, who is naick, munshi, paymaster, head lascar, mistri and general contractor. Without this fellow nothing can be done! We had not a single fuse ready for use, and anyone who knows the labour and skill requisite to bore fuses will know that it cannot be done under fire.

We have taken on ourselves to go into the magazine and examine the ammunition there and with the guns. We found almost all the common shell deficient in the full bursting charges, some even having none at all, and that most of the shrapnell was deficient of half the bullets or more. It was a good thing we were not required to fire on the sepoys at the time of disarmament for we are convinced that most of our shrapnell would have done them little harm. All that was reliable was the round shot which would have been of little use."

By the time Major Spencer and the others were murdered there were only about six hundred and eighty of the 26th Native Infantry left, over three hundred having quietly trickled away since the disarmament. Most of those left went away that morning, leaving only about two hundred in the lines at the time of the outbreak. Apparently they rejoined after getting away from Mian Mir, for over five hundred were intercepted by a small party of police and levies under Frederick Cooper, Commissioner of Amritsar, by whom they were shot to death in parties of ten at a time. By night there were still one hundred and twenty left, all of whom were packed in a small room in the Fort of Ajnala where most of them were suffocated during the night. The survivors were also shot.

Mr. Cooper's report exists in the Punjab archives and was also published by himself a few years later. The horrible details of this mass execution are related with such a ghoulish relish that one is forced to the conclusion that he must have had a mental kink. So thought Sir John Lawrence who, in commenting, remarked that however much the executions were justified, the manner of reporting them was certainly not. Those who escaped in other directions were gradually hunted down and in the end death overtook nearly every man of the 26th Native Infantry.

SMOKY NOTES.

By Brigadier W. D. Croft, C.M.G., D.S.O.

The following are some notes based on personal experiences of the use of smoke in the Great War. Personal experiences are often misleading—and sometimes inaccurate—but they are better than nothing.

1. *Object.*—The object of using smoke in battle is to blind the enemy sufficiently to prevent him from knowing the direction or the exact time of the attack, and so deny him the full use of his weapons.

2. *Experiences.*—It is submitted that the man who first realised the possibilities of smoke was Major General Tudor who was appointed C. R. A. 9th (Scottish) Division at the beginning of 1916. The writer was then a battalion commander and the division was fortunate enough to be commanded by Sir William Furse, another gunner. Tudor was as full of ideas as an egg of meat and we all thought him the best gunner in Europe—British, French or German. He and Furse put their heads together and soon began to study the application of smoke. At the end of 1916 Furse went to the War Office as M. G. O. and during 1917 the 9th Division got all the smoke it wanted—and it wanted a lot.

Tudor acted as instructor to the whole division, and it was not at all an uncommon thing for a battalion commander to be allowed to shoot a battery during the afternoon in a quiet part of the line.

Consequently the senior infantry commanders were "au fait" with all Tudor's ideas which reached a climax in the great 9th Division triumph just north of the Scarpe at the battle of Arras, 9th April, 1917. On that day smoke was used generously on two occasions:

(*a*) To stiffen up the normal H. E. creeping barrage—the 9th Division would not have shrapnel for obvious reasons—as the first objective completely overlooked the assembly and the advance of the attackers.

The attack was launched in a "quarter light," and the men being over-eager with nerves on edge, overran the barrage. As a result their respect for smoke shell as an added horror of modern battle was greatly increased; it was terrible stuff to burn, and the glowing phosphorous balls in that twilight were most demoralizing.

This experience confirmed the lesson that smoke must not be allowed near our own infantry.

(*b*) Much later on in the day the division had started for its third objective—The Point du Jour. To our immediate rear a fierce battle was raging, and there was many an anxious glance over our right shoulders. Tudor had most of his guns on the move, but, quickly sizing up the situation—the 15th Division, attacking south of the river Scarpe, had been held up by a series of works called the 'Triangle'—brough this guns into action, and put down a 'pillar' of smoke which floated down the river and completely blotted out the enemy's view of our advance and, still more important, of our exposed right flank. Incidentally it did more than that: for the Germans holding the 'Triangle', taking it for a gas cloud, abandoned the 'Triangle', and so allowed the other Scottish Division to get on. After making due allowances for the wind being right, it would appear that much credit is due to Tudor for not only sizing up the situation, but applying his principles so neatly.

Smoke was used, when considered *necessary*, whenever the 9th Division attacked. On one occasion, the attack on Greenland Hill by the 9th and 34th Divisions on 4th June, it was not used as the ground was dusty enough to give a good screen with H. E., a point to remember in this dry and dusty country on occasions.

All through the summer the gunners had constant practice in its application on quiet fronts.

In the 3rd battle of Ypres on 20th September 1917, smoke was used in a most successful battle, and on the 12th October, when trying to wade through that cesspool below Passchendaele ridge, the German O. P.'s overlooking the battle were effectively blinded.

But by the end of 1917 other divisions were shouting for this man saver, and by 1918 it was becoming increasingly difficult to obtain in spite of the efforts of Furse and Churchill.

Therefore Tudor began to experiment with the 'wisp'—just sufficient to blind O. P.'s, and it was used most efficiently and economically, from screening daylight patrols to battalion day raids.

In 1918 in those long drawn out battles for the retention of Wytschaete ridge, the 7th Seaforths attacked on one occasion under a smoke creeping barrage, practically all smoke. Unfortunately, owing to a misunderstanding, the French on our right flank did not advance,

and the Seaforths, who had captured the village most gallantly, had to come back. It was reported that the German casualties were heavy from the smoke—and our men ran into it too. It would seem that there is no exception to that golden rule: keep the smoke well clear of our infantry.

In June 1918 the 9th Division captured Meteren, the success of the operation being largely due to the use of smoke. Officer prisoners who had been manning their O. P.'s assured us that they fully expected us to attack from the west, and that, owing to the smoke from the west, they had no idea until the men were upon them that we launched the infantry from the north.

This success had a most demoralizing effect on the Germans, as proved by a German Directive issued to the Army after the battle, and captured a month later (the Directive is in the writer's possession) in which it stated quite frankly that the defenders had been completely surprised, and also that there was no answer to it. That was proved a month later in the attack on Hooganacker ridge.

During the war of movement from September to the Armistice, smoke was used in a greater or lesser degree in every attack of the 9th Division, the principle being to blind the enemy as to the direction and time of the attack, thereby producing surprise and success.

Two notable instances were the attacks by the Lowland Brigade, at Lager Capelle Wood and Vichté.

Lager Capelle was a horseshoe—shaped hill with the bars facing the attackers. On the previous afternoon the Highland Brigade with very little artillery support, had failed to capture the hill. Next, morning the inside of the horseshoe and the right bar was thoroughly smoked and in the low ground comprising the inside of the shoe there was a regular witch's cauldron of smoke; the Germans usually attacked, it may be remembered, on low ground and in this case they evidently expected our attack there too; they were disappointed.

As soon as the smoke was well down one battalion raced along the left bar, supported by a second battalion, and fairly surprised the Germans, a very good example of the success attending mobility.

Vichté was a village on the railway; as our assembly position was astride this railway, it served as an excellent guide to the infantry in spite of the village being blotted out to all appearances by smoke.

The attackers' side of the village was stiff with machine-guns and, adopting mobility tactics, the attacking battalion raced down the permanent-way into the village with hardly any casualties as the German machine gunners, being blinded, were ignorant of the time of the attack, although they knew the direction, and so could not keep their buttons pressed indefinitely.

3. *Lessons Learnt.*—It will have been noted that when the principle of our infantry avoiding contact with smoke was violated, the infantry got into trouble, and yet we never seemed to learn the lesson. This is not a perfect world.

Whenever our infantry will be called upon to assault, that infantry will have to face a defence largely dependent on its machine gun framework: and it is against this most formidable man-killer that smoke may help, if properly applied.

The very successful use of the surprise factor will have been evident in some of the examples quoted above. By the aid of smoke we cannot only leave the enemy guessing as to the time and direction of the attack, but also bluff him into thinking that the attack is launched, thereby inducing him to indulge in a vast waste of ammunition since the infantry have not moved.

It is a most surprising fact that when once the cry of 'Wolf' has been tried, the defender can be induced to believe that the real thing is not going to happen; it almost seems as if the wish is father to the thought.

These "Chinese" attacks—a full dress attack with the infantry absent—were often tried by the 9th Division: and it was significant that when the real attack came the enemy were surprised, evidently lulled into a sense of security by the non-arrival of the one factor which crowns all fire plans.

The critic who has taken the trouble to wade through as far as this, will no doubt retort that in moving war we shall have no time for such bluffing. But it is submitted that to attack, say, after an hour's preparation with the enemy thoroughly alive to what is going to happen, will spell failure against a stout-hearted enemy, as was proved by many grisly examples in the Great War; and by the time the mess of failure has been put right there would have been ample time to surprise and mystify, the result being success at the cost of few casualties.

4. *Summary and Conclusions.*

(*a*) Always put down smoke well away from you and as close to the enemy as possible :

(*b*) Always use it in the attack, never in the defence, and never go through it if possible :

(*c*) Never use an ounce more than is absolutely necessary :

(*d*) Well trained gunners will put it down under any conditions of wind and weather ; but it must be remembered that the 9th Division had similar conditions for training to a permanent practice camp under ideal conditions with practically unlimited ammunition.

Finally, smoke may be called a good friend but a bad neighbour.

PROTECTION IN WOODED HILLS.

By Major-General H. Rowan-Robinson, C.B., C.M.G., D.S.O.

Much has been written on mountain warfare, much upon bush warfare, but nowhere can I find any treatise on fighting in a country where nature thrusts upon a column a combination of both the hill and the forest, although actually such a condition is by no means uncommon. It is a problem constantly encountered in Kurdistan; and the R. A. F. and the Iraqi army therefore have had considerable experience of it during the last four years. It differs from that of ordinary mountain warfare in that:—

(1) The enemy can find covered approaches throughout the area.

(2) The value of modern weapons is nullified.

(3) No visual communication is possible.

(4) The R. A. F. can afford but little assistance.

All these troubles are specially great when the trees are in leaf in the late spring, the summer and the early autumn—the period when operations generally take place. On the other hand, in such circumstances, the enemy loses the advantage of his long range and covering fire and, being ignorant of the methods of protection adopted by the column, may easily run into a trap.

The methods which experience suggests for dealing with the problem and which were to a great extent adopted in Kurdistan were as follows:—

(*a*) A clearing party should march with the advanced guard and, for the benefit of easy communication throughout the column, clear as wide a front as may be possible in the circumstances without seriously delaying progress. The width of the passage will vary from 20 to 100 yards according to the density of the scrub.

(*b*) The dangerous areas should be swept, say, to a depth of 400^{x}, by a company, companies or battalion (less machine guns).

(*c*) To prevent the enemy, after observing the sweep, from coming in behind it, the sweeping detachment must drop piquets from its outer flank.

The procedure under (*b*) and (*c*) resembles to some extent that adopted for the clearing and piquetting of a massif to one flank of a valley in ordinary mountain warfare.

(*d*) High points which give both command and view must be occupied.

(*e*) Small groups of men must be distributed throughout the whole length of the column, ready instantly to repel any attack.

(*f*) When the country is very close and difficult, advances must be made by bounds; and short marches are advisable except where long distances have to be traversed to reach water. It will often be necessary for the commander to settle the limits of his bound by a close air-reconnaissance.

Piquetting in the bush is a thorny subject in more ways than one. Where visual communication is feasible as will always be the case over a part (generally the larger part) of the route, the matter is relatively simple. The trouble arises where piquets are hidden from each other, from the control point and from the column, as is usually the case with those dropped by the sweeping detachment. What arrangements will ensure that these piquets afford protection to the column, are controlled, can be supported and can be withdrawn? As in all other matters connected with the subject, the density of the scrub is a determining factor in the solution of these questions.

As regards protection, piquets should be placed on all important approaches; or, if approaches are of equal value, then so close together that the enemy group should be unable to penetrate unheard between adjacent piquets. They should remain hidden and should not move or speak. Their strength may therefore be small—a rifle section—for they should compensate for weakness by surprise. An enemy endeavouring to attack a column would normally strike a piquet in ambush, and after one or two experiences of that nature, would be very chary about repeating his attempt. Should, on the other hand, hostile groups be lucky enough to pass unseen and unheard between two piquets and attack the column, they could hardly get back unscathed.

Control, support and withdrawal would be effected under company (in small forces—platoon) arrangement, company headquarters being kept in touch with platoons and the latter with their piquets, which will normally not be more than 200 yards from the track-clearance, by means of telephones or of runners guided by the blazing of trees. Runners should be grudgingly used, however; for, in principle, all movement should be enemy movement.

The system is slow, expensive in men, and complicated and that is why, when large areas have to be treated in this manner, the advance must be executed by bounds, the column being closed right up and piquets withdrawn, within the limits set by safety, at the end of each bound. Careful reconnaissance and careful organization based on that reconnaissance are necessary at the commencement of each bound.

It is quite possible that methods differing from those indicated above have been tried out elsewhere and have proved successful. If so. it would be interesting to hear what they were.

COMPENSATION DUTY.

By Lieut.-Col. C. Campbell.

Introduction.

It is now more than five years since manœuvres on a grand scale were held in India. The time, therefore, when they are likely to be held again cannot be far distant. On grand manœuvres a number of officers are always detailed as Military Compensation Officers. Their main duties are to see that (*a*) the cultivator does not suffer undue loss owing to the manœuvres and (*b*) that the Army does not suffer financially through claims for damage which is not due to the manœuvres. These duties sound simple enough, but in cases where the manœuvre area is extensive, with claims for compensation running into many hundreds, involving thousands of rupees, some special knowledge and organisation are required on the part of Compensation Officers to ensure that the work is efficiently and economically done.

Information as to how to set about compensation duty is not easy to come by, as the regulations on the subject do not go into much detail, and there are now few senior officers on the active list of the Indian Army who have had experience of the work on a large scale, to whom one can turn for guidance. These notes embody some of the experience gained by the writer when acting as a sub-area Compensation Officer during the Army manœuvres held in the Punjab in 1928, and it is hoped that they may be of some assistance to officers detailed for this duty in the future.

Preliminaries.

An officer of the rank of lieut.-colonel is usually selected as Chief Military Compensation Officer. One of his first duties will be to confer with the Deputy Commissioner in whose district the manœuvres are being held, and to settle with him the boundaries of the sub-areas into which the general manœuvre area is to be divided, and the compensation staff that will be required for each sub-area.

The boundaries of the sub-areas must be the civil boundaries, *e.g.*, a *tehsil* boundary. This may result in sub-areas of unequal extent. That, however, matters less than the confusion likely to arise if a geographical feature, such as a *nullah*, were to be selected. In such a case one *zail* might be in two sub-areas, with the result that its civil officials would be at the beck and call of two compensation staffs.

For headquarters of sub-areas, a central situation, possibly at road junctions, should be selected. The staff required for each sub-area will of course depend on its size and the amount of crops it carries. Generally speaking, an officer of field rank, working directly under the orders of the Chief Military Compensation officer, with a Kings Indian commissioned officer as assistant, and two or three Indian officers will suffice. The latter should belong to the province in which the manœuvres are being held, and they should be efficient map readers and capable of writing a report. For all, one quality is essential, that is tact, for many questions will arise and perhaps not a few difficult people will have to be dealt with.

The Civil Compensation Staff usually consists of a Chief Civil Compensation officer, who may perhaps be an Extra-Assistant Commissioner, and he works in co-operation with the Chief Military Compensation officer. Civil assistants are detailed to each sub-area. These may be of the rank of *Naib-Tehsildar*. They work in co-operation with the Military Compensation officers of the sub-areas.

Some two or three weeks before the manœuvres are due to commence, the Compensation Staff should be assembled at the headquarters of the Civil district concerned. The Deputy Commissioner will probably make an announcement as to the manœuvres at a special durbar, so that all concerned may know the arrangements under which compensation for damage will be paid, and the rates of the same, etc. This occasion also affords an excellent opportunity for the civil and Military Compensation Staffs to meet. On the conclusion of such preliminaries, under orders from the Chief Military Compensation officer, sub-area officers proceed to their headquarters.

Reconnaissance of Sub-Areas.

The object of this is to enable the military staffs to acquire a detailed knowledge of the geography of their sub-areas, and of the crops they carry, and also to give them the opportunity of gaining personal touch with as many as possible of the subordinate civil officials with whom they are likely to have dealings in the weeks to follow.

The sub-area Compensation officer should reconnoitre his area to a definite programme arranged in co-operation with his civil Compensation officer. At various villages during the tour, arrangements will be made to meet the principal *zemindars*. The Military Compensation officer should, among other points, explain that (*a*) troops receive

instructions to do as little damage as possible to the crops; that (*b*) if the *zemindars* are not satisfied with the amount of immediate compensation offered them, they must wait for a fresh assessment of the damage at harvest time. The *zemindars* should also be reminded to submit their claims for compensation through the proper channel, as laid down by the Deputy Commissioner, and not to go grumbling to generals about damage their crops may have sustained.

The Military Compensation officer should take the opportunity which this period offers of acquiring all the knowledge he can of such matters as the rotation of the crops, and the books kept by the *patwaris*. On the manœuvres in the Northern Command in 1928, several fallow fields were taken over by the Army as a landing ground. The *zemindars* concerned put in a claim for more than a thousand rupees, being the value of the crop which they said they would have raised had they not been prevented from cultivating the fields. An examination of the *patwaris*' books, however, showed that these fields were due, according to the rotation of the crops, to lie fallow that winter. Their claim for compensation could, therefore, be turned down.

The Military Compensation officer should also know the various terms used in the measurement of land, *e.g.*, *canal*, *marla*, etc., and he should be able to recognise the various kinds of soil, *e.g.*, *chahiye*, watered from a well; *barani*, dependent on rain, as there is a considerable difference in the value of the crops raised on these soils. If he remains in ignorance of such elementary matters as these, it is certain that the *zemindar* will score and army funds lose over most of the deals.

The detailed reconnaissance of the sub-area can safely be handed over to the Indian officers. They should be given orders daily to tour portions of the sub-area, *e.g.*, certain squares on the ordnance map. Where crops exist, these should be shaded on the map in green. They should also be told to note the condition of the crops, of the country roads, of the wells, etc. This is to ensure that compensation will not be paid for damage which is not directly due to the manœuvres. It is important that they should meet as many as possible of the minor civil officials of the sub-area, *e.g.*, *zaildars*, *tehsildars*, *patwaris*, etc., for a close liaison established between them at this stage will greatly facilitate the speedy and satisfactory settlement of claims later on.

There is little that the Compensation Staff can do while the manœuvres are actually in progress, except to take note of where

most damage occurs. It will be found that this is caused chiefly by mounted troops, artillery and possibly transport, and that damage will be extensive only when the ground has become soft as a result of rain, or irrigation.

Checking and Settlement of Claims.

At the conclusion of the manœuvres, when troops are clear of the area, the Civil Compensation officer prepares the claim. It will probably take some days to complete and when ready is presented in a consolidated form by villages to the Military Compensation officer of the sub-area. Before making any plans to deal with the claim, the Military Compensation officer, in company with his staff and the *patwaris* concerned, should visit certain selected areas where damage of both major and minor importance has occurred and for which compensation has been claimed. The selected areas can be identified from the *patwari's* map on which all fields are marked with a number. It is important first of all to investigate how the *patwari* arrived at the amount of the claim in question. More often than not, his method will be found to be as follows: The damaged crop under survey is, say, one *canal* of young wheat on *barani* soil, and over this area perhaps a troop of cavalry have ridden once. The fixed rate of compensation to be paid for the total loss of the wheat crop on one *canal* is, say, eight rupees, so he puts down a claim for this amount in full.

