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MATTERS OF MOMENT

Was "Auspex" Right?

"AUSPEX'S" ARTICLE in our last issue has, as we expected, provoked many of our readers. One member suggests that it is the type of article one could expect to find in the *Daily H....* or the *Daily M....*; others say that it has made them angry and disgusted; and others point out that the results of pre-war training have been no mean factor in our victories in North Africa and that criticism of our pre-war system is, therefore, unmerited. The vast majority of members will agree on one point, we feel, and that is that it is a good thing occasionally to undergo a mental spring cleaning, to try to separate the wood from the trees and endeavour to see how the Army can be better trained in the light of experience gained in active operations. What better platform could there be for the expression of these views than such a Service Journal as the Journal of this Institution? Its members are responsible. thinking officers and when they contribute articles they are prompted to do so not for any personal advantage they may

obtain (indeed, most are averse to their name being printed), but by a desire to help the common cause. That cause will not be assisted by a "yes-man" policy, but by a bold, vigorous and trenchant expression of views which will guide others to new ideas and new ideals.

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Hitler's Blunder

HITLER, like the Kaiser in 1914, made some appalling miscalculations before embarking on this war, but the biggest may be said to have been his belief that Great Britain would have to fight without her Dominions. It showed a singular and surprising lack of understanding. For centuries Britain and its peoples have felt free to grumble, to criticise, to express their convictions publicly. The Germans were utterly misled. They failed to realise that the Statute of Westminster was more than a "scrap of paper." Even to-day plain speaking from the Dominions is seized upon by the Axis as an indication of a weakening of the family tie. Yet never before in history has a world Empire shown itself to be so united in spirit, vitality and determination. It is, indeed, worth-while to record the fine co-operation of the members of this great family of free peoples—the British Commonwealth of Nations.

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Canada and South Africa

Canada, its army grown from 4,500 to 335,000, and its Air Force from 5,000 to 150,000, has become a highly industrialised country. Last year she produced a million tons of shipping; her aircraft industry has expanded phenomenally—so much so that in 1942 she produced twice as many aircraft as in the whole of the last war. Tanks, guns and explosives are all flowing from