The question which the Military Compensation Officer should ask himself are, what proportion of this crop will not ripen as a result of the damage it has suffered? What will be the crop look like at harvest time? If he can visualise it more or less correctly he will be in a position to make a fair offer of immediate compensation to the *zemindar* concerned. In this particular instance it would amount to a very small proportion of the amount claimed. It is suggested that dealing collectively in this way with a few claims of a different nature will assist the Compensation Staff when working individually to assess damage and check claims in a more or less uniform method. Vague and haphazard guesses at the amount to be offered should be avoided.

The Chief Military Compensation officer in conjunction with the Civil Authorities fixes a date by which all claims are to be settled. The Sub-Area officer makes out his tour programme accordingly, arranging to visit the chief villages in turn to settle claims. The claims may run to many hundreds, in which case it will be impossible to check them all. Most of the major damage should, however, be

seen and checked by some member of the Military Compensation Staff. It is essential that some of the claims prepared by every *patwari* concerned be checked, as otherwise it will be impossible to gauge even approximately the accuracy of the remaining claims for which some compensation will have to be paid, but which cannot for lack of time be seen and checked by a member of the Military Staff. In most instances the *zemindar* greatly exaggerates the amount of damage that his crops have suffered, and in this attitude his village *patwari* will be found to give him a hearty backing. The *zemindar*, however, looks to the British officer for a fair deal, and although due economy of army funds must be remembered, there is no merit to be gained by trying to do compensation "on the cheap." On the manœuvres of 1928, in the writer's sub-area (approximately thirty miles long by ten miles broad) about thirteen hundred claims, amounting to more than ten thousand rupees, were settled by payments of immediate compensation of about four thousand rupees. These manœuvres were held after heavy rain, when the ground was soft and crops were easily damaged. The cultivators in every single instance preferred to take the cash payment rather than wait for a fresh assessment of the damage at harvest time.

When all claims have been settled the Military Compensation officer should obtain a certificate to that effect from the Civil Compensation officer before leaving his sub-area.

Miscellaneous Notes.

1. A diary, a cash account and an abstract showing claims serially numbered with the amounts paid in each case are kept by the Sub-Area Compensation officer. The Military Accounts Department require receipts in triplicate for all disbursements. This involves a good deal of clerical work.

2. It sometimes happens that brigade training is carried out on the army manœuvres area previous to the manœuvres. In such cases, to avoid the possibility of compensation being paid twice over for the same damage, an Indian Officer from the Sub-Area Compensation Staff should be detailed to act in co-operation with the Military Compensation officer of the brigade concerned, when the latter is settling claims.

3. Horses, or rather country ponies, are usually provided by the Civil Compensation Authorities for the Compensation Staff at fixed rates of hire.

4. The Civil Authorities will normally provide mounted men to deliver messages to the nearest Military Headquarters, that is to say, if the camp of the Compensation officer is not connected up to the neutral signal service.

5. In addition to the usual camp servants, two orderlies are required. The camp of the Sub-Area Compensation officer, more likely than not, will be "out in the blue," and he will probably have in his charge some thousands of rupees of government money, which will require guarding.

Conclusion.

To carry out compensation duty fairly and economically, it is essential therefore that (*a*) the Staff, both Military and Civil, be carefully selected, (*b*) that a good understanding be established and maintained between them, (*c*) that the manœuvres area be thoroughly reconnoitred and (*d*) that some uniform method of checking the civil claims be adopted.

The work, taking it as a whole, is pleasant to those who can find interest in the *zemindar*, his life, his fields, his crops. It is, however, somewhat exacting work especially during the days when claims are being settled, and British officers who may be detailed for this duty in the future should realise from the start that there is more in it than merely riding round the country-side with a bag of rupees, distributing them to any peasant who turns up with a grouse about his crops.

SKI-ING IN AUSTRIA.

(December 1933—January 1934).

By Colonel Sackville Hamilton, D.S.O. (late) R.E.,
Survey of India.

Ski-ing as a sport is annually increasing in popularity. This is largely due to the fact that, though to become really expert it is normally necessary to start in early youth, the average man and woman can become sufficiently good in a very few days to be able to enjoy themselves thoroughly.

But the information given in many of the articles published in the past year or so, particularly in reference to Austria, seems apt to lead those who may be considering a ski-ing holiday to a belief that a grand opportunity awaits them at a very cheap cost.

Replies received from Switzerland in 1933 led to the reluctant conclusion that a ski-ing project must probably be abandoned on the score of expense. Later a chance acquaintance brought the conversation to ski-ing and his experiences in Austria the previous winter. This finally resulted in arrival, on the 28th December 1933, at the Hotel Alpenrose, Zurs am Arlberg.

Ski-ing in Austria is undoubtedly cheaper than in Switzerland but nowhere, with the heavy costs of travel added, can it be said to be very cheap.

Having just returned to India it has been suggested that an account of my experiences may be of interest.

As a skier I am a novice.

It is to give those who may also be novices and may be considering such a holiday in Austria a basis on which to make a fair estimate of costs and to add to the information already available as to where to go and how to get there, what to take with a view to avoiding unnecessary expense and add to comfort, and what may be better obtained in the country, from the point of view of another novice, that this article has been written, in the hope that my experiences may assist and be of use and interest to others.

The first essential as to where to go and how to get there is a map.

The ski-map of Austria herewith has been prepared from an assortment of Austrian maps purchased at various towns and is intended to illustrate the context by shewing the positions of all places named.

From Buchs to Vienna Austria is studded with ski-ing resorts dotted over the mountain ranges.

Snow conditions are very reliable and ski-ing is in full swing from the middle of December until March and even May in the higher parts.

The majority of English people confine themselves to the Vorarlberg and Tyrol Provinces which lie at the west end of the Austrian Alps, probably on account of their being nearer Home.

The Tyrol forms a narrow strip of land approximately 160 miles long by an average of 40 miles wide.

The chief town Innsbruck lies very nearly in the centre; Kitzbühel lies near the north-east boundary. At the western end is St. Anton.

The Tyrol is easily accessible from all parts of Europe. Innsbruck is the point of intersection of the lines London-Paris-Basle-Buchs-Salzburg-Vienna; and Berlin-Munich-Rome.

Venice, almost due south from Innsbruck, *via* the Brenner Pass, is some 300 miles distant, Munich, due north, is but 120 miles.

If travelling from England the cheapest and quickest route is *via* Calais or Boulogne-Laon-Basle.

Leaving Victoria at 11 a.m. Innsbruck is reached at 1 p.m. next day and Kitzbühel at 3-30 p.m. All through trains stop at Bludenz Langen St. Anton-Landeck and Jenbach.

By far the most comfortable method is to take the above train from Victoria and travel to Paris arriving there at 6-10 p.m. and from thence by the 9-15 p.m. Arlberg-Orient express (gare de l'est) by *3rd class sleeper*, a new innovation commenced this last season. Sheets, blankets and pillow; basin with h & c and a heater are provided. They run from Paris only, for 2 months from 20th December, and are taken off at Innsbruck. They run daily during this period, and should be booked well in advance through a Tourist Agency. The train from Calais is joined at Basle—and the time of arrival in Austria is the same by either route.

The return train from Austria leaves Kitzbühel at 3-30 p.m., Innsbruck 5 p.m., Langen 7 p.m. It bifurcates at Basle and the 3rd class sleeper arrives at Paris at 9 a.m. next morning.

Of those going to Austria many go to Kitzbühel for the whole holiday. Others, attracted by the advantages of a cable railway, gravitate there, or to some other similarly endowed resort, later.

Meals on trains are expensive; a luncheon basket, especially with the privacy of a sleeper, can reduce expenses considerably.

Information as to train times, fares, or any other details regarding travel is supplied on application to the Continental Enquiry Office at Victoria Station, the Austrian Federal Railways, Eros House, Piccadilly Circus, and all principal Tourist Agencies—see also Appendix I herewith.

It should be remembered that at Basle watches must be corrected to Central European time which differs from English or French time by one hour.

In travelling to Austria direct from India two routes are available, the one *via* the Ports of Italy and Venice to Innsbruck, the other *via* Marseilles and thence either *via* Lyons-Basle, or Paris-Basle.

By a new "P. & O." arrangement, 1st and 2nd class ticket holders, either from or to India, but *not* tourist class, who book all the way round *via* the Bay of Biscay, are, on declaring their wish *before* embarkation, issued with a free rail ticket of the equivalent class from Marseilles to London—or *vice versa*.

This valuable and attractive concession is available for one month from date of issue and for those breaking journey in either direction for a ski-ing holiday can be used to Paris or Lyons. Probably, if approached, the P. & O. Company for a small extra payment would issue tickets to London *via* Lyons-Basle-Laon.

Other than by air the time taken from Bombay to Innsbruck *via* "P. & O." and Marseilles is approximately 14½ days, and *via* Lloyd-Triestino and Venice 11½ days. This assumes no delay in train connections.

The Federal Railway system of Austria is electric throughout and is extremely smooth running.

Local railways extend wherever the terrain admits, and are augmented by cable railways in several places and by many motor and bus services.

One very important item to remember from the point of view of expense is that travel by ordinary train costs exactly half that of travel by mail trains. The extra time taken is of small account for short journeys.

There is no reduction for return rail tickets in Austria. Many keen skiers travel 3rd class there or in Switzerland.

All travellers on Austrian railways, whatever class, are entitled to use the restaurant car.

CURRENCY.

The unit of currency is the Austrian *schilling* which is divided into 100 *groschen*.

Any amount of any foreign currency may be taken into the country. This should be declared at the frontier and care taken that it is entered in your passport. The same, or smaller, amount may then be taken out of the country on leaving. Without such an entry no more than the equivalent of 500 Austrian *schillings* in foreign currency may be taken out, and in no case, whether entered in the passport or not, may more than 200 Austrian *schillings* in cash be taken.

At 28 Austrian *schillings* to the pound sterling one Austrian *schilling* may be taken as the equivalent of nine pence. Details of prices given herein with the abbreviation *sch.* for Austrian *schillings* and *gr.* for *groschen* are on this basis.

It should be noted that the rate given by an exchange bank which is to be found in all large towns or tourist centres—there is one at Zürs—is about 90 *groschen* per pound sterling more than allowed by a hotel bureau and quite a saving can be made on even a short stay by taking the trouble to find out and go to the former.

As a general rule hotel bills may be paid in Austrian money, or in any foreign currency, or by cheque.

PASSPORTS.

British subjects do not require a visa for entering Austria, but they must be in possession of a valid passport.

SKI-ING KIT AND EQUIPMENT.

As to provision of kit. Buy a ski-ing suit—and glare-glasses and possibly a ski-cap, with earflaps to let down over the ears in cold windy weather in England and *everything else* in Austria—either at Bludenz, if proceeding *via* Basle, or at Innsbruck, if proceeding *via* Venice. If *via* Basle one can get out and complete all purchases in ample time to catch the next train on to reach destination the same night. At Innsbruck one has to change trains in any case. This however is not to say that a ski-ing suit purchased in Austria is not just as serviceable as any other.

Men should be particularly careful not to forget to take tennis shirts with collar attached which can then be worn open at the neck.

The hire of skis and sticks at Zürs is 1-50 to 2-50 *sch.* per day according to quality and length. The normal rate of hire at nearly all other places is 1 *sch.* per day.

DOMESTIC COMFORT.

All hotels, *pensions*, "*gasthäuser*", and most private houses in which visitors would be likely to stay, are fitted with central heating. In hotels the public rooms are usually stuffy and oppressive but bedrooms are kept at a reasonable temperature which can be adjusted by the regulator and an open window.

Electric light is universal and good.

The majority of hotels, and many *pensions*, have basins with running hot and cold water fitted in the bedrooms, such rooms being more expensive than those without. This is not usual in *gasthäuser*, but may often be found in private apartments.

A bath towel of one's own will be found extremely useful.

As bedsheets are usually not wide enough take one of your own and also two blankets or rugs and a thin under blanket—all of which can be fitted in the holdall without adding to chargeable weight.

Photography is an expensive item, the charges at Kitzbühel being much the same as in England, but at Zürs about 30 per cent. more for developing and 50 per cent. for printing. The work is generally very well and carefully done.

Films are available everywhere—expensive in the higher or more remote ski-ing resorts but normal prices elsewhere.

Anyone wishing to play cards should not omit to take playing cards with them—for in Austria they cost 7 *sch.* (*i.e.*, over five English shillings) per pack.

English tobacco and cigarettes, except in the large towns, are generally very difficult to obtain, are expensive and not the desired brand. Austrian cigars and cigarettes are not pleasing to English taste, so take your own, and, if a pipe smoker, take pipe cleaners.

Both playing cards and tobacco must be declared to the customs, but reasonable quantities are allowed free.

Food throughout is good. For all meals taken in bedrooms 20 per cent. is usually added to the ordinary cost. Cold lunch to be taken out is provided everywhere without extra charge. The water is excellent and can be drunk everywhere with perfect safety.

The universal minimum charge for afternoon tea at hotels, *gasthäuser*, restaurants, cafés or elsewhere was 1·80 *sch.* per person. So that it pays many times over to take English tea and a spirit stove with you; if the latter is thought too much trouble arrangements can usually be made with someone in the village to provide boiling water.

As it may perhaps be of use to others, I give below an abstract cost in £. s.d. of exactly one month's holiday from England and return for two; for I was accompanied by my son aged 10½ years. Children over 10 cost the same as a grown-up so there was no reduction on that account.

So far as the object—ski-ing—went we had everything we wanted and the holiday was an unqualified success.

Travel and living expenses—2 persons for one month, Dover—Zürs-Kitzbühel-Folkestone *via* Paris.

	£.	s.	d.
2 return tickets Dover—Langen 2nd class* to Paris and thence 3rd class sleeper	26	2	6
Sleeping car attendant (both ways)	0	8	0
2 supplements 1st class across Channel	0	10	0
Outward: Taxis, Porters, & registration skis ..	1	2	6
Outward: Food on journey (dinner at Paris) ..	1	10	0
Outward: Sledge—Langen to Zürs	0	13	6
Board and lodging, Zürs, 28/12 to 17/1 @ 18·50 *sch.* per person per diem, inclusive of tax, and service	27	15	0
Afternoon tea and drinks, same period	3	12	6
Ski-ing instruction at Zürs	2	10	0
One pair Ash skis with sticks	1	12	0
Occasional hire of skis and skins	1	15	0
Baths and laundry	1	13	0
Photography, stamps, picture postcards ..	2	3	0
Sundries	1	0	0
Transfer Zürs to Kitzbükhel—sledge	0	9	6
Two 3rd class rail tickets Langen—Kitz ..	1	0	0
Porters and motor car to Hotel—Kitz	0	6	6
Board and lodging, Kitzbühel, 18/1 to 24/1 @ 16·50 per diem including daily bath, tax, and service ..	7	5	0
Afternoon tea and drinks—same period ..	0	18	6
Photography and picture postcards	0	6	6
5 days cable railway (1 run each per day) ..	2	10	0
Homeward: Porterage Hotel to Kitzbühel R. S. ..	0	4	6
Homeward: Railfare 3rd class to Langen ..	1	0	0
Homeward: Taxis—Porters and registration—skis	1	6	0
Homeward: Food on journey (including day at Innsbruck)..	1	15	0
Total ..	89	8	0

* At exchange rates of December, 1933.

Board and lodging inclusive of baths and washing for a stay of exactly 3 weeks at Zürs worked out at £5 per week per person and for Kitzbühel at £4-10-0. For dancing add about 4 *sch.* per person per evening inclusive of drinks and incidental expenses.

The abstract of expenditure given shows some items which possibly others can do without but, if so, they will be certain to be replaced by others. Inclusive of afternoon tea and drinks, ski-ing instruction, and all other charges, the cost per person at Zürs came to £7 per week. Zürs is more expensive than other places. Five guineas a week "All-in" should be sufficient in smaller resorts, but where a cable railway exists the difference will soon be made up.

A reduction of from 25 to 30 shillings a week can be made on the above by living in apartments, where available.

Practically all ski-ing resorts in the Tyrol have a doctor of some kind, but broken bones necessitate a journey to Innsbruck or Kitzbühel to ensure their being properly set.

INDIVIDUAL SKI-ING RESORTS.

Space forbids mention of all the places marked on the map of which notes have been made either from a personal visit and observation or from those residents or visitors who have had first hand knowledge of them.

I have therefore confined myself to remarks on the more important.

A list of hotels, *pensions* and *gasthäuser* and their *en pension* charges at the various resorts named is given in Appendix II. The daily rates quoted are exclusive of 10 per cent. for service, visitors tax, which varies from 30 *gr.* to 1 *sch.* per day and is usually included by hotels when giving terms, and baths.

In all cases afternoon tea is extra.

When occupying apartments the charges include morning rolls and coffee and arrangements can be made to include baths also. Lunch and dinner for which separate arrangements must be made at hotels or *gasthäuser* cost together from 7 to 9 *sch.* per day.

The list names only a few hotels and is to give intending skiers somewhere to go to start with.

Further information, if desired, as to these or other individual places can be obtained from the London Office of the Austrian Federal Railways in Piccadilly Circus.

THE ARLBERG.

The Arlberg District is the name given to the mountainous tract which, running north and south, divides Vorarlberg from the Tyrol. The Arlberg itself is a high Alpine pass beneath which, on the main line between Buchs and Innsbruck, runs the Arlberg tunnel, 6 miles in length, the most eastern of the five great tunnels through the Alps.

ZÜRS (5642 feet).

The station for Zürs is Langen situated at the west end of the Arlberg tunnel.

The distance from Langen to Zürs is 4½ miles. Zürs is reached in 2 hours by sledge. The charge for the sledge, which takes 2 persons and their baggage, is 18 *sch.* for the upward and 12 *sch.* for the downward journey.

At the top of the "Flexenstrasse" pass (5798 feet), the Zürs valley, well over a mile in length by about ½ a mile wide, suddenly opens out to view. And the view to the novice, when the season is in full swing is surprising; for the slopes from one end of the valley to the other are covered by row after row, each of some dozen or more people, lined up under instruction totalling four or five hundred persons.

The hotels at Zürs are the Alpenrose, Lorunser, Flezen and Edelweiss, recommended in that order. Practically no other accommodation is available.

The Alpenrose is undoubtedly the best hotel, and has accommodation for 240 people in 165 bedrooms. Other hotels can accommodate about 250 between them.

Zürs possesses two great attractions. The one, which many may consider an unnecessary adjunct but which undoubtedly adds considerably to the gaiety and enjoyment of the young, is the Dance Band. It is themost original, entertaining, imaginative and lively band possible and, if transported to London, could not help making a fortune.

The other attraction at Zürs, now world famed, is the Schneider ski-school, an off-shoot of the Hannes-Schneider school at St. Anton, run by his brother Frederick.

There is yet a third brother. All are perfect masters of the ski.

There are ten classes of instruction from the most advanced to the lowest.

Each class is further sub-divided into groups with English, French or German speaking instructors according to the numbers attending.

Each period of instruction lasts 2 hours *viz.* from 10 to 12 in the mornings and from 2 to 4 in the afternoons.

The trouble taken and the patience displayed by each and every instructor is amazing.

New comers are tested and placed in class accordingly. Herr Frederick Schneider himself visits each class daily and on test passes pupils from one class to the next.

The two senior classes spend a great deal of the time on tour under advanced instruction and are also given *slalom* practice. Other of the less junior classes are taken out on tour according to progress.

The charges for instruction are moderate. Each lesson costs 2·50 *sch.* Books of 12 tickets can be bought from various notified places for 30 *sch.* and one ticket is handed to the instructor at the end of each lesson.

Short tours by class are paid for in a similar way by ticket—if an all day tour two tickets are given up.

It is not incumbent on those under instruction to attend every class, but for the best progress it is advisable to attend 5 or 6 a week.

Private tours organised in parties with a guide in attendance are somewhat expensive, the minimum number of persons in the party for which a guide will be spared from his normal instructional duties being 8 at 6 *sch.* each, or, if less than 8 persons, a minimum charge of 48 *sch.*

The fee for a privately hired instructor over a period, when available, is 25 *sch.* per diem and he may not take more than 4 people on tour or expedition.

The Zürs valley is enclosed by high mountains with steep slopes on both sides and is primarily suited to schooling. There are half a dozen short tours requiring one to two hours climbing well suited to the novice, while for the more experienced there are others more difficult and of longer duration.

LECH (4,747 FEET).

4 miles further north down the valley from Zürs.

The practice slopes are not extensive and being situated along the river of the same name, more climbing is required for tours than if a higher resort is selected.

OBERLECH (5,540 FEET).

Oberlech is reached by horse sledge from Langen in 3½ hours—charge 27 *sch.* with an additional charge of 4 *sch.* for luggage which goes up the 800 feet from Lech on a rope-way.

The Goldenerberg Hotel can put up 50 people.

The ski-ing grounds are truly wonderful and give great scope for variety over an area some 2 miles across.

Any skier can climb anywhere in this area up to 2,000 feet above the hotel in perfect safety without a guide and on the return journey, finish with a christi outside the hotel door, a convenience pertaining to very few places.

The Goldenerberg ski-ing area, being well up on the south and east slopes of the Mohnenflüh (8,356 feet), catches every ray of sunshine from dawn to dusk. It is a beautiful setting and well worth a visit. There is excellent instruction at the same charges as at Zürs. The chief instructor Harrer is one of the champion ski-racers of Austria.

At the time of my visit there were very few English people at the hotel and any such contemplating a stay would be well advised to go in a party of 8 or 10 for whom all hotel managers throughout Austria are prepared to accept reduced terms. There is no dancing.

ST. ANTON (4,278 FEET).

Retracing our steps southwards we come to St. Anton, the Headquarters of the famous Hannes—Schneider Ski-School, situated at the eastern end of the Arlberg Tunnel.

The Hotel Post is the chief hotel, comfortable and rather expensive.

There are of course other and cheaper places at which to live.

As regards the ski-school all that has been said of the Schneider School at Zürs also applies here.

Though good tours, demanding varying grades of skill, are available, St. Anton is essentially a centre of instruction. But the practice slopes are poor compared with other places *e.g.* Zürs and Oberlech and the elevation being low, snow is not always assured, at any rate before the end of January. Frequently it is necessary to go up to

St. Christoph 3 miles distant either by motor bus or motor sleigh which adds considerably to the expense. Personally I do not recommend it.

St. Christoph (5,900 feet).

Is worth a visit for a day or two but is not worth a prolonged stay.

Galtur (4,249 feet).

To reach Galtur, one must disembark either at Landeck, if by mail, or at Wiesberg if travelling by slow train.

Thence either by private or post motor car or by horse sledge, the latter taking 2½ hours, over a distance of just under 20 miles.

I am told that though Galtur is a fine halting place for a few days on the way through to Switzerland, yet the slopes generally are rather too steep for the average beginner.

Serfaus (4,682 feet).

Serfaus is also reached from Landeck; about 12 miles by bus to Tschuppach on the Upper Inn where one changes to a horse sledge and so up the hill, total journey about 2 hours; cost bus, 6 *sch.*, sledge 8—total 14 *sch.*

Places at which to stay are the *gasthof* Schwarzer Adler or Alpen *gasthof* Furgler; there are others, or apartments if preferred. But that specially recommended by a friend, after many visits, is Kölner *Haus* at Komperdell (6,500 feet), 1½ hours further up the hill past the main village, which can take some 70 people.

Instruction is, as elsewhere, by state certificated ski-trainers and guides.

There are some 30 different tours for the longer of which huts are provided at all convenient sites *en-route.*

Serfaus, enjoying all the available hours of sunshine, is a virtual skiers' paradise and is given up to that pursuit only; there is no skating.

Though fairly easy to reach it is not yet so well known or so well developed as some other places, and is consequently considerably cheaper. There is no dancing, and dinner jackets are unnecessary.

Vent (5,700 feet); Ober-Gurl (6,332 feet).

Some 16 miles nearer to Innsbruck from Landeck is Otztal (slow train) from where comfortable buses take one south up the Otz valley

25 miles to Zwieselstein, from where either Vent or Ober-Gurgl are reached. The bus journey occupies 2 and the remainder 3 to 4 hours.

The glaciers and peaks of the Otztaler Alps, several of which are over 11,000 feet, that can be reached from either of these resorts *via* the many well placed huts are the highest and said by many to be the most beautiful mountains in the Tyrol.

Both at Vent and Ober-Gurgl the nursery slopes are good but the country on the whole is somewhat difficult for the beginner. For the expert nothing could be finer.

KUHTAI (6,000 feet).

Kematen is the station for Kuhtai; $\frac{3}{4}$ of an hour by motor from there to Gries in the Sellrain valley from whence the walk to Kuhtai, in winter an easy ascent on skis, takes about $3\frac{1}{2}$ hours, or can be done by horse-sledge if preferred, cost 20 *sch.* including baggage. If arriving by mail train to Innsbruck the journey by road motor to Gries takes $1\frac{1}{4}$ hours, cost about 20 *sch.* according to fortune; or by motor bus which will take oneself and one's kit at a quarter the cost. To go by road from Innsbruck however may necessitate a halt there for a night.

If desired luggage for Kuhtai can be booked in advance to the Hotel Grieberhof, Gries, Sellrain.

At Kuhtai, situated between the Otz and Sellrain valleys, there is only the one *gasthaus*, a converted hunting-box, the Alpen *gasthaus*, Kuhtai, standing alone on the Pass. There is a post office, a ski workshop, and a ski-school (Arlberg method) with its attendant instructors and guides. In case of accidents—actual illness is rare amongst skiers—Innsbruck is close at hand.

No dancing, and dinner jackets are seldom seen.

Kuhtai offers good snow, long hours of sunshine, and is easy to reach. It is cheap.

Though there are the Hocheder (9,177 feet), Birchkogl (9,288 feet) and Zwolferkogl (9,820 feet) to climb, yet the expert may eventually feel somewhat confined and require longer tours.

But for the beginner who is prepared to climb for his fun it would be difficult to surpass it.

INNSBRUCK (1,890 feet).

Innsbruck is the centre for Tyrolese ski-ing resorts. Its setting, with the great Nordkette range towering above the city, is at once beautiful and arresting.

Daily ski tours in many directions can be done from Innsbruck if desired, but distances are far, time short and conveyances expensive.

Innsbruck has the second largest skating rink in Austria and provides all manner of amusements. Winter sports events, ski-joring, a bob-run, theatre, cinemas, concerts and dancing; but if you go to Austria to ski don't remain in Innsbruck.

GERLOS (4,504 feet).

Eastwards from Innsbruck in $\frac{3}{4}$ of an hour by slow train we reach Jenbach. From here a toy train takes one in 3 hours to Zell-am-Ziller due south and thence due east a 4-hour journey by horse-sledge to Gerlos—third class railfare about 4 *sch.* and sledge 15 *sch.* Total distance, Innsbruck to Gerlos—50 miles.

Hotels are the *Gasthäuser*, Gaspingerhof, the Oberwirth, the Alpenrose, or the Kroller.

The best thing to do is to stay a night in a hotel—obtain a list of apartments available and make your selection for bed and breakfast; thereafter dine at the Alpenrose where the food is better.

Though low, Gerlos, due to something to do with its position, is always assured of snow—and has long hours of sunshine.

There is a post and telegraph office, chemist and ski school.

The nursery slopes are good and the neighbourhood provides some marvellous ski tours many of which can be tackled by the less-advanced, though the return, as one reaches the village, is always through a wood and somewhat difficult. Gerlos is one of the cheaper places, quite suitable for a beginner and thoroughly to be recommended—no cable railway, no dancing and no frills—just ski-ing.

KITZBUHEL (2,640 feet).

An extremely picturesque Tyrolese town some 700 years old, Kitzbühel lies in a broad valley about the centre of the northern confines of the Kitzbühler Alps.

Contrary to popular imagination there are high Alps reaching up to 6,000 feet and more on all sides.

The climate is mild and extremely healthy. The snow conditions are exceptional and for some reason unexplained Kitzbühel has snow before other places of greater elevation.

The scenery is superb.

There are many hotels—*gasthäuser*—*pensions* and apartments. The hotel Weisses Rossel, Hotel Pension Therèse, Hotel Reich, and the Pension Villa Licht are all to be recommended.

The two first named above hotels are conveniently situated near the centre of the town, a few minutes' walk from the practice slopes to which the last named is close by.

The Hotel Reich is in the main street and is where many of the younger generation assemble for the daily tea dance on completion of their ski-ing exertions; it specializes as a café of which there are also others.

Details of the cheaper *pensions*, *gasthäuser*, and apartments can be obtained from the *Reisebureau* in the main street.

If such accommodation be required the best course is to spend a night or more in one of the above hotels while searching for what is required and then transfer when found.

Kitzbühel possesses a hospital and an X-ray institute. There are doctors and dentists, chemists and hairdressers, and all the usual shops pertaining to a large town. The shops are good, and prices moderate. There is of course a ski school which, as at all other resorts, provides first class instructors. As elsewhere the hours of instruction are from 10 to 12 and 2 to 4, *i.e.*, 2 lessons per day at 2·50 *sch.* per lesson. The Arlberg method is taught throughout.

The practice (or nursery) slopes are on the south side of the town and are good, roomy and wide.

There are over 50 different ski-runs round about of all degrees of length and steepness.

If one wishes to ski cheaply, the slopes of the Kitzbühler Horn (6,555 feet), and the Korstein (6,309 feet), on the north provide ample choice for numerous expeditions, tours and daily runs including short climbs which can be done in an afternoon as well as all day excursions.

Several of these tours bring the skier straight back into Kitzbühel, whilst for those which take him further afield, the St. Johann-Kitzbühel section of the railway provides an easy return journey.

For these latter it would probably be advantageous, and undoubtedly cheaper, to move out of Kitzbühel to a previously selected *gasthaus* at some village along the railway, *e.g.*, Griesenau, Hoglern, or Steinbach.

But the crowning convenience of Kitzbühel for those who like to have their climbing done for them is its cable railway (the station is just next the practice slopes) which takes them up to the Hahnenkamm (5,550 feet), a prominent and precipitous ridge on the south side of the town, so called from its resemblance to a cockscomb when illuminated by the first rays of the rising sun.

From this point the skier can travel due south on more or less level ground to the Ehrenbachhöhe (5,922 feet), Pengelstein (6,365 feet), (one hour's further climb), Steinberg-Kegel (6,467 feet) (3 hours) and Kleiner Rettenstein (7,274 feet) yet further on again, from all of which wonderful runs are available—on the east down to a convenient valley and the village of Jochberg (2,986 feet) (among other terminations), whence motor buses run back to Kitzbühel, or on the west to yet another convenient valley and a similar service of motor buses.

The bus-fares vary according to distance but the average may be taken at 80 *gr.* per person.

The most popular runs for the novice, probably due to their being easier and lying full in the afternoon sun, are the Fleck, Ochsen, Kaiser, and Brunn Alps all of which lead down into the town of Kirchberg (2,800 feet) to the north-west in the above-mentioned valley.

In addition to a bus service Kirchberg is also served by a shuttle train service at half-hour intervals—fare 50 *gr.* which is quicker and more comfortable than the bus.

Except at the highest points of the main peaks all the 50 or more ski-runs are over safe ground and are devoid of danger from avalanches.

There are restaurants and huts at various convenient points all over the area where the skier can consume the contents of his nosebag or have a meal made ready and wash it down with the product of the local brewery or other beverage.

The cable car carries 14 people and their skis and the rate of transport at full pressure averages one person per minute so that it

behoves one to be in time. If not, a wait of 2 hours in a queue is not uncommon.

The first car starts up at 9 a.m. daily. The fare is 6·50 *sch.* for a single ticket or an "*abonnement*" containing 10 tickets, which are not transferable, for 50 *sch.*

Including the fare up, a drink at lunch, and the return fare by bus or shuttle train, the cost per run is the equivalent of 5 English shillings.

Those not using the cable railway can climb to the top in about 3 hours from the practice slopes.

In 1929 a fine ski-jump was constructed where international and other ski-jumping contests take place from time to time.

The skating rink is sufficiently large and the ice well kept. A good skating instructor is available and exhibitions are arranged at intervals, but the main interest is ski-ing.

Tobogganing—sleighing—and ski-joring are also available.

Those who wish can dance at one or other of the larger hotels on most evenings. Fancy dress balls are held at frequent intervals.

The devotee of bridge will find ample opportunity for play.

CONCLUSION.

The Arlberg ski-ing technique prevails throughout Austria. Excellent ski-instructors are immediately available at all resorts. The charges already stated are practically universal and are cheap for what one receives in return.

To the smaller and less known places it is best to go in a party as otherwise there is not much to do in the evenings which draw in so quickly in the winter months. By writing in advance considerable reductions can be obtained from all hotels for parties of 6 or more—the larger the party the greater the reduction—for a minimum stay of 3 or more weeks. There is an off-season from the 4th to 24th January when reductions are made to all whether singly or in parties who stay a full 3 weeks during that period—this off-season is said to be due to a lull between the Xmas holidays and the period when the snow begins to be at its best.

The best time for all winter sports is from the beginning of February until the end of March, though most places are sure of snow

before Christmas. Ski-ing can be continued into the middle of May at the higher elevations.

Keen skiers, whether novice or expert, would do well to provide themselves as soon as possible with a copy of the local ski-map.

The days on tour are those best remembered and the harder the climb or the run down, and the greater the exertion, the greater the pleasure in reflection. Thus the great ambition of the novice should be to learn quickly—break away from instruction and get out on tour as soon as possible. But, though it may be fun, just to fall down the hills anyhow is of no value. So pay attention to the teaching and work hard. On the other hand take it quietly and don't overdo it to start with. Except possibly once or twice a week 2 lessons a day is too strenuous. 5 or 6 lessons a week is sufficient and are usually best taken in the mornings allowing time for practice in the afternoons. Everywhere the instruction is rather too accurate and meticulous and with the object of qualifying himself to be fit to go out on tour the novice should learn to " christi " as soon he can reasonably do so—bearing in mind it does not pay to learn to run before one can walk. One golden rule always to be observed on tour is always to follow one's guide accurately. Failure to do so may result in the demise of the offender over a precipice.

All over Austria there is danger from avalanches after new snow —a good deal more so than in Switzerland. But warning notices are always posted in good time by those responsible.

To him who has never skied in Austria before, I would say go to Zürs for 10 or 14 days to begin with. He can be sure of snow from mid-December onwards—and there are slopes for all of every possible steepness. Zürs is I think the best of all for schooling, due in part to Herr Frederick Schneider and the better discipline, but also because the large numbers make for competition and more regular attendance at lessons than other places.

Zürs is a real centre of instruction and invaluable as giving the novice a true perspective and an idea of what he has to learn, but elsewhere the instruction is every bit as good by men just as well qualified to teach. So if he prefers to do so the novice can go elsewhere either straight away or later after an initiation as above.

Having completed some initial instruction at Zürs, a transfer to Oberlech is very easy and inexpensive and well worth going on to for

a week or more. Later, if time permits, a transfer to one of the 3 places named below increases one's experience and knowledge of the country.

The novice who prefers to start elsewhere than at Zürs or those who already have some knowledge of the art, should go to Serfaus (Komperdell)—Kuhtai—or Gerlos and stay there, or at some other resort where there is no cable railway, until they feel they've done enough climbing.

Then go to Kitzbühel for the finish of the holiday and enjoy its advantages.

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NOTE.—*Copies of this article, together with the map and an additional appendix on ski-ing kit and equipment, can be obtained on application to the author at Simla, price one rupee, or V. P.P., one rupee and six annas.*

APPENDIX I.

Table of Train Fares.

(*At Exchange rates existing in February* 1934).

2nd class fares, London to Switzerland :—

Wengen ; single £5-15-2 ; return £11-11-6 ; sleeper £2-19-4 each way.

Davos ; single £7-7-0 ; return £12-12-9 ; sleeper £4-3-9 each way.

St. Cergue ; single £5-19-10 ; return £10-6-4 ; sleeper £3-4-7 each way.

Return tickets are available for 45 days.

2nd class fares, London to Austria :—

Via Calais—Laon—Basle—Buchs :—

St. Anton ; single, £7-17-11 ; return £13-18-5.

Innsbruck, Kitzbühel, Zell-am-See, Salzburg ; single £7-19-11 ; return £14-15-7.

Vienna ; single £10-12-1 ; return £19-19-0.

Fares *via* other routes are slightly less.

The Southampton—Havre route is useful for those living in the West of England.

Through 2nd class sleepers—Calais—Basle—Innsbruck run on Mondays, Wednesdays, and Fridays—cost per berth £2-18-5 each way.

First class fares are 33⅓ per cent. more than the above.

2nd class in France and 3rd class onwards can be combined.

Via Calais—Paris—Basle :—

Innsbruck ; Kitzbühel ; 2nd class to Paris and thence by 3rd class sleeper ; single £8-7-6 ; return £15-10-1.

The 3rd class fare, with second on steamer—Dover—Ostend—Munich—Innsbruck is ; single £5-8-1 ; return £10-16-2.

Return tickets are available for 60 days *via* Ostend, 45 days *via* Calais—Basle, and 30 days *via* Paris.

Children between 4 and 10 years travel at half fare ; if over 10 the full fare is charged.

2ND CLASS FARE, VENICE TO AUSTRIA :—

Innsbruck ; single £2-18-0 ; return £3-14-0, but this return concession is only granted after spending 6 days in Italy. The journey is *via* Verona and takes 11 hours.

2ND CLASS FARE, MARSEILLES TO AUSTRIA :—

Innsbruck, *via* Lyons—Basle ; single £7-7-0. The reduction on a return ticket is small and bounded by various troublesome conditions. The journey takes 21 hours.

RETURN STEAMSHIP FARES FROM AND TO BOMBAY FOR 1934 ARE :—

Via P. & O.—to Marseilles—1st class (off-season, any grade) £95-0-0 ; 2nd class · £65-0-0.

Via Lloyd—Triestino—to Venice—1st class, £86--0 ; 2nd class, £65-0-0.

APPENDIX II.

List of Hotels.

Name of Ski-ing Resort.	Name of Hotel, *Pension* or *Gasthaus*.	Daily charges *en pension* per person.	Whether with fitted h & c in bed-rooms	Remarks.
		Schillings.		
Berwang ..	Hotel Singer	10—15	Yes	
Galtur ..	Hotel Alpenhaus Fluthorn	15—18	Yes	Several apartments 2·50 to 4 *sch.* per day.
	Gasthof Zeinisjoch	12—14	No	
Gargellen ..	Hotel Vergalden	17—20	Yes	
Gerlos ..	*Gasthaus* Gaspingerhof	10—12	No	Numerous apartments 1·50 to 2·50 *sch.* per day.
	„ Oberwith „ Alpenrose „ Kroller	7—8	No	
Innsbruck ..	Hotel Europa „ Tyrol	18—27	Yes	
Kitzbühel ..	Hotel Weisses Rossel	13—18	Yes	Baths, 1·50 *sch.* or daily 10 *sch.* per week.
	„ Pension Theres	14—17		
	„ Reich	14—18		
	Pension Villa Licht	12—16		Many apartments available, 2·50 to 4 *sch.* per day.
	Grand Hotel	23—27		
	Cheaper *Gasthäuser* and *Pensions*.	9—13	No	Details from *Reisebureau*.
Kuhtai ..	*Gasthof* Alpengasthaus	9—10 (Nov.-Jan.) 10—12 (Feb.-April)	h & c in corridors	Baths. 2 *sch.*
Lech ..	Hotel Krone	12·50—14	No	Rooms in private houses 3 to 5 *sch.* per day.
Ober-Gurgl ..	Hotel Gurgl „ Edelweiss	13 12	Yes	
Ober-lech ..	Goldenerberg Hotel	16 (12 in Annexe)	Yes	
St. Anton ..	Hotel Post	18·50—27	Lower charges without h & c	Add 2 *sch.* per day for heating.
	Gasthof Alpenrose	16—25		Daily bath, 15 *sch.* per week. Private lodgings 4 to 6 *sch.* per day.
St. Christoph	*Gasthof* " Hospiz "	17—19	Yes	
Serfaus ..	*Gasthof* Schwarzer Adler Alpengasthof Furgler	7—9	No	Apartments 2 to 3·50 *sch.* per day.
Serfaus (Komperdell) ..	Kolner *Häus*	9—14	h & c in corridors	
Stuben ..	*Gasthof Post*	10—12	No	
Vent ..	Hotel Vent	9—15	Yes	
Zell-am-See ..	Sporthotel Debzelter Hotel Excelsior	10—17		Apartments also available.
	Cheaper *gasthauser*	8—14	No	
Zürs	Hotel Alpenrose „ Lorunser „ Flexen „ Edelweiss	18—22 15—21	Lower charges are without h & c	Baths, 3 *sch.* daily or 17·50 *sch.* per week. There is no private accommodation.

THE BATTLES OF GENERAL SAMSONOV'S ARMY ON THE 26TH, 27TH AND 28TH AUGUST 1914.

By Lieut.-General N. Golovine, c.b.

We must now digress to describe the progress of events with the Vth Corps on the 28th August.

"An army order reached me late in the evening of the 27th ugust (I cannot remember the exact hour)," writes General Martos his "Outline." [1] "The two corps were placed under my general ommand. This order clearly involved some mistake, as the XIIIth orps was at Allenstein on the night 27th-28th August and conseiently could not take part in the fighting on the morning of the 3th, as it would first have to complete a march of 30 versts.

"After issuing all necessary instructions to the troops, including ders to a brigade of the XIIIth Corps to turn the left flank of the iemy position, I yet could get no sleep, as I was seriously alarmed the situation which so vividly depicted itself on the evening of the 7th August. It was plain to me that the Staff of the Army had orrected itself too late, and that any success that might have been ttained on the morning of the 27th could not still be hoped for on ie evening of the 28th, the more so, as the XIIIth Corps would be tterly exhausted after marching 60 versts in these two days. On ie evening of the 27th I had received a report to the effect that the erman cavalry had destroyed our telegraph line to Yanov at several oints. I thought over the problem of withdrawing the corps, and ie question appeared to me extremely difficult, although I still had ne brigade in reserve."

"Towards midnight the firing had died down, but at 2 a.m. I emarked an increase in rifle fire, directed against a hollow on the ft flank [2] of the fighting line of the corps."

"I realised at once that the Germans were trying to break irough here, and therefore quickly transferred Novitsky's brigade he general reserve of the corps) to the left flank, and was with it iyself until sending it to attack. I also ordered the Inspector of rtillery to concentrate a howitzer group and the batteries nearest his flank for the bombardment of the hollow."

"My surmise turned out to be correct: at earliest dawn the ermans delivered a vigorous attack in the direction of the hollow, ut were met by a hurricane fire from our artillery, whose shrapnel, nd especially that of the howitzer group, mowed down whole ranks f their dense and ordered columns. The German infantry, having ucceeded in breaking through along the hollow, were attacked by

[1] pp. 15, 16 "Outline of the operations of the XVth Army Corps in Eastern russia in 1914." Manuscript in the possession of the author.

[2] At Waplitz. (Author's note).

Colonel Novitsky's brigade, the majority annihilated with the bayonet, and part taken prisoner (1 staff officer, 17 officers, and about 1,000 men). The break was mended by about 9 a. m.

"Not to weaken the ranks of the infantry, I sent mounted Cossacks to escort the prisoners out of the fighting line, and at about 10 a. m. the prisoners in column, with the officers at the head, marching as though on parade, reached the hill upon which I had stationed myself and my staff to issue instructions and observe the fighting. At this moment, to my surprise, General Samsonov having arrived from Neidenburg, reached this same hill, but from the other side, riding on horseback with his staff. While I was explaining the situation to the Army Commander, he interrupted me and, pointing to the German column, asked me what it was. I replied: 'Prisoners, captured in repelling an attack which penetrated our lines this morning.' He then reined his horse up against me, embraced me, and said sadly: 'You alone will save us.' This phrase struck me unfavourably. I knew only of Artamonov's retreat, and had been comforting myself with the thought that the army had received a new reserve, the 2nd Division having just been put into the line. [1] On further conversation it turned out that the army had only been reinforced by the Kegsholmsky Guards' Infantry Regiment, which, together with a brigade of the 6th Cavalry Division, was defending Neidenburg in face of the strong enemy forces advancing from the West after dealing with Artamonov.

"Here I think I should mention that the army cavalry, consisting of the 6th and 15th Cavalry Divisions, had given the Staff of the Army timely warning as to the movement of large German forces from the West in the direction of Hohenstein and Neidenburg. But this information had not been credited, but had been thought to be exaggerated in the extreme.....

"It was clear that the situation demanded an immediate retreat on the part of the XIIIth and XVth Corps, and I stated this to General Samsonov in the presence of members of both staffs—Army and Corps. However, General Postovsky persuaded him to await the arrival of the XIIIth Corps, still hoping for victory.[2] Incidentally, this was already the third day of the XVth Corps battle, and whilst the enemy was growing stronger, by the evening of the 28th August the corps would have exhausted all its reserves, and in consequence of its heavy losses and the extreme exhaustion of the men had begun to get stale.

"About 3 p. m. a disorderly retreat of infantry on our right flank was observed from the hill upon which we were vainly awaiting the appearance of the XIIIth Corps. Following on this, arrived the

[1] General Martos apparently refers here to the units of the 2nd Infantry Division which had taken part in the attack against the 41st German Infantry Division, advancing from the direction of Frankenau.

[2] We think that in the given case General Postovsky, the Chief of Staff, having in view the local conditions, was rightly influenced by the consideration that it was impossible to leave to its fate the XIIIth Corps, coming up from Allenstein. (Author's note).

officer of the General Staff who had been sent by me to the brigade of the XIIIth Corps; he reported that the troops of this brigade, after commencing the advance, had come under a heavy artillery fire and had fled, abandoning in their flight not only their equipment, but even their rifles, and that this disorderly mob had invaded the L. of C. organisations of the XVth Corps, and were creating a panic amongst the transport. The Commander of the artillery group which had been with this brigade now arrived, and reported that he had lost his guns, as the infantry had abandoned them.

"General Samsonov despatched the available officers of his own staff to re-establish order in the brigade. In about two hours time these officers had succeeded in collecting approximately one battalion each from the 3rd Narvsky and 4th Koporsky Infantry Regiments, with some officers, and in bringing them up to the Army Commander in good order. General Samsonov addressed a speech to them, and then ordered them to be put in reserve behind my corps, and in front of the point occupied by us.

"Finally, Captain D., who had been sent by me to meet General Klyuev, arrived and reported that German patrols were moving about between our corps, and that he had got through with difficulty (he was on a German cavalry horse, as his horse had been killed in a skirmish). General Samsonov despatched orders to the XIIIth Corps to advance with energy."

"A short time later when dusk had already descended, Klyuev opened artillery fire, to which the Germans immediately replied from Westward of Hohenstein. Alongside the artillery positions, both German and Russian, fires started up, as always happens, and thereafter the XIIIth Corps advanced no farther.

"I turned to General Samsonov with the words: 'Now we must expect a catastrophe.' A deliberation began. General Postovsky was silent. I proposed a retirement on Khorjele. General Samsonov objected that this point had been occupied by the German troops pursuing the VIth Corps. [1] In his opinion the XVth and XIIIth Corps and the remnants of the 2nd Infantry Division should retreat on Neidenburg, which was being defended by the Guards' Regiment and by a brigade of the 6th Cavalry Division. I said no more, as it was necessary to settle on some plan. They began to write orders. Meanwhile General Samsonov called me aside and told me that after issuing instructions to my corps I was to follow with all speed to Neidenburg, to take measures for the determined defence of that town, sending there the first units to arrive, to assist the infantry and cavalry defending that town. There had hardly been time to hand me the Army Orders, and despatch them to Klyuev and Mingin,[2] when the Germans opened fire from the direction of Hohenstein on the rear of the XVth Corps positions, and upon the hill on which the staffs were. Panic immediately broke out in the Koporsky and Narvsky Regiments, and these

[1] Khorjele had not been occupied by the Germans. (Author's note).
[2] The Commander of the 2nd Infantry Division.

units took to flight. General Samsonov rode off with his staff, and I stayed to write orders for the corps. When the officers sent by me to the divisional commanders had returned with the acknowledgments for these orders, I and my staff, with an escort of one sotnia, moved off at a walking pace along the road to Neidenburg. The night was dark and warm. After about an hour we perceived the Staff of the Army resting around some buildings at the side of the road. I rode up to General Samsonov, who seemed to me to be calmer. He again spoke to me aside of the serious position we were in, and said that it was still possible to get out of it if we held Neidenburg."

But on the evening of the 28th Neidenburg was already in German occupation. The brigade of the 6th Cavalry Division had proved unable to execute the task demanded of it, which was quite beyond its strength, and the inconsiderable remnants of the 2nd Brigade of the 2nd Infantry Division, which had retreated on Neidenburg in complete disorder the day before, were of no fighting value on the 28th August.

As we know from the above quoted Second Army Orders for the 28th, the task set the XXIIIrd Corps was as follows :

" The XXIIIrd Corps and such units of the 3rd Guards' Division as have arrived must at all costs maintain their position on the front westward of the village of Frankenau. A brigade of the 6th Cavalry Division is being placed under the orders of the Commander of the XXIIIrd Corps."

These lines of the Army Orders cannot but fail to arouse the greatest astonishment on the part of the reader. Indeed, by no manner of means is it possible to understand words " position westward of the village of Frankenau " to include any reference to the defence of the approaches to Neidenburg running southward of Lake Kownatken. The position at Frankenau, which was to the north of Lake Kownatken, was right away from the roads leading from the Gilgenburg area to Neidenburg. General Kondratovich, the Commander of the XXIIIrd Corps, was in a difficult position owing to the fact that on the 29th there were in reality only three infantry regiments at his disposal (the 1st Brigade of the 2nd Infantry Division and the Kegsholmsky Guards' Regiment, with the 2nd Artillery Brigade, one battery of the 3rd Life Guards' Artillery Brigade and the 23rd Howitzer Group) and one cavalry brigade (of the 6th Division). The remnants of the 2nd Brigade of the 2nd Infantry Division did not represent a fighting force. Thus, all that General Kondratovich could do to amend the blunder of the Staff of the Second Army, in leaving Neidenburg completely open from the West, was to leave the brigade of the

6th Cavalry Division in the area to the south of Kownatken. But the task imposed by Army Orders—to hold on to their position to the west of Frankenau—was splendidly fulfilled by the three regiments of the XXIIIrd Corps. As soon as the Germans were ascertained to be advancing into the Waplitz area, the 1st Brigade of the 2nd Infantry Division undertook a counter-offensive against the Germans who were in contact with their left flank. More than a thousand prisoners and many guns and howitzers fell into the hands of our gallant infantry. But there was, of course, no question of any further development of this success. The 1st Brigade of the 2nd Infantry Division was at very low strength after the losses suffered in the fighting of the 26th August.

Shortly after noon it was ascertained that a German Infantry Division was attacking Rontzken. Numerous German guns were firing in support of this attack, which General Kondratovich could only oppose with the Kegsholm Life Guards' Regiment. The huge superiority in strength on the German side forced this regiment to retreat, but it disputed every yard, retiring in the general direction of Lahna. Neidenburg still remained unprotected. One can only be amazed at the way the Germans allowed themselves to be mystified up to 3 or 4 p.m., by General Baron Sctempel's thin screen of cavalry.[1] Many of the L. of C. formations of the army still remained in Neidenburg.

These same Army Orders for the 28th August required the 1st Corps "at all costs to maintain its position in front of Soldau, in order to safeguard the left flank of the army." In the situation which had arisen, the essential point was not the safeguarding of the left flank of the Army, but the defence of the lines of communication of the centre corps, and this task, so vital at this moment, was not to be executed in the Soldau area, but, as we have seen, in the Neidenburg area.

But on the 28th August the divisions of the 1st Corps were suffering from the effects of the defeat inflicted upon them the day before, and their morale and powers of resistance were quite undermined. The leaders of the corps were in no better state. General Artamonov, removed on the 27th August from the command of the corps, had been replaced by General Dushkevich (the Commander of the 22nd Infantry Division). The state of morale existing in the 1st Corps not only

[1] One cannot help recalling the reproaches blatantly directed by the Germans against Rennenkampf's army, for allowing itself to be mystified on the day following the battle of Gumbinnen.

was unfavourable to the display of any initiative or activity, but even affected the further withdrawal of the troops of this corps to Mlava. As we know already, on the evening of the 27th only a rearguard (consisting of the three regiments of the 1st Rifle Brigade, one regiment of the 3rd Guards' Infantry Division and one regiment of the 22nd Infantry Division, with 5—6 batteries) had remained behind on the left bank of the River Neide. The remainder of the 1st Corps, disorganised by battle and retreat, had been assembled on the road from Soldau to Mlava. This was the state of affairs which coincided with the transfer of the command of the corps to General Dushkevich, on the dismissal of General Artamonov. In view of the disorganisation which existed in the staff work of the corps, this period of transition could not but have its effect on the further operations of the corps. The vacillation in the control of the corps was rendered worse by the circumstance that Army Orders for the 28th were not received by the Staff of the Corps during the 27th, and consequently the Staff prepared orders for the further retirement of the Corps to Mlava, with a rearguard at Mlava. The hour for the retirement was not named, but doubtless this decision on the part of the Corps Commander had its effect in weakening the determination of the rearguard left in front of Soldau. This rearguard, composed of units of three different divisions, possessed certain intrinsic elements of weakness. Nevertheless when an offensive by superior forces, supported by a numerous artillery, commenced from 5 a.m. against General Sirelius' rearguard, his units held out till 10 a.m. after which with both their flanks enveloped, and under a German artillery fire which completely dominated their own, the units of the Russian rearguard retreated behind the stream at Soldau having evacuated the town of Soldau itself at 11 a.m.

On the 28th August information reached the Staff of the 1st Corps to the effect that the Germans were advancing in an eastward direction on Neidenburg. However, in consequence of the disorganisation in the control of the corps, no action was taken by it.

We have stated above, that from the moment General Samsonov moved to Nadrau, the control of the Second Army for practical purposes ceased to exist. In the orders for the retreat, issued by General Samsonov on the evening of the 28th August (it has not been possible to determine the hour of issue), the army was ordered to retire to the front Ortelsburg—Mlava, while the 1st Corps was ordered to take the

offensive against Neidenburg. General Samsonov reported these instructions to General Jilinsky; this report was received by the Staff of the Army Group at 9-10 a.m. on the 29th August. Probably this was the time at which was despatched the telegram to which General Jilinsky refers in his report dated the 31st August 1914, No. 3052, wherein it was stated that upon the receipt, by the Staff of the North-Western Army Group, of the report regarding the retirement of the 1st and VIth Corps, General Oranovsky telegraphed to General Samsonov; "General Jilinsky orders the withdrawal of the Corps of the Second Army to the line Ortelsburg—Mlava, where the Second Army is to be reorganised. 2521." "But," adds General Jilinsky, "the telegraph, apparently, was not working."[1]

This is the most complete picture that can be given of the battles of the 28th August, as they appeared from the Russian side.

Let us see whether the Germans found it easy to advance on this day, the 28th August. Even on the 27th complete encirclement had been rendered fully possible by the strategic situation created on the battlefield; both Neidenburg and Passenheim lay unprotected. It might well have seemed that the Rusians would not even receive respite to the 28th August.

To commence with the German right flank. As early as 7-30 p.m. on the 27th General François, the Commander of the 1st German Army Corps, issued the following orders:—

"Under the direction of General Meves, the neutralisation of the Russian batteries at Soldau is to commence at dawn. The infantry of the divisions and of both Mühlmann's and Schmetau's detachments are to occupy jumping-off lines for the attack on Soldau. The time of commencement and order of the attack will be announced to-morrow at 6 a.m., on Hill 202, to the west of the Usdau main road. Send officers to receive the orders for the attack."

At 6 a.m. the field of battle was still covered with mist, but this soon after dissolved, and General Meves' artillery immediately commenced preparation upon the whole front.

At 6-40 a.m. General François issued orders for a general attack by the units of the corps in the fighting line.

"The 1st Infantry Division with Schmetau's detachment is to commence the attack on Soldau from the line Fylitz—Klenzkau—Schönwiese.

1. "Brief strategic outline of the war of 1914—1918," Vol. I, p. 100, published by "Voennœ Delo," Moscow.

"The 2nd Infantry Division is to await my orders at Gross Tauersee.

"Mühlmann's detachment is to seize Pierlawken, and to get into touch there with the 1st Infantry Division."

At the same time the Commander of the 8th Uhlan Regiment (of the 1st Infantry Division) with one battery and a detachment of cyclists from the 43rd Infantry Regiment supporting them, was ordered to advance through Grosse Koslau on Neidenburg.

These instructions led to an engagement between the rearguard of the Russian Ist Army Corps, which consisted of 5 regiments and 5—6 field batteries, and two German Infantry divisions (the 1st, Schmetau's detachment and Mühlmann's brigade) with 16 field and 8 heavy batteries. Thus the Germans had a more than *quadruple* superiority in fire strength.

While this unequal battle was in progress, at 8 a.m., the Staff of the Army enquired of the Staff of the Corps concerning the state of affairs. The latter replied that the 1st Division had been despatched against the *weak* Russian force at Soldau, and that the 2nd would be sent to Neidenburg. Following on this came a telephone message from the Staff of the Army: "Orders to the 1st Corps. The Army Commander attaches special importance to the earliest possible occupation of Neidenburg by the 1st Corps, and of Willenberg by the cavalry."

After stubborn fighting Soldau was captured at 11 a.m.

"In view of the favourable course of the battle," writes General François in his memoirs,[1] "I detained General Schmetau's detachment on the outskirts of Klentzkau, and held the 2nd Infantry Division at Gross Tauerzee in full readiness to march. I decided to move Schmetau's detachment and the 2nd Infantry Division on Neidenburg in order thereafter to occupy with detachments the 36-verst main road Neidenburg—Willenberg, in order to cut the line of retreat of the Army of the Narev. The 1st Infantry Division, immediately after the capture of Soldau was to go to Neidenburg and form my reserve there, but I left Mühlmann's detachment at Soldau, to keep the line of the River Neide in their hands."

"But it fell out otherwise. Major Massov arrived by car and brought the following orders from the Staff of the Army:—

Frogenau, 28/8 9-10 a.m.

The 41st Infantry Division has been thrown back on Wronowo by the enemy. The Ist Army Corps must immediately send the division assembled at Schönkau, to Rontzken, to avert by means of their advance a break through on the part of the enemy.

1. "Marneschlacht und Tannenberg," pp. 216, 217.

The active units in Schmetau's detachment are to attack immediately in the same direction. The Army Commander insists on the instant execution of these orders. Haste is essential. Report when the division will march."

We can tell from these orders how gallantly the troops of the Russian XVth Corps and 2nd Infantry Division must have fought. Instead of continuing the manœuvre against Neidenburg and the rear of Samsonov's army with the whole of their Ist Corps, the efforts of the Commander of the Eighth German Army were directed towards pushing General François' Corps up on the right flank of the XXth Corps. The gallantry and energy of the Russian troops again concealed from the eyes of the German Staff the disastrous nature of the strategic situation of the Russians. By deflecting the free division of the Ist Army Corps from the direct road on Neidenburg, Ludendorff postponed the occupation of this extremely important road junction, and consequently, removed the possibility of an early occupation of the main road Neidenburg—Willenberg by the leading units of the 1st German Corps.

At 1 p.m., General François received new orders from the Staff of the Eighth Army.

"28/8, 12-25 p.m.

"The Ist Army Corps is to assist the 41st Infantry Division, which is apparently retreating from Wronowo. The corps is also to continue the general pursuit in the direction of Lahna. The Ist Army Corps will render great service to the army by operating in accordance with these instructions."[1]

General Ludendorff makes no reference in his memoirs to the two sets of orders written by him which have been quoted above; but he mentions the defeat of the 41st Infantry Division.[2]

"On the morning of the 28th we travelled to Frogenau, where we established ourselves in the open air at the exit to the village. General von Scholtz was in the vicinity. A poor telephone line served as communication with the 1st Army Corps. There was no possibility of establishing communication with the other corps.

"Our first impressions were in no wise favourable. Neidenburg had not yet been occupied. The 41st Infantry Division had been attacked at Waplitz and repulsed. It had suffered very severely, and was now to the west and extremely apprehensive of an enemy counter-attack. I sent an officer there by car. On his return he reported that the situation of the division was poor. On the Mühlen side the Landwehr had not pushed forward. The state of affairs on the right flank of the XXth Corps might become serious, should the enemy deliver a concentrated attack. At the least this would protract the battle."

1. "Marneschlacht und Tannenberg," p. 218.
2. Ludendorff, "Meine Kriegserinneruregau," pp. 41, 42, 43.

One thing certain is that, impressed by the fighting of the Russian XVth Corps and the units of the 2nd Infantry Division, the Staff of the Eighth Army had become nervous and was depicting the situation to itself in lurid colours. But General François realised clearly that, to encircle the central corps of Samsonov's army, the line of operations of the 1st Army Corps should be one, not on Lahna, but on Neidenburg. To Lahna he sent his 2nd Infantry Division, which became engaged with one Russian regiment (the Kegsholmsky Life Guards) in the Rontzken area, but he sent the 1st Division, which by now had become available at Soldau to Neidenburg, incorporating it in Schmetau's detachment. Thus it ensued that when the alarm in the Staff of the Eighth Army had passed, and when at 2-30 a. m. Captain von Waldow of the General Staff arrived thence with General Hindenburg's orders for an energetic pursuit in the direction of Neidenburg—Muschaken—Willenberg, the German 2nd Infantry Division and Schemetau's detachment had already marched in this direction, and thus the agitation in the Staff of the Army had had no effect upon the operations of François' Corps. Immediately after the occupation of Neidenburg (at about 4 p.m.) General François pushed his 1st Infantry Division on to Muschaken and Schmetau's detachment on to Willenberg, but diverted the 2nd Division to Grünflies.

On the 28th August the following German forces were assembled in the area northward of Lake Mühlen:

(*a*) Unger's Division, which had been deployed in a position between Mühlen and Nieder-Wolla, on the River Drewenz.

(*b*) The 3rd Reserve Division, which had one brigade deployed between Nieder-Wolla and Kirsteinsedorf, and the other echeloned in rear as the Divisional Commander's reserve. The control of both divisions (Unger's and the 3rd Reserve) on the 28th August was united in the hands of General Kurt von Morgan, the Commander of the 3rd Reserve Division.

(*c*) The 37th Infantry Division had reached the Reichenau area at 6 a.m. on the 28th; the German Command though now aware that General Unger's units were holding their ground, had not sent this division back to its former line, but had moved it further towards the inner flank of the 3rd Reserve Division. The motives governing such a decision were apparently: (1) fear of the possible appearance of the Russian XIIIth Army Corps from the direction of Allenstein; (2) the desire to give backbone to the 1st Landwehr Division, which was arriving on the battle field from Osterode.

(*d*) Von der Goltz' 1st Landwehr Division had commenced detraining at Biessellen.

On the 28th August all these forces were ordered to assume the offensive against the Russians in the Hohenstein area. Unger's Division, the 3rd Reserve and the 37th Infantry Divisions were directed against the front Paulsgut—Hohenstein, and General von der Goltz' Division was to execute an advance, with the main road from Hohenstein through Manchengut, leading to the main road between Grieslienen and Hohenstein, as its axis. The 1st Landwehr Division was thus to turn the position of the Russians in the Hohenstein area from the north, cutting them off from assistance from the direction of Allenstein. The turning of the Russian position in the Hohenstein area from the south was to be accomplished by the 41st Infantry Division, whose orders were to advance in the direction of Waplitz. We already know of the complete defeat inflicted on this division. The German Command must have regretted exceedingly its unnecessary nervousness on the 27th, the result of which was that the line of retreat of the XVth Corps still remained open.

At 7 a.m. on the 28th, the German artillery commenced the battle in the area northward of Lake M hlen. The Russian XVth Corps held out stoutly in the sector along the River Drewenz between M hlen and Dröbnitz. This fact stands forward, if only by the extract quoted above from Ludendorff's memoirs ".....our first impressions were in no wise favourable....The Landwehr at Mühlen had not pushed forward.....".)[1] About 9 a.m. debouching from

[1] The type for this book had already been set up, when the author received a new document relating to the military operations of the XVth Corps. This document was the diary of Colonel Jelondovsky, who was with the 6th Artillery Brigade. This is the Colonel's description of an episode in the fighting before Mühlen on the 28th August. "About 8 o'clock, out of the strip of forest before the front of the central group of our batteries, and to the North, lines of men suddenly appeared: they were undoubtedly Germans. The batteries opened fire. The German infantry continually advanced towards us. Here and there between the puffs of the shrapnel bursts, groups of riflemen could be seen getting up and running swiftly forward. The target decreased. Nothing could be seen from the battery, but everyone realised that the enemy was approaching. The fire of our batteries on our right was masked by the sixth battery. To fire over it at short range was dangerous. Soon we had to switch the fire of the right flank of our section to the left, lest we should hit our own men with flying bullets in case of premature bursts. Already our sights were set at 12. We should soon have had to change to case. But suddenly the ranges began to increase, considerably faster than they had decreased. The attack had been repulsed. The 6th Battery fired a few more rounds and silence descended. The battery commander informed us by telephone that the remnants of the German Infantry were fleeing into the forest. But then again came orders, again rapid fire, again the range diminished not however reaching the previous minimum. The Germans were beaten off for the time, and so the conviction grew that they would not attack us again. Even the Battery Commander from behind the observation point took a few paces towards the battery and shouted: "Thanks for your seplendid work. The attack has been repulsed." The gunners gave a loud cheer in reply, and their caps flew in the air. I asked the Battery Commander's permission to ascend to the observation point and observe the result of our work, and having received it, in a few minutes I was observing through Zeiss glasses. The clouds of smoke from the shellbursts were still slowly dissolving, gradually revealing the passage between the bushes, and there lay the bodies of the killed, and the wounded crawling like worms. Many could be seen between the bushes...."

the forest to the north of Hohenstein, the units of Von der Goltz' Division commenced an attack on the heights lying to the north of Hohenstein.[1] Simultaneously the 6th Reserve Brigade (the 3rd Reserve Division) advanced from the South-West, from Kirsteinsdorf, on Hohenstein, and the 3rd German Infantry Division followed close behind it along the main road Reichenau—Hohenstein. We can thus determine with certainty the fact that the 2nd Brigade of the Russian 1st Infantry Division (the XIIIth Corps), which had been ordered by General Martos to turn the left flank of the German position on the River Drewenz, found itself in its turn suddenly caught between the pincers of the 1st German Landwehr Division (on the North-East) and the 6th Reserve Brigade of the 3rd Reserve Division (on the South-West). As will be recalled, General Martos asserts that the Staff of the XVth Corps only learnt of the retirement of the 2nd Brigade of the 1st Infantry Division at 3 p.m. Consequently this Brigade held out for several hours to the West of Hohenstein, with the enemy outflanking it on its right flank to a great depth, and its "flight" only took place after an obstinate struggle with an enemy many times its superior in strength, and under extraordinarily difficult tactical conditions. Indeed, it could not have been otherwise, for only thus could it have been possible for the right flank of the XVth Corps to remain till 2—3 p.m. on the River Drewenz. This in no wise detracts from the gallantry and determination of the units of the XVth Corps on the 28th August, to which all the German authorities testify, without exception. But the circumstance that the German 37th Infantry Division and 1st Landwehr Division did not develop their outflanking movement, and did not cut off the units of the XVth Corps, can only have been the result of their encountering *en-route* the resistance of the Narvsky and Koporsky Infantry Regiment, possibly badly organised, but in any case a gallant resistance.

Judging from German authorities, the 5th Reserve Brigade of the 3rd German Division only succeeded in obtaining possession of Dröbnitz and the adjacent heights "in the first hours of the afternoon" and "after a desperate struggle with an enemy who clung fast to his ground."[2] Also General Unger's attacks in the Mühlen area were at first vain. After the capture of Dröbnitz the 5th Brigade of the 3rd

[1] Schwarte, p. 305.

[2] "Bei der um Hohenstein fechtenden deutschen Kampftgruppe hatte in der ersten Nachmittagstunde die 3 reserve-division nach hartem Ringen mit dem sich zahe zur wehr setzenden Gegner Drubnitz und die Hohen beiderseits des Dorfes genormen." Der Grosse Krieg, 1914-1918," Schwarte, p. 307.

German Infantry Division was sent to the front Lichteinen—Königsgut, in order to outflank the centre of the Russian XVth Corps from the north; the other brigade (the 6th), as we have already stated, was sent towards Hohenstein, to be exact, to the front Konigsgut—Sauden, and General Unger was ordered to renew the attack in the Mühlen area.

Hohenstein was occupied about 12 noon by units of the 75th Landwehr Regiment of the 1st Landwehr Division,

The determined resistance offered by the retreating troops of the XVth Corps had its effect; during the night and the whole of the day following no attempts at active operations on the part of the Germans were remarked, and General Martos' troops disengaged themselves entirely from the troops of General von Morgen.[1]

Von der Goltz' Division got into a very critical situation after engaging in action with the Russian XIIIth Corps. [2] The Germans explain this as having been due to the paucity in artillery of the 1st Landwehr Division (which had 2 field and 2 heavy batteries).

The encirclement of the Russians in the Hohenstein area, as conceived by the Staff of the Eighth Army, had thus completely failed. After shiftings and undulations of the German and Russian fighting lines, the fronts of the opposing sides now extended parallel to one another: the German, between Compitten and Thurau, the Russian, between Grieslienen and Frankenau. The exploits of the Russian troops and the skill of their commanders in the line, and especially of General Martos, had again done all that was possible to defer the catastrophe brought about by mistaken strategy, forcing the Germans to close their fighting line in towards the centre and to withdraw the nearest units on the encircling flanks.

But on the 28th August new and important German forces were approaching the Hohenstein battlefield from the east.

As already stated, on the evening of the 27th August the Germans had withdrawn one of their left flank corps (the 1st Reserve) to the area Patricken—Gross Purden. Impressed by the energetic operations of our XVth Corps, and by the occupation of Allenstein by our XIIIth Corps, the Staff of the Eighth Army decided on closing in towards the centre their XVIIth Corps also, and on issuing orders

[1] From the recollections of an officer of the General Staff of the 8th Infantry Division. (Manuscript in the possession of the author).
[2] Schwarte, p. 307.

to the 1st Reserve and XVIIIth Corps for a combined attack on the 28th August against the Russians at Allenstein. It was stated in these orders that, should the enemy wheel southward, the right flank of the corps was to be advanced on Stabigotten, and, in addition the XVIIth Corps was ordered "to continue the pursuit on Willenberg."

It is quite logical to suppose that the pressure experienced by the Germans owing to the energetic operations of the Russian XVth Corps, together with the unnecessary nervousness displayed by the Staff of the Eighth Army, apparently emanating from Ludendorff himself, caused the closing in on the centre of the whole of the left flank of the army, the line of retreat south-eastward of the central corps of Samsonov's army being thus un-covered.

In fulfilment of the abovementioned orders from the Staff of the Eighth Army, the 1st Reserve Corps was directed against the Russian XIIIth Corps, which on the 27th August was at Allenstein. However, the Commander of the XVIIth German Corps decided to move on Wartenburg, in order to deploy northward of the 1st Reserve Corps, and the pursuit of the Russian VIth Corps retreating southward was entrusted to General Hanna's Detachment (consisting of 3 battalions, [1] 3 batteries and 2 squadrons), which was marched on Ortelsburg. We thus see that on the 28th August the Russian VIth Corps was retreating not from real enemies but from imaginary ones. Another feature is also noteworthy in this connection—the large margin of safety employed by the German Higher Staffs in all calculations relative to operations. Until the final defeat of the enemy every effort was directed towards the concentration of further masses of troops on every battle field upon which the issue lay undecided.

Taking into consideration the fact that the XVIIth German Army Corps could not arrive before noon, General Belov, the Commander of the 1st Reserve Corps, decided to commence the offensive on Allenstein only at 10 a.m.[2]

However, at the very commencement of the movement, an aeroplane dropped new orders from the Staff of the Eighth Army, timed 9-45 a.m., instructing the 1st Reserve Corps to proceed by the most direct route and attack without delay on the front Stabigotten—

[1] The 176th Regiment, which had suffered heavily at the battle of Gumbinnen and was not yet up to strength.
[2] Schwarte, p. 306.

Grieslienen. The order was concluded by the words "For urgent execution." General Belov then wheeled the corps sharply south-westward: the 36th Reserve Division through Gross Bertung on Darethen, the 1st Reserve Division through Zasdros on Stabigotten. No mention was made of the XVIIth Corps in these orders. General Belov suggested to the Commander of the XVIIth Corps, General Mackensen, that he also should march south-westward on Jedwabno, *i.e.*, on the left of the 1st Reserve Corps, but General Mackensen did not agree to this and held to his former decision—to march on the right of the 1st Reserve Corps. He sent Captain Wartenswerfer by aeroplane to report to the Staff of the Army, and kept his corps halted at Wartenburg.

The 1st Reserve Corps, marching in the direction ordered, cut the lines of communication of the Russian XIIIth Corps. The 36th Reserve Division sent a detachment to occupy Allenstein, where a part of the transport and a battalion of Russian Infantry were captured.

In the Darethen area the 1st Reserve Corps encountered the resistance of the rearguard of the XIIIth Army Corps.[1] Despite the collossal disproportion in strength, this rearguard succeeded in delaying the further advance of the Germans across the lines of communication of General Klyuev's troops, but only at the price of its own sacrifice. Operating against the Dorogobujsky Regiment were the advance guards of the 36th and 1st Reserve Divisions, reinforced by the 21st Reserve Regiment—a total of 10 battalions with 6 batteries.

At 2-35 p.m. Colonel Forman (of the Staff of the Army) handed the following orders to the Staff of the XVIIth Corps: "The main body of the XVIIth Corps is to pursue towards Ortelsburg. A detachment of the maximum possible strength to move on Jedwabno. The cavalry to move on Johannisburg—Rudschanny. Pursue to the last gasp (bis zum letzten Atemzuge). Forward." General Mackensen then wheeled southward from Wartenburg. By evening his division had reached the line Gross Purden—Klein Rauschken.

In addition to the detachment sent earlier to Ortelsburg, General Hanna despatched:—

To Grammen—Colonel Steikeller's Detachment to Passenheim and Narathen—the 5th Hussar Regiment (the cavalry of the 36th German Infantry Division).

[1] The three battalions of the 143rd Dorogobujsky Infantry Regiment.

At 5-30 p.m. on the 28th August the following orders for the Eighth German Army were issued from Tannenberg:

"As far as can be ascertained from the reports received up to now, the 1st Russian Army Corps is in full flight through Mlava towards Warsaw; the XXIIIrd, XVth and XIIIth Army Corps are scattered through the forests to the south-east of Hohenstein and Allenstein; the VIth Russian Army Corps, one division of which has been annihilated entire, is in full flight through Ortelsburg.

"The 1st Army Corps is pursuing through Muschaken—Kaltenborn in the direction of Willenburg and Myshinets. The transport and parks are echeloned along the road Neumark—Usdau.

"The XXth Army Corps with the 3rd Reserve Division is pursuing through Jedwabno towards Ortelsburg.

"The Landwehr battalions of Von der Goltz's Division belonging to the XXth Corps are to be assembled at Hohenstein, where this division will be quartered; the supply of rations and ammunition to this division will be carried out by the XXth Corps.

"The units from fortress garrisons and the units of the 70th Landwehr Brigade which are with the XXth Corps are being assembled in the Waplitz—Hohenstein area.

"The units and parks of the XXth Army Corps are forming echelons along the road Lobau—Gilgenburg—Gross Gardienen, and those of the 3rd Reserve Division along the road Osterode—Hohenstein.

"The 1st Reserve Corps will remain for to-day where it now is, but to-morrow morning it is to march by the road Dietrichswalde—Allenstein. Transport and parks in the Dietrichswalde—Alt Jablonken—Locken area, with echelons to Monrungen. The 1st Reserve Corps must put out outposts on the Wartenburg flank.

"The XVIIth Army Corps is to be concentrated on the western bank of the River Alle between Jonkendorf and Guttshtadt, Outpost line on the Seeburg flank. Tr nsport and parks at Bruckdorf and Liebstadt, with echelons to Preussisch Holland.

"The 1st Cavalry Division is to remain in the Bischofsburg—Seeburg area, and is to advance one brigade through Lëtzen to reconnoitre the area to the east of the Lakes and determine the whereabouts of the Russian IInd Corps, which must be retreating on Grajevo.

"The Staff of the Army will remain at Osterode."

Although these orders are of the greatest interest in studying the methods by which the Germans conducted the operations against Samsonov's army, in his memoirs Ludendorff does not let slip so much as one word concerning them. Describing the course of events with the Staff of the Army during the second half of the 2 th, he writes: "In the afternoon the situation changed to our advantage. To the west of Hohenstein the 3rd Reserve Division, and afterw rds the 37th Infantry Division, pushed forward. Von der Goltz' Landwehr

Division occupied Hohenstein, and it seemed as if the enemy front had given way. General Hindenburg and I had intended to go to Mühlen by car, but we immediately became implicated in a brief panic, caused by the Russian prisoners, who were being brought in in large numbers. This panic produced a bad impression and spread far to the rear.[1]

"We did not know the exact situation in the various corps, but there could be no doubt that the battle had been won. It was as yet impossible to say whether this victory was another Cannæ. The 1st Army Corps was ordered to send part of its forces to Willenberg, and the XVIIth Army Corps was to be wheeled in the same direction. It was essential to cut the Russian line of retreat. During the night new reports came in. It appeared that the Russian XIIIth Army Corps had been moved from Allenstein to Hohenstein, where the Landwehr was exerting strong pressure. The 1st Reserve Corps had reached the area to the south-west of Allenstein; this manœuvre was to close the ring around the Russian XIIIth Corps, thus putting an end to the battle here, while the 1st and XVIIth Corps were to cut off the retreat of the other Russian units.[2]"

We can tell from these lines that when the above-quoted orders were com osed and issued, the Staff of the Eighth Army based its appreciation of the situation on information only approximately correct, for which reason the "information relating to the enemy" in the orders is prefixed by the words: "As far as can be ascertained from the reports received up to now.....".

The interpretation of these data errs greatly in the direction of exaggeration, as the Russian 1st Army Corps was not "fleeing to Warsaw," and within the next few days, by seizing Neidenburg, gave the German Command cause to remember it; still further from the truth was the information relating to the XIIIth and XVth Corps; these latter as yet were far from being "scattered through the forests."

By reading the orders for the Eighth Army, and then examining the tasks allotted to corps, a little consideration will show the reader that there could be no question of any encirclement of the Russian troops "scattered through the forests." The Eighth Army Orders timed 5 p. m. on the 28th August caused the Army front to be wheeled through 90 degrees. This wheel was carried out with Hohenstein as its axis, and the 1st Reserve and XVIIth Army Corps, the two left flank corps, were marched rearward, the latter to Guttstadt, *i.e.*, 30

[1] This panic serves as an excellent proof of the degree of strain undergone by the German troops in the fighting at Mühlen. (Author's note).
[2] Ludendorff, "Meine Kriegserinnerungen," p. 43.

versts to the north-west of Wartenburg. The two right flank corps were made responsible for the pursuit of General Samsonov's Army; the XXth being ordered to pursue in the direction Jedwabno—Ortelsburg, the 1st in the direction Willenberg—Myshinets.

Hence it appe rs that the sentence in the above-quoted extract from Ludendorff's memoirs—"..... It was as yet impossible to say whether this victory was another Cannæ" cautiously framed though it be, shows him to be no stickler for terminological exactitude. Of course there could be no question of the Command of the Eighth German Army having achieved another Cannæ, as this Command had itself withdrawn its left flank ten versts to the rear. What then is the explanation of the orders we are studying, and what object did they seek to attain?

Ludendorff is silent. So also is Hindenburg, who treats the fighting of the 28th in an extremely laconic manner in his memoirs; he devotes but one line to the fierce fighting of this day: "On the 28th August the sanguinary struggle continued."[1] But internal evidence in the orders provides the key to their meaning, contained in the instructions regarding the outpost defences of the 1st Reserve and XVIIth Army Corps: the former is to "put out outposts on the Wartenburg flank;" for the latter "outposts on the Seeburg flank" are ordered. Consequently the Eighth German Army changed front in expectation of the approach of General Rennenkampf's Army.

We know that the Staff of the Eighth German Army from a *directive* found on the body of an officer, was aware of the original basic idea of operations on the Russian North-Western Front, consisting of the combined operations of both armies around the Masurian Lakes. But, as already stated, the Commander-in-Chief of the North-Western Front, in his telegram No. 2761 of the 13th/26th August, had ordered Rennenkampf to invest Konigsberg with two corps, and to pursue the Germans retreating towards the Vistula with his remaining forces (*i.e.*, 2 corps). These instructions had diverted General Rennenkampf's army from the direct roads which they should have followed, to be in a position to afford assistance to General Samsonov. But this of course could not have been known to the Staff of the Eighth German Army. They could only have known that General Rennenkampf's left flank had reached the Korschen area on the 27th. This was General Gurko's 1st Cavalry Division, which on this date was fighting

[1] "Aus meinem Leben," p. 88 (in the French translation).

a German detachment of all arms at Glaubitten and Padlechen (near Korschen station). It was a difficult matter to determine definitely whether the Russian Infantry Divisions were following closely behind their cavalry. General Gurko's energetic operations could only add force to these doubts. Consequently there were grounds for the General Staff of the Eighth Army to suppose that General Rennenkampf's left flank divisions might be on the heights of Seeburg by the evening of the 29th.

Recalling his feelings at the time when victory over Samsonov became an accomplished fact, General Ludendorff writes:—

"I could not rejoice to the full at this great victory; the anxiety caused me by General Rennenkampf's Army was so heavy a strain on my nerves" ("die Nervenbelastung durch Rennenkampf's Armee war zu schwer gewesen").[1] In his memoirs General Ludendorff on several occasions describes the alarm with which he looked northward, towards Rennenkampf's Army—"It had only to approach, and we should have been defeated." Even if exploited by the writer of these memoirs as a means of magnifying his services, this question is nevertheless of vital interest, and the military historian is obliged to take it into consideration. Of course, the question has nothing to do with those "24 very strong infantry divisions"[2] created by the imagination of Ludendorff. As we know, there were at this time in General Rennenkampf's Army; the 6½ infantry divisions with which he had fought at Gumbinnen, a second line infantry division (the 56th), and the 1½ infantry divisions of the IInd Army Corps which had come up on the left flank.[3] It is of course understood, that, had he wheeled south-west, Rennenkampf would have had to secure the position by leaving screening forces facing Konigsberg and on the River Alle.

To the east of Konigsberg on the heights of the River Deime were two German Infantry Divisions (General Brodrück's Division, the 2nd Landwehr Brigade and a new Ersatz Brigade which had arrived from Konigsberg). But it was not these troops which constituted the main threat to General Rennenkampf's Army while marching in the direction of Allenstein, but the railway lines which ran to the River

[1] Ludendorff, "Meine Kriegserinnerungen," p. 45.

[2] "Von 27 August abstanden dennoch nur zwei Kavallerie Brigaden zwischen Mauer See und Pregal gegen *24 sehr starke Infantrie Divisionen* und menrere Kavallerie Divisionen Rennenkampfs." Ludendorff, "Meine Kriegserinnerungen," p. 37.

[3] The 1st Brigade of the 43rd Infantry Division had been left opposite Letzen pending the arrival of a second-line infantry division at Lyk.

Alle from the west: (1) the double-line to Wehlau, (2) the single-line to Friedland, (3) the single-line to Bartenstein. (4) the two single-line to Heilsberg, (5) the single-line to Guttstadt. In the course of a few days several divisions, withdrawn from France, could have detrained from these railways. Under such conditions cavalry alone, thrown out westward of the Alle to the Passargi could not have protected the western flank of the First Russian Army on its march to Allenstein. At least two to three infantry divisions would also have had to remain at the crossings of the River Alle, and further, to cover the operation from the activities of the German troops assembled in the Konigsberg area, another two-division corps would necessarily have been employed. If the First Russian Army had really consisted of "24 very strong infantry divisions," Rennenkampf would still have had 19 infantry divisions left for the Allenstein operation, and in this case General Ludendorff's disturbed state of nerves would become intelligible. With such forces available the Russian victory at Gumbinnen would not have been dependent upon the turn of a hair and easily convertible to defeat, but on the 21st August fresh infantry divisions, which had taken no part in the fighting (and which, let us add once more, only existed in the imagination of Prittwitz and Ludendorff), would have continued the advance with energy, and thus there would have been no pause in the offensive of Rennenkampf's Army. This also explains the astonishment, expressed on several occasions in Ludendorff's and Hindenburg's memoirs, at Rennenkampf's failure to advance. As we know he commenced his further advance only on 22nd August during the second half of the day. We will not repeat here the reasons which necessitated this delay, but they could not have been understood by the Staff of the Eighth German Army, which overestimated by 200—300 per cent. the strength of the victorious enemy. At 9 p.m. on the 26th August the Staff of the Eighth Army believed that General Rennenkampf's Army had reached the front Wehlau—Gerdauen—Angerburg on this day.

On the evening of the 27th August the left flank of the Russian Army of the Nyeman was supposed to be on the line Rastenburg—Korschen—Bartenstein. The energetic operations of the Russian 1st Cavalry Division, which on this day had been fighting to the south of Korschen, seemed to confirm this supposition.

Having received no reports on the 28th as to whether the Russians had advanced, the Staff of the Eighth Army drew up the above-quoted

orders, which turned the XVIIth and 1st Reserve Corps back to the River Alle.

If one assumes the point of view of Ludendorff and his staff, with their erroneous estimate of Rennenkampf's strength, one must acknowledge that these orders represent a model strategical technique. Indeed, a new front-line sector, occupied by two corps, was formed on the line Guttstadt—Jonkendorf—Dietrichswalde, *i.e.*, between the Rivers Alle and Passargi. while the two reinforced Corps (the 1st and XXth) continued the pursuit of the defeated Army of the Narev, cutting off their southward line of retreat and driving them to the north. These corps were marching in echelon from the right, starting from the line Willenberg—Jedwabno. The operation was protected from attack from the south by General Mühlmann's [1] Brigade at Soldau, and in addition two Landwehr Brigades had been assembled in the centre, in the Hohenstein—Waplitz area. Thus the general trace of the new front was that of a semi-circle described around Allenstein and Passenheim, against which General Rennenkampf must strike if he came to the assistance of General Samsonov, and thus these divisions would literally march into a *sac*. Even supposing that Russian activities in the south demanded the employment of the whole of the 1st Army Corps and Mühlmann's Landwehr to protect the German operation, the Germans could still have put 9 infantry divisions into the field against General Rennenkampf's divisions, *i.e.*, a force equal in fire strength to 13 or 14 Russian divisions. Nor was this all, for by the 3rd September—4th September another 4 German active divisions, arriving from the French front, would have come up on the left flank of the XVIIth Corps. It may be stated with conviction that the "Cannæ" which General Ludendorff was staging for the left flank of the Army of the Nyeman, would inevitably have become an accomplished fact. But, as we know, all these strategical calculations, brilliant from the technical point of view, were based on wrong premises. General Rennenkampf was actually three or four times weaker than Ludendorff pictured him, and did not fall into the trap laid by the latter. It is only given to soldiers of genius to "sense" the situation accurately and this ability is a product of "intuition." This was what Napoleon meant by saying that a general who pictures affairs to himself cannot be a great leader. The mistake which Ludendorff made, and in which he persisted even after the war, shows that

[1] Consisting of the 5th and 20th Landwehr Brigades, which were reorganised in the next few days to form the 35th Reserve Division.

he cannot be counted among the soldiers of genius. The persistence with which he upholds the legend of the strength of Rennenkampf's Army is due to a psychological characteristic of small minds: unwillingness to acknowledge oneself in error.

On the other hand it must be acknowledged that that part of strategical work which is based upon peace-time studies was executed to perfection by Ludendorff and his staff. Here one perforce is reminded of Field Marshal von Moltke's ruling idea in creating the German General Staff—that a leader of genius is an accident: the fate of a nation cannot be allowed to depend on an accident; therefore a cadre must be created, whose military skill, in case of the absence of genius, would serve as a substitute for it.

It is this calculating with "average persons" and "average conditions" which is the most characteristic feature o German strategy.

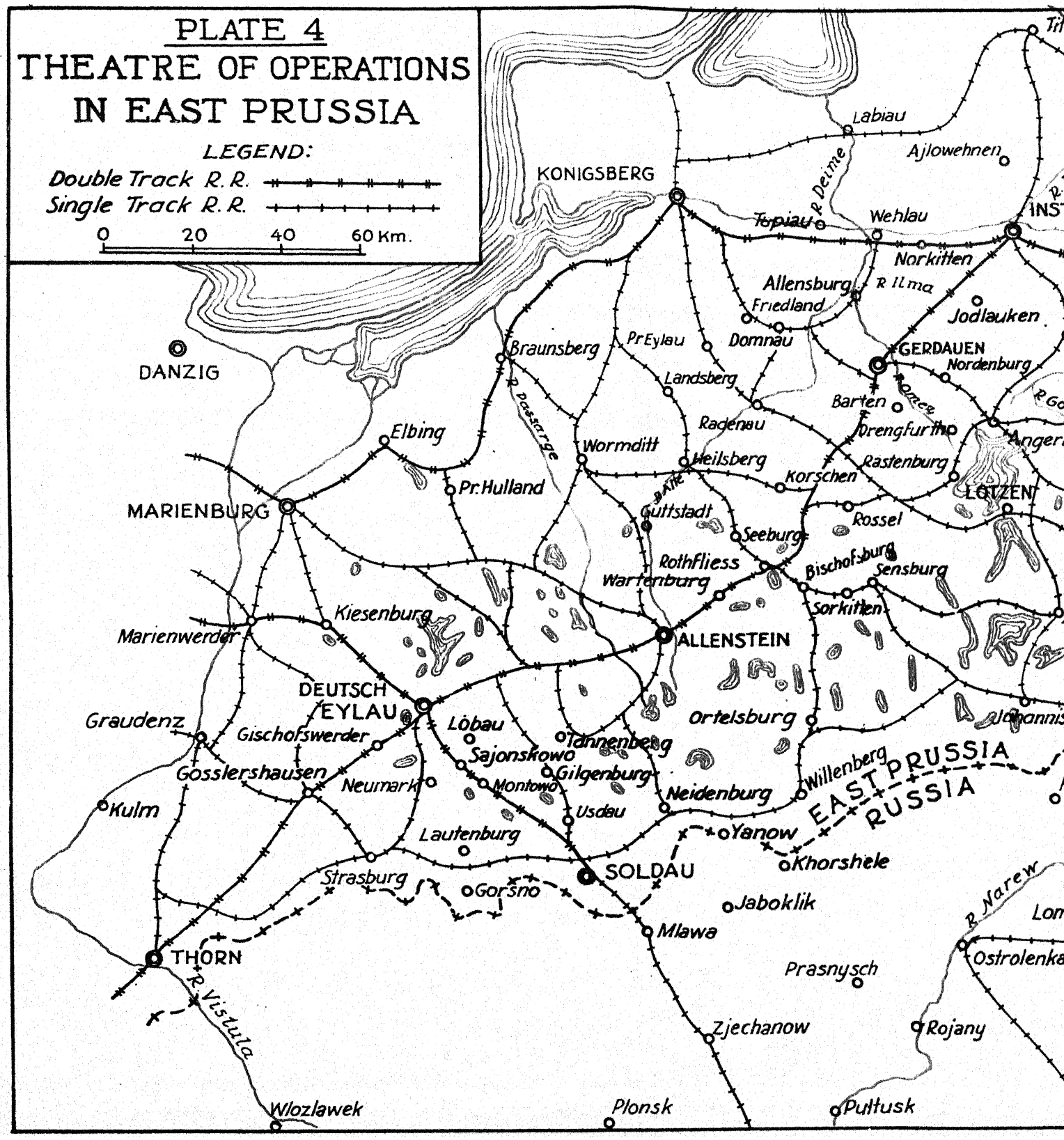
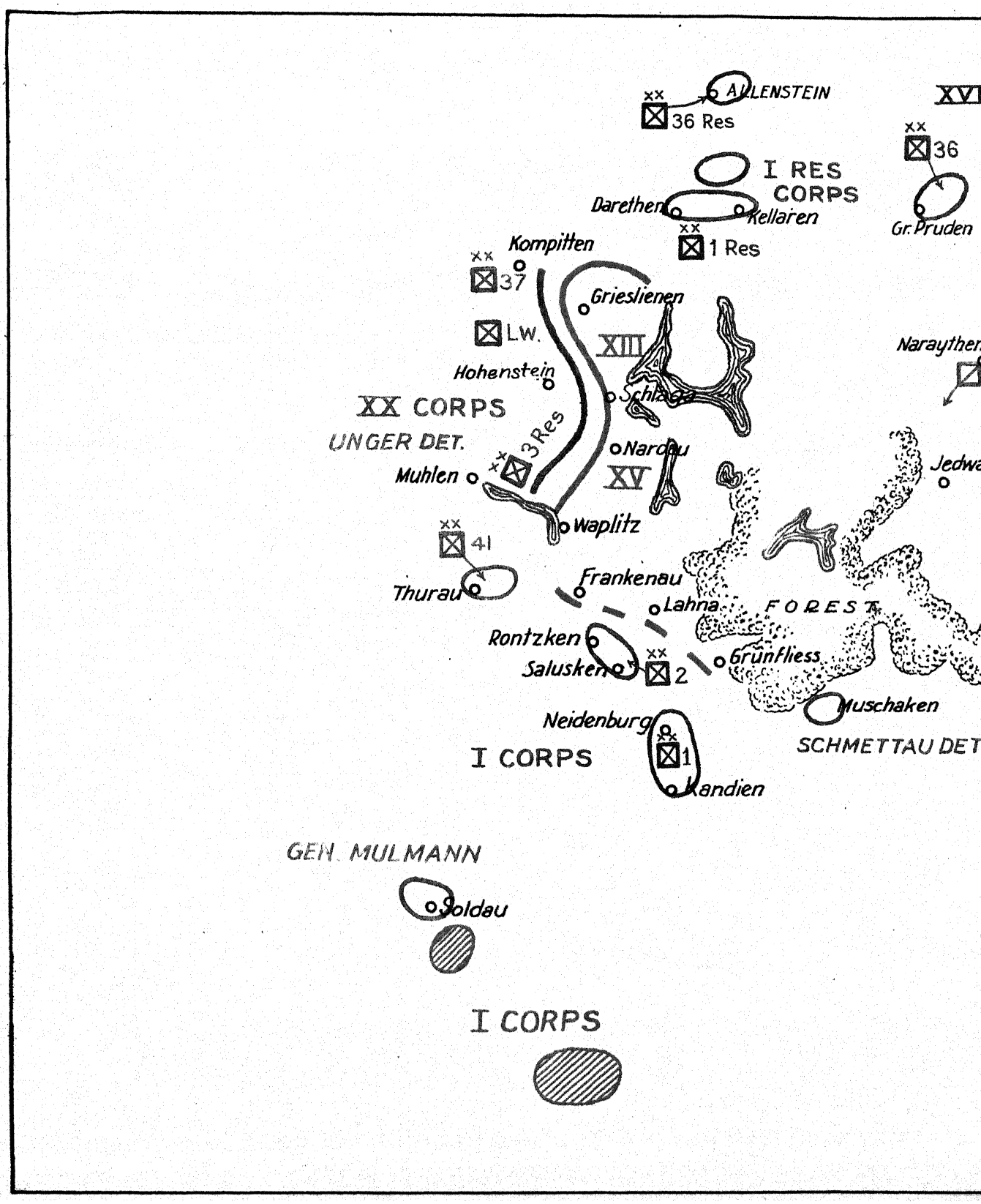


PLATE 4
THEATRE OF OPERATIONS
IN EAST PRUSSIA
LEGEND:
Double Track R.R.
Single Track R.R.
0 20 40 60 Km.
KONIGSBERG
Labiau
Ajlowehnen
R. Deime
Tapiau
Wehlau
Norkitten
Allensburg
R. Ilma
Friedland
Jodlauken
Domnau
GERDAUEN
Nordenburg
Braunsberg
Pr.Eylau
Landsberg
Barten
Drengfurth
Rastenburg
DANZIG
Elbing
R. Passarge
Wormditt
Radenau
Heilsberg
Korschen
Pr.Hulland
MARIENBURG
Guttstadt
Rossel
LOTZEN
Seeburg
Rothfliess
Bischofsburg
Sensburg
Warfenburg
Sorkitten
Kiesenburg
Marienwerder
ALLENSTEIN
DEUTSCH EYLAU
Graudenz
Gischofswerder
Löbau
Ortelsburg
Sajonskowo
Tannenberg
Gosslershausen
Neumark
Montowo
Gilgenburg
Willenberg
EAST PRUSSIA
RUSSIA
Kulm
Usdau
Neidenburg
Lautenburg
Yanow
Khorshele
SOLDAU
Strasburg
Gorsno
Jaboklik
Mlawa
R. Narew
THORN
R. Vistula
Prasnysch
Ostrolenka
Zjechanow
Rojany
Wlozlawek
Plonsk
Pultusk


AULENSTEIN
36 Res
XVI
36
I RES
CORPS
Darethen
Kellaren
Gr. Pruden
Kompitten
1 Res
37
Grieslienen
LW.
XIII
Narayther
Hohenstein
Schlaga
XX CORPS
UNGER DET.
3 Res
Nardau
Muhlen
XV
Jedwa
Waplitz
41
Thurau
Frankenau
Lahna
FOREST
Rontzken
Salusken
2
Grünfliess
Muschaken
Neidenburg
SCHMETTAU DET
I CORPS
1
Kandien
GEN. MULMANN
Soldau
I CORPS

LETTERS TO THE EDITOR.

Tank Vulnerability.

Sir,

In the Editorial on page 150 of the April 1934 issue of the Journal occurs the following passage :—

"It is understood that an armour-piercing machine gun bullet has been invented which may paralyse tank movement as effectively as infantry are paralysed to-day. Already there is the new double-pointed foreign A. P. bullet which, with the anti-tank guns in a battalion, will—in war against first class Powers—give the tank only slightly greater advantages than his forbear, the knight in shining armour, achieved against gunpowder."

This statement by itself is liable to cause disappointment to the infantryman who will deduce that the Tank which he had expected to silence machine guns for his benefit will be as vulnerable to these weapons as he is himself.

It is hoped that a few facts will help to allay these fears.

It must be remembered that improvements to bullets such as shape and hardness are of minor importance. They only ensure that the full theoretical weight is actually present when the bullet strikes and strives to penetrate. There are only two things which can defeat armour; weight and velocity. This is one of the first principles of mechanics, which cannot be disproved. Energy (and therefore penetration) is equal to the square of the remaining velocity multiplied by the weight of the A. P. shell or bullet. An increase of muzzle velocity necessitates strengthening the chamber and barrel in order to resist the additional shock of discharge. This modification besides being expensive also involves increased weight for the rifleman or machine gunner to carry. His powers in this respect are limited; and the main difficulty which designers have to face, and have not yet solved, is the production of a machine gun or rifle with sufficient muzzle velocity to ensure penetration of tank armour, whilst at the same time being portable by man or horse. An increase in the weight of the bullet will mean increasing the calibre if accuracy is to be maintained. Hence improvements in this direction will also increase the weight of the machine gun or rifle.

This question of portability was the main reason for the defeat of the knight in shining armour in his race against improvements in armaments. The weight carrying capacity of the horse has a definite limit, just as has that of a man. So much was this the case that it is believed that only cart horses were of any use to the mediæval knights in armour.

With the tank things are different. Improvements in the weight of fuel required per ton mile and in the weight and size of engine necessary to propel a certain weight at a certain speed are being made daily. There is much more scope here for ingenuity than there is with either A/T weapons or armour plate. Such improvements will certainly help the Tank more than its adversary. Machinery controlled by man will always win against the man alone. This is the first law of progress which cannot be disproved. The second is that every increase in the use of machinery will result in loss of simplicity. Simplicity is more essential to the man on the ground than to the man in a machine.

Whilst designers and manufacturers are endeavouring to solve the problems of the production of a super high velocity weapon which is within the carrying capacity of the infantry soldier, there is an almost greater prospect of improvements being effected in armour.

In the meantime, the tank is definitely leading in the race between armour and those A./T. weapons which are portable, and therefore, liable to be encountered in large numbers.

Against a limited number of A./T. guns of moderate mobility, the tank will always have a sporting chance by reason of its power of manœuvre.

Yours faithfully,
W. M. Sutton.

THE PERIMETER WALL.

Sir,

May I make a few remarks on "SHIGGADAR'S" letter on the subject of the "Perimeter wall" as far as it concerns the Sapper.

Concertina wire has been tried out exhaustively during the war and subsequently, it has been "discovered" many times; it has always been abandoned owing to its inefficiency. The decision of the pattern is not a sapper decision. The infantry are the people who decide, as they are most interested in its efficiency. The sappers merely try to provide what is asked for; if the Infantry want concertina wire instead of the ordinary pattern, no one will be more pleased than the sapper as he will have less weight to handle. But a word of warning—when the time comes for it to be used, do not damn the sapper for providing an inefficient pattern and do not expect to be provided with an unlimited amount of an efficient pattern at a moment's notice.

2. *Portable Searchlights.*

As Shiggadar recognizes, this is largely a question of money. Many patterns exist of varying degrees of efficiency. Acetylene lights are, generally speaking, of low efficiency and comparatively cheap; electric lights are effective but expensive and heavy.

The saving of transport effected by the use of concertina wire would be swallowed up many times over by the transport required for a sufficient number of searchlights to be effective.

3. *Entrenching Tools.*

Many patterns of light entrenching tools have been tried out. Some of us have vivid recollections of trials conducted at Chatham with patterns which seemed to cover all the possible requirements of a dentist but very few of a "digger."

Can Shiggadar suggest a suitable pattern? We will arrange for it to be made and tried.

Yours truly,

"SAPPER."

MOBILITY.

SIR,

The article "The Perimeter Wall," as also "The Legend of Baridzai," published in your January 1934 number, affords very welcome existence of the growing and already widespread desire for "mobility," which can now scarcely fail to permeate the whole army and to become an instinct.

The wish to abolish or modify the "Perimeter Wall" is also a very welcome sign of a further peg in the coffin of trench warfare, from whose influence the army, still does not seem able to get away in mountain as in all other kinds of warfare—massive 5·9 proof camp walls, traverses, and parados, and masses of wire to be carried about, so subversive to all mobility, and so unnecessary.

But if I might venture to criticise the article referred to, I would suggest that in mountain warfare it is not the time required for the construction of the Perimeter Wall which makes marches short, and renders the early arrival of a large column in camp advisable. It is agreed that as a means of defence, perimeter walls are unnecessary; in fact they are seldom actually built when a column is on the move—anything for troops to form up on and to demarcate the boundaries of a camp will suffice—modern armament should stop any possible attack. But the infantry must camp somewhere, and they may just as well be placed round the perimeter where they are handy.

All ranks, too, must dig down or build up because sniping is probable and to omit digging or building is likely to be wasteful of life. The Mohmand expedition of 1933 showed that the tribesmen still snipe. So some kind of perimeter defence, though not necessarily a wall, will usually be formed and is desirable. It may not be very regular in shape and will be held by posts at intervals, but to make it too irregular or to disperse the camp greatly increases labour, sentries and disorganisation.

All this, however, makes the early arrival in camp of a *large* column imperative. A small column moving "light" or "hard," unencumbered with much transport, can arrive in camp late in the afternoon or it can even arrive in the dark or it can march all night under certain circumstances. But it is suggested that with any large force which may have a large number of camels—since on occasions

this will be unavoidable, and heaven forfend that we should always be tied to a M. T. Road—there are many things besides building a perimeter to do in camp during the hours of daylight. The camp site must be chosen, it must be laid out in some fashion since there must be organisation and method: units of the force cannot be dumped down anywhere and anyhow, otherwise there will be chaos. Animals must be watered, communications improved and exits made. Food has to be issued generally, and cooked for the following day. Troops must get some rest since many of them will be moving out before daylight next morning and will have to be awake at 4-0 a.m. or earlier.

Therefore it is suggested, and as all experience indeed proves, that a column of any size should arrive in camp, when on the move, well before dark.

To increase the length of a march, it is far better to start from camp well before it is light than to arrive after dark.

Yours faithfully,
"LIGHT INFANTRY."

MILITARY NOTES.

BELGIUM.

Changes in armament and equipment.

(*a*) The two groups of mechanized artillery belonging to the Cavalry Corps, one of which is at present carried in lorries while the other is drawn by Fordson tractors, are both in process of being re-equipped with Latil tractors.

(*b*) The six Carden Loyd tractors purchased three years ago from Messrs. Vickers are being equipped with 47-mm. anti-tank guns, and when completed will be issued to the *Chasseurs Ardennais* as part of their mechanized equipment.

(*c*) Trials are still proceeding with a new 120-mm. medium artillery gun, and it is hoped that one group of Corps Artillery will be equipped with this weapon by the end of 1934.

It will be tractor drawn by Minerva-Kegresse tractors, which are being built in Belgium.

(*d*) Machine-gun units of all arms are being equipped with a simplified form of anti-aircraft sight, closely resembling the French Casaux-Labat type, but produced locally. All guns are also being provided with alternative anti-aircraft mountings.

(*e*) All rifles are in process of conversion to enable them to fire the Model 30 cartridge, which has hitherto only been used in light automatics and machine-guns.

Military education and training.

For the Staff College examination in 1933 only 35 candidates presented themselves for 20 vacancies. The latter were allotted by arms, four places being kept for the most brilliant candidates irrespective of arm.

A total of 90 candidates were admitted to the Military College during the year, 45 for the Artillery and Engineers and 45 for the other arms.

The number of candidates was about 400.

Formation of Volunteer Cyclist Units.

In order to provide the necessary officers and N.C.Os. for new frontier defence units, the Minister of Defence has called for volunteers from the army.

These units are to be formed at Beverloo Camp where they will undergo five months' preliminary training from 1st March until 31st July. They will be organized eventually in five battalions with headquarters at Maeseyck, Verviers, Vielsalm, Bastogtume and Arlon respectively (with one autonomous company at Maemédy) and subdivided into 18 companies, which will be distributed in eleven different garrisons along the entire Belgian frontier from Maeseyck in the north to Arlon in the south.

CZECHO-SLOVAKIA.

Budget estimates for 1934-35.

Budget estimates for 1934-35 were laid before Parliament by Dr. Trapl, the Minister of Finance, on 6th November, 1933. The new Budget is described in the Press as "The last deflation budget," and general hope is expressed that during the coming year matters will take a turn for the better.

In presenting the budget Dr. Trapl emphasized that the stability of the currency depended on balancing the budget, and issued a warning that in order to do this privations and sacrifices must necessarily be made by all classes.

Expenditure was estimated at 7,630 million crowns and revenue at 7,631 million crowns. The corresponding figures for 1933-34 were 8,632 and 8,634 million crowns respectively.

The principal savings are to be made in the purchase of supplies in all Government departments, by cuts in salaries, and by reductions in various Government enterprises. Additional revenue is to be raised by increasing the scope of the Military Tax which is levied on persons who, on account of health or other reasons, are not held to do military service.

The savings are spread over all departments of State with the exception of the Ministry of the Interior and of Pensions, both of which headings show increases.

Expenditure on National Defence is estimated at 1,541,951,500 crowns (about £14,000,000 at present exchange) as against 1,567,254,000 crowns in 1933-34. This includes in each case the "Equipment Fund" of 315,000,000 crowns.

The latter fund is utilized at the discretion of the military authorities, and expenditure on this head may exceed the stipulated amount in any one year, provided it is adjusted the following year.

In detail, the most striking reductions are in the Votes on account of Aviation and Ammunition. The former is difficult to reconcile with the fact that increases to the Air Force are actually being made, but may be partly accounted for by the fact that public subscription lists for the purchase of aircraft have been opened, and are being well supported.

The principal increases are 20,000,000 crowns on account of Training of Reserves—showing that larger numbers are to be called up this year—and on account of personnel, which shows an increase of 31,874,400 crowns.

The latter is accounted for by the increase of permanent long service non-commissioned officers from 8,500 in 1933 to 11,000 in 1934.

The number of officers and warrant officers budgetted for remains at 10,059 and 8,400, respectively, whilst the number of other ranks is 92,435 as against 91,498 in 1933.

At the time of presenting the estimates M. Bradac, the Minister of Defence, sounded a note of warning and foreshadowed a supplementary military budget, as he considered the present estimates were too low to meet actual requirements.

FRANCE.

Liberation from the Colours of the first half of the 1932 *contingent.*

It is reported that the first half of the 1932 contingent will be released from the Colours on 29th March next.

These men joined at the beginning of April, 1932, and represent only four months' births (January to April, 1911) instead of the five months normally incorporated each April, as a start was then made towards getting a reserve in hand to help out the " lean " years (1936-40) caused by the war.

Auxiliaries—those men who owing to their low physical or mental standard were only passed fit for auxiliary and not general service—will, however, be retained for a further three weeks from 30th March, which period will count as one of those which they are liable to carry out during their *disponibilité* and reserve service.

These men do little proper military training during their year with the Colours, but are used for the many various menial jobs and fatigues which have to be found by every unit and so allow the better class men to concentrate on their training.

Exceptions will be made in the case of the following auxiliaries :—

(*a*) Members of the teaching profession, who will carry out their period of training during the school summer holidays.

(*b*) Those serving with the special units stationed in the two fortified areas on the Palatinate frontier and the Rhine fortified sector, who will do their reserve training under the same conditions as other men belonging to those units.

Organization of the Air Army in War.

The Organic Law of the French Air Army, which was debated and the first 28 Articles of which were adopted by the Chamber of Deputies last November, contained the following provisions as to the constitution of the Air Force in time of war :—

(*a*) The division between those air formations which will be kept in hand and those which will be put at the disposition of the Army and Navy respectively, will be fixed by the Government in accordance with the scope of the operations.

(*b*) All air formations kept in hand will be placed under a general officer of the Air Army Commanding-in-Chief, who will undertake the direction of all independent air operations on which the Government may decide. He will also have the right of inspecting all other air formations.

NOTE.—The Army and Navy will also have rights of inspection of all units allotted to them.

(*c*) The air formations put at the disposal of the Army and Navy—the latter and certain shore-based units must not be confused with the Fleet Air Arm, which are directly under the Minister of Marine at all times—will be commanded by general officers of the Air Army, who will be subordinate to the general officers commanding the land or sea theatre of operations concerned.

(*d*) All the non-flying portions of air formations (ground and works services, &c.), with the exception of certain special establishments directly under the Air Ministry, will come under the command of the G. O. C. the Air Region in which they are stationed.

Army re-organization.

A recent decree announces the following measures of re-organization :—

(*a*) The cavalry divisional artillery regiments, of which there is one to each of the five cavalry divisions, will in future consist of two brigades (*groupes*), each with a varying number of batteries, instead of two *groupes* of two batteries as heretofore : it is further stated that, in view of the proposal to motorize at a future date the whole of the five cavalry divisions, some of these regiments may be motorized, though no other details are given.

(*b*) There are at present thirteen battalions and twelve autonomous companies of Artillery Labour (Ordnance) units which work in the various artillery parks and ammunition depots throughout France and North Africa. As a measure of economy and to assist workshop output, it is intended to replace some of these by labour personnel attached directly to artillery units. Their total establishment will therefore, in future, consist of eleven autonomous battalions composed of a varying number of companies, one autonomous company and various companies and sections attached to artillery regiments.

IRAQ.

The Assyrians.

Considerable progress has been made in the search for a country suitable and willing to take the Assyrians as a whole. Brazil has now agreed to accept them at the rate of 500 families a month, on the condition that no expense would be incurred by the Brazilian Government and that the Brazilian Government would not be responsible for their repatriation should the settlement not be a success.

A commission has proceeded to Brazil in order to examine the proposed area of the settlement and to ensure that it is suitable to the various requirements of the Assyrians.

Although the problem is now appreciably nearer solution, there still remains the question of who is going to pay for the transportation and purchase of land.

Unfortunately, the acceptance of the Assyrian settlement in principle by the Brazilian Government has not been reflected in the Press.

ITALY.

Formation of a Military Alpine School.

A Military Alpine School (Scuola Militare Alpina) has been opened recently at Aosta.

The formal opening ceremony was conducted by the General Officer Commanding 1st (Turin) Army Corps, representing the Under-Secretary of State for War.

General Bes, the inspector of Alpini, and many other distinguished officers were present.

The object of the School is defined as "the promotion, by means of technical and practical courses of instruction, of Italian Military Alpinism and mountain climbing, and the spread of this culture amongst officers and non-commissioned officers."

The school has a fine library of books on Alpine matters generally, and a gymnasium where exercises suitable to mountaineering training are studied and practised.

JAPAN.

Change in Minister for War.

General Senjuro Hayashi succeeded General Sadao Araki as Minister for War on 22nd January, the latter having resigned owing to ill-health. The new Minister for War was Commandant of the Staff College in 1927 and General Officer Commanding Guards Division in 1929. He became Commander-in-Chief of the Korean Army in 1930 and, at the time of the Manchurian Incident of September, 1931, attracted some attention by the promptness with which he despatched troops to Mukden. To this action his undoubted popularity with the "Young Officers" may in part be attributed.

In May, 1932, General Hayashi became Inspector-General of Military Training. In the Japanese Army this is a most important appointment as the Department of Military Training is independent, and the Inspector-General is responsible to the Emperor alone. This appointment is in accordance with the established custom in Japan that the Minister for War should be a general on the active list.

PALESTINE.

Arab Demonstrations.

The meetings and processions arranged by the Arab Executive for the end of Ramzan took place according to plan. Although these had generally been expected to lead to trouble, the unmistakable determination of the Palestine Government, coupled with extremely bitter weather, successfully cooled the ardour of the demonstrators; and there were no untoward incidents.

PERSIA.

Budget.

Out of a total budgetted expenditure for the period 21st March, 1933, to 20th March, 1934, of rials 506,904,460, a sum of rials 210,205,000, more than a third of the total expenditure. has been allotted for the upkeep of the Army, Air Force, Navy, Arsenals and Amnieh (Road Guards).

ROUMANIA.

Steps for the suppression of the Iron Guard.

Following the murder of Dr. Duca by a member of the Iron Guard the Government took vigorous steps to suppress the movement.

Seven principal towns in Roumania were put under Martial Law, and a large number of arrests took place including General Cantucuzeno, who is M. Codreanu's right-hand man. M. Codreanu himself escaped, and his present whereabouts is unknown.

This was followed by the prohibition of the Iron Guard press, and the dismissal from the public services of a number of officials known to hold Iron Guard views. In this connection a number of well-known people, including members of the Court, are accused of having subsidised the Iron Guard funds.

In addition the whole educational system is to be revised, with a view to disciplining university students, who at present enjoy unlimited liberty, and form the backbone of the various subversive movements.

Members of the Iron Guard who were implicated in the Duca assassination plot are to be tried by the Bucharest Military Tribunal, and not by the ordinary civil courts.

SPAIN.

Recruiting.

Orders have been issued for the incorporation during the first three weeks of February of the second group of the 1933 contingent. This consists of 47,975 recruits, of whom 40,750 will serve in the peninsula and 7,225 in Morocco and North-West Africa.

At the same time orders have been issued for the discharge of the men serving in Spain belonging to the second group of the 1932 contingent. These joined the colours in February, 1933, and number approximately 43,500.

Warrant Officers Corps for the Air Service.

A corps of warrant officers and sergeants has been created for the Air Service, of personnel belonging to the engineer arm who were seconded to it. They will have no further connection with the Engineer Corps.

Budget, 1934.

A Law of 29th December, 1933, authorised the Government to apply the respective proportion of the estimates of the 1933 budget—with a few minor adjustments—to the first quarter of 1934, pending the drawing up and approval of a new budget. It was necessary to do this owing to the fact that the new Government took office so late in the year (16th December) that it was impossible to draw up the new figures and obtain their approval by Parliament before 1st January, 1934—which the Constitution requires.

The same law will apply in the case of Morocco and other African colonies.

One or two items of extraordinary credit have also been approved, one of these being ten million pesetas for pensions. This large additional amount is required to pay the pensions of the many officers who retired on full pay during the years 1931 and 1932.

On the 1933 basis the military budget for the first quarter of 1934 will be as follows:—

Home	.. ..	105,900,000 pesetas,
Morocco	.. ..	39,600,000 ,,

a total of 145,500,000 pesetas, which is about £5,750,000 at par, or £3,730,000 at the current rate of exchange.

U. S. A.

Substitution of Motor for Horse Transport in the U. S. Army.

The extensive use of motor vehicles in the U. S. Army has been held up owing to lack of funds to purchase up to date vehicles. The Army up to now has had to rely largely upon worn out lorries purchased during the Great War and has, therefore, retained much of its horse transport. Now, under the Government scheme for increasing employment by large expenditures of public money, the Public Works Administration has allotted to the Army 10 million dollars (£2 million) for the purchase of mechanical vehicles. The Army is taking advantage of this windfall to press on with "motorization," a term which means the substitutions of mechanical vehicles other than armoured fighting vehicles for horse transport; the provision of armoured fighting vehicles being termed "mechanization."

7,776 motor vehicles of all types are to be purchased, of which 1,551 are to be allotted to the Field Artillery of the National Guard, or State Militia, the remaining 6,225 being distributed among the different arms and services of the Regular Army as follows:—

Infantry	1,484
Field Artillery	1,811
Cavalry	438
Coast Artillery	731
Air Corps	880
Corps of Engineers	335
Signal Corps	147
Chemical Warfare Service ..	97
Medical Department ..	139
Quartermaster Corps ..	67
Ordnance Department ..	96
Total ..	6,225

In addition 612 sets of adapters for 75-mm. gun carriages are to be purchased. These provide for the fitting of pneumatic tyres to the gun wheels so that the guns may be towed at high speed.

This list shows that motorization is to be widespread throughout the Army, some of the more important projects being the following:—

Cavalry.—The headquarters of the 1st Cavalry Division, with its two active cavalry brigades, and the headquarters of all active

cavalry regiments in the United States and Philippine Islands are to be motorized; in addition, scout cars are to be provided for all active cavalry regiments.

The unarmoured vehicles required by the 1st Cavalry Regiment (already mechanized) are to be provided. This should help on the work of this regiment, which has been held up owing to the lack of suitable modern equipment.

Field Artillery.—Mechanical tractive power and gun carriages modified for high speed traction are to be provided for all the 75-mm. batteries in Hawaii and the Philippine Islands, and for approximately half the 75-mm. batteries in the United States, probably 39 batteries in all; also for a battalion of 75-mm. guns to work with the mechanized cavalry brigade. All medium and heavy field artillery units are to be provided with mechanical tractive power.

Reconnaissance vehicles are to be provided for all units.

Infantry.—Extensive motorization is to be carried out in the infantry, especially in the headquarters of all formations down to regiments; the machine-gun and howitzer units of the 1st Division, the 30th and 38th Regiments and the 2nd Battalion of the 29th Regiment are to be motorized.

The army has already placed contracts for a number of the vehicles required and will press on with the scheme with all speed with the double object of completing the motorization programme early and of accelerating the government employment scheme.

Annual Report of the Chief of Staff of the U. S. Army, 1933.

The Annual Report of the Chief of Staff of the U. S. Army, General Douglas MacArthur, submitted to the Secretary of War, has recently been published.

The report emphasizes the great social and economic changes which have been initiated in the United States during the past year, which have affected the army in many ways. A considerable amount of attention is devoted to the activities of the army in organizing and running the Civilian Conservation Corps for the employment of 300,000 unemployed youths in forest camps throughout the United States. The Chief of Staff takes a natural pride in the efficiency with which the army has carried out a difficult task and compares the case with which the recruits for the Civilian Conservation

Corps were handled in 1933, at one time at the average rate of 8,500 per day, with the excessive cost, confusion, delay and inefficiency which attended America's mobilization in 1917. He acknowledges the value to the army of the Civilian Conservation Corps as a practice for mobilization, but at the same time he points out that all the normal activities of the army had to be set aside in order to carry out this special task, all army schools had to be closed down, many units were denuded of officers, and many training activities suspended, especially in connection with the National Guard and the Reserves. Naturally this state of affairs could not be allowed to continue and orders have since been issued for the return of all regular officers to normal duty, their places with the Civilian Conservation Corps being taken by reserve officers.

The exceptional economic situation in the United States led to reduction in the military budget. The Chief of Staff describes the heavy cuts in the appropriations proposed by the Director of the Budget and the efforts of the War Department to resist the cuts.

Eventually the following figures were authorized:—

War Department Budget for 1933-34—

		Million dollars.
Military activities	..	225
Supplementary Budget	..	4
Total	..	229

After the passage of the Budget, however, the Government introduced the policy of large expenditures on public works as a method of producing employment and from this source the following sums were made available for military purposes:—

		Million dollars.
For building and repairing barracks	..	56·0
Searchlights	..	2·0
Coast defences ..	..	7·0
Aircraft	..	7·5
Ammunition	..	6·0
Purchase of motor transport	..	10·0
National Guard buildings	..	2·3
Total	..	90·8

If this sum is added to the Budget, it brings it up to approximately the same figure as the previous year.

Future trends in the organization, training and equipment of the army are dealt with at considerable length. The general tendency is towards greater mobility and increased fire power, but, owing to various factors, including expense, it is impossible to keep a sufficient supply of up-to-date vehicles and weapons available for war. The policy of the United States is to carry out research and experiment, and produce only sufficient models to enable tests to be carried out and to maintain a few units satisfactorily equipped for emergency use, and, on the outbreak of war, to initiate manufacture in the most modern types.

In the infantry semi-automatic shoulder weapons and very light machine-guns will eventually replace the present armament. With the increased fire power given by these weapons it may prove possible to reduce the war establishment of units. A more definite re-alignment of infantry formations into light and heavy elements, corresponding to the weight of unit armament and tactical functions, may possibly be indicated.

Increased use of motors will give greater infantry mobility on the march, and on the battlefield tanks will help them to pass through the band of enemy fire.

The Cavalry must also study mechanization. At present this study is being carried out on two lines. The 1st Cavalry at Fort Knox has been totally mechanized and the horse eliminated. It is intended to form a mechanized brigade. On the other hand experiments are being made with cavalry regiments fully equipped with motor transport and having allotted to them light scout cars and possibly a few fighting vehicles, the horse being used only to carry the cavalry combat soldiers and the weapons normally supplied to cavalry formations.

In the Artillery great advances have been made in fire power and mobility since the war. With the indications that the tactical and strategical mobility of the Infantry are likely to increase, there arises a need for greater mobility for all field artillery weapons. Within recent years an artillery carriage, fitted with pneumatic tyres, has been developed which enables field guns to be towed at high speeds without damage to their mechanisms. In combination with this

important invention improved tractors and lorries will soon enable all Field Artillery to be equipped with motor transport.

The Air Corps has continued to improve its equipment. Approximately one-fifth of the Army Budget is expended directly or indirectly on this corps, which shows the importance attached to it.

The Chief of Staff deduces from the modern tendency towards mechanization, that any major war of the future will see a swing away from the ponderous fighting forces engaged in wars of the past 75 years towards mobile, highly trained and very powerful, though somewhat smaller, formations.

Under the heading "Factors affecting morale" the Chief of Staff deals with questions of promotion and pay, both of which subjects are causing the War Department anxiety. The United States Army has a different system of promotion from the British Army, all officers below the rank of colonel, except officers of the Medical Corps and Chaplains, being on a single promotion list, on which promotion is carried out strictly by seniority. Owing to the large number of officers brought into the regular army as captains and lieutenants immediately after the war, 5,000 within two years, a very serious block in promotion exists. This is known as the "hump" and owing to its existence a large number of officers will still be captains when their seniors with very little more service are colonels. The War Department has prepared a scheme to deal with this abnormal promotion situation and the Chief of Staff urges its adoption by Congress.

The pay of officers and other ranks in the United States Army was reduced last year by 15 per cent. on account of the economic situation. The Chief of Staff urges the restoration of this cut in view of the increase in the cost of living. However, he says that the reduction has been loyally accepted by the Army but there are other economy measures which have acted unfairly and have caused considerable resentment. The factor of length of service plays an important part in officers' pay, increases of pay being granted at certain fixed intervals. Under an act of Congress, known as the "Pay freeze," all automatic increases of pay were stopped with effect from last year. Such an order obviously works most unfairly, affecting some officers much more than others. The Chief of Staff, therefore, urges very strongly that it should be discontinued.

As regards the men the 15 per cent. cut falls heavily on the lowest ranks, and many of the men whose pay has been reduced to $17·85 a month are employed as cooks, clerks or orderlies in the Civilian Conservation Corps Camps where the unemployed youths who join the camps without any qualifications or any obligation to serve for a long period receive $30 a month. The bad effect on discipline and morale is inevitable.

In his "conclusions" at the end of the report the Chief of Staff says, "In the obvious state of unrest now prevailing throughout the world, evidences of which are plainly visible even in our own country, an efficient and dependable military establishment, constantly responsive to the will of its Government, constitutes a rock of stability and one of a nation's priceless possessions. As much as at any time in our history, the Army's efficiency should engage the earnest attention of every loyal citizen. It is my conviction that at this moment the Army's strength in personnel and material and its readiness for employment are below the danger line. I consider it of the most urgent importance to the United States that this condition be obviated without delay."

REVIEWS.

Four Score Years and Ten.

By General Sir Bindon Blood.

(*C. Bell & Sons, Ltd., London*, 1933.) 16*sh.*

General Sir Bindon Blood, G.C.B., G.C.V.O., Senior Colonel Commandant of the Corps of Royal Engineers, is one of the most distinguished of a very distinguished line of soldiers who have made efficiency in war and in sport a tradition of the Roorkee Sappers.

Born in 1842, Sir Bindon Blood joined the army in 1860, and his active soldiering ended in October, 1906, when he retired on completion of his tour as G.O.C., Punjab Command, after 46 years of active soldiering.

What years those were for a sportsman and soldier! India and Delhi in 1871: Roorkee in the days when tigers and wild elephants wandered within a few miles of cantonments: campaigns on the frontier: in Zululand: South Africa: Kabul and Kandahar: Tel-el-Kebir: the Chitral Relief Force: Swat: Buner: South Africa. The names alone are enough to stir one's heart, and Sir Bindon was the man to get the best out of them all.

They were harder men in those days, I think, than we are now. Which of us now would like to ride out 20 miles in the morning, shoot 40 couple of snipe, and ride back again in time for dinner? How many of us would consider a 40 mile ride home in the middle of the hot weather a normal ending to a shoot? But Sir Bindon seems to have taken this sort of thing as a matter of course.

I read the shooting part of the book with much interest but not without some regrets. Why was one born into the world just 40 or 50 years too late? What a country India must have been in those days, when week-ends began on Friday and ended on Monday night and when there were more tigers than congressmen in the country!

Another regret is connected with the book itself, and is perhaps an over-critical comment. It seems to me that, talking entirely of the sporting part of the book, it deals far too much with results and far too little with the means which led to success. The lesser interest in big game shooting is the number of beasts shot and the actual killing. The major interest, to most of us at least, is the skill and wood craft

which brings the game to the gun. Even in those palmy days, I take it, one could not get tiger merely by beating by chance through likely patches of jungle. Jungle lore and wood craft there must have been, therefore, but of these the book tells us little.

Again, I think, these enormous shoots, with 50 elephants or more in line, in the Nepal Terai are poor things to read about. We in these modern days do not see much of this, but I do think the few odd tigers that we get on our small scale shoots are worth far more than those rounded up with a vast line of elephants, and that is why, I think, most of us will enjoy Sir Bindon's earlier experiences best.

A more serious military reader will find lots to interest him in the stories of the various campaigns which the author describes from the inside ; there is more to be learned from this sort of thing than from most of our more serious military history.

The frivolous side of life has not been altogether neglected. I specially like the story of the beautiful Calcutta lady who was not prepared to enter into competition with the Simla amateurs !

This is altogether a most interesting book and a remarkable production for a man of 90.

E. J. R.

The Gallant Company.

By H. R. Williams.

(*Angus and Robertson, Ltd., Sydney*, 1933). 6*sh.*

The " Gallant Company " is yet another war book. The author is an Australian who describes the adventures of himself, his friends and the units he served with in Egypt and France. It is a plain, unvarnished tale of the routine of war, vibrating with sincerity and as accurate and truthful as a well-audited balance sheet ; and it must be confessed almost as dull to read through.

Page follows page in which trenches, battles, mud, escapades, heroisms and hardships are described. The only relief to which are tales of horse-play and cheeriness in billets and on courses, or rather emasculated descriptions of experiences in the shadier parts of Cairo or on " Blighty " leave.

This is a book inevitably for Australians, for other British troops are hardly mentioned ; this failure to notice the efforts of others is a

common factor among writers of "personal reminiscences" of the Great War.

On the whole, "The Gallant Company" may be said to serve a useful purpose as a balanced and very typical account of an average soldier's experiences in a unit, which, by being so balanced and typical, are really rather tedious to wade through.

J. A. C.

The Grey Battalion.

By May Tilton.

(*Angus and Robertson, Sydney*). 6*sh*.

In Miss May Tilton's hands "The Grey Company," a diary of her own war experiences as a sister in the A. M. N. S., depicts very cleverly what war means to everyone. She brings vividly back those years of the Great War to all who knew them and to those who had not the experience of the Great War shows something of the pluck and high courage of our men in their great hardships and sufferings, and the comfort and support "The Grey Company" was to those with whom its members came in contact.

Miss May Tilton's wide experiences are told so skilfully that one can visualize much. An added note of colour is found in the descriptions she gives of the places she visited.

E. V. F.

Outram's Rifles—A history of the 4th Bn., 6th Rajputana Rifles.

By H. G. Rawlinson, C.I.E.

(*Oxford University Press, Bombay, 1933*), Rs. 10/-.

The history of a unit which was the military nursery of such outstanding figures as Outram, Gatacre, Scallon and Delamain is of more than usual interest to the Army. In entrusting its compilation to H. G. Rawlinson, C. I. E., a happy choice has been made. The narrative is lively and sustained, its thread remaining unbroken by the avoidance of too much detail.

The result is an eminently readable book abounding in interesting, and occasionally, thrilling episodes. So widely has the unit been employed that in its career in the 19th Century may be traced the history of the Indian Army during that period. On these grounds the book merits a wide circulation.

The history touches on two matters of topical interest. The first is the much discussed subject of "light" infantry, mobility, etc. Outram's pursuit of rebels near Surat in 1825, when he led 200 men 37 miles in 7 hours, gives an interesting example of light infantry at its best. A further case occurred in the Mutiny when the unit marched 58 miles in 38 hours to head off a rebel cavalry force. These are only two of many striking war performances.

The second matter of present day interest is the class constitution of Indian Army units in the old days. Prior to 1888, Jews, Sikhs, Marathas, Christians, Rajputs, Pardeshis and Mohamedans of every kind were enlisted. Caste and religious differences appear to have had no adverse influence.

E. W.

Elementary Tactics, Volume II.

By Lt.-Col. R. P. Pakenham-Walsh, M. C., and
Major E. E. Dorman-Smith, M. C.

(*Sifton, Praed & Co., Ltd., London*, 1934) *sh.* 10/6.

The authors are to be congratulated on producing a book which should be of great assistance to officers in studying their profession and when working for the Staff College and promotion examinations. Their object has been to demonstrate the principles laid down in the training manuals and they have produced situations dealing with a very comprehensive set of problems which may confront commanders in war from a brigade commander downwards. Sound solutions to these problems are included and the authors rightly stress that these can only be taken as a guide. These solutions do not claim to be the best, much less the only ones. Full value will only be obtained from these schemes if officers are sufficiently well acquainted with principles laid down in the manuals to make up their own mind: the suggested solutions can then be used as a basis for comparison and discussion.

The authors have wisely drawn attention to the necessity for keeping up-to-date with the amendments which are issued periodically to the training manuals, and have included amendments necessitated by official decisions up to July 1933. They do not however seem to have taken cognizance of the amended Chapter XII of F. S. R. Vol. II,

as in several places orders and instructions include "ACKNOWLEDGE," whereas the acknowledgment of orders and instructions is now a matter of routine. The book is complete with maps and diagrams: some of the latter are however on the small side and might easily be mislaid. In the next edition the authors might well be advised to print these diagrams on larger sheets of paper.

F. B. W.

The Fighting Cameliers.

By Frank Reid.

(*Angus and Robertson, Sydney*, 1934), 6*sh*.

The conditions among which the Imperial Camel Corps fought in Sinai and Palestine are ably described in this book. The Imperial Camel Corps Brigade formed part of the Eastern Force and was made up of eighteen companies (ten Australian, six British and two New Zealand) organised into four battalions with an Indian Mountain Battery of six guns. The brigade itself was organised as a self-contained unit capable of being independent for five days in desert warfare. The diversity of nationalities among its members, their trials and achievements, makes their exploits comparable with those of the French Foreign Legion. The author emphasises the weariness of desert warfare and gives an interesting description of the intense weariness of the night ride back from Magdhaba on 23/24 December 1916, when the Brigade rode 50 miles and fought a stiff action in a little more than 24 hours.

Though the book does not aim at being a historical record of the doings of the Imperial Camel Corps Brigade, and although it is mainly a personal narrative, it loses none of its interest thereby. The adventures of this Brigade during the three battles of Gaza are accurately described.

The latter part of the book refers to the operations in the Jordan Valley before the Brigade was finally disbanded and is retold in a series of amusing adventures.

The author has given an unbiassed account of the atmosphere in which these operations were conducted, and perhaps the most pleasing feature, particularly to service readers in this country, is the tribute paid to the Indian Mountain Battery who served throughout the campaign and were dubbed the "Bing Boys" by the men from "down under."

E. W. L.

Wild Game Preservation in India.

ANNUAL REPORT (1933) OF THE ASSOCIATION FOR THE PRESERVATION OF GAME IN THE UNITED PROVINCES.

Everyone who takes an interest in sport or natural history must realize the appalling extent to which the stock of wild animals in India, especially in the United Provinces, has been depleted in the last few years.

In government forests, thanks to an efficient department and a well devised set of rules, the position is somewhat better, but outside these reserves, conditions are truly appalling and in many tracts game has been practically exterminated.

This is, of course, due to two main factors. Firstly, the apathy of government, which, outside government forests, has done little to fulfil its trust in this respect and secondly, to the complete lack of a healthy public spirit to take the place of rules and regulations.

At last, thanks to the activities of the Association for the Preservation of Game in the United Provinces, something is being done in the matter. The Association is working hard with two main objects in view. Firstly, to induce government to fulfil its responsibilities as the custodian, on behalf of the country, of its wild fauna and, secondly, by propaganda, to awake a healthy public spirit on the subject.

The Association, as it now stands, however, is not in a position to accomplish very much. Its members are too few and not sufficiently representative to achieve the objects in view. It cannot, in our opinion, fulfil its objects effectively until its membership includes practically all sportsmen in the country and until every district has its committee with a strong set of laws behind it to furnish the basis for action.

In our opinion, effective legislation on the following major points is required, and required immediately if the wild fauna of India is to be saved :—

(*a*) The sale of horns, hides and meat of game animals must be made definitely illegal at all times unless the seller can prove that they were shot under a license.

(*b*) The closing of all destruction of animals and birds both within and without government forests, except under special permit.

(*c*) The enforcement of a definite close season for all animals and birds in all parts of India.

(*d*) The complete closing of all destruction of animals within certain areas until recovery has been effected.

We should like to see similar legislation extended to fish with regard to which the situation is equally serious in many parts of India.

In these democratic days legislation can only be founded on public opinion and is, in fact, useless without it.

We therefore urge on all the importance of joining this Association and of assisting to form an educated public opinion which will not only induce government to produce the necessary legislation but which will ensure that such legislation, if introduced, will be properly enforced.

Chiefly through the activities of this Association, an All-India Conference for the Preservation of Wild Life is to be held at Delhi in December. This will be on an all-India basis and it is hoped that it will represent all Provinces and all important States.

It is hoped that all our readers, will interest themselves in this Conference, for only if it is representative of all classes and all parts of India can it be effective.

Mr. Hasan Abid Jafry, Butler Palace, Lucknow, is the Secretary both of the Association for the Preservation of Game in the United Provinces and of the All-India Conference, and those interested should make a point of communicating with him.

E. J. R.

His Excellency Sir MALCOLM HAILEY, G.C.S.I., G.C.I.E., I.C.S.,
Governor of the United Provinces of Agra and Oudh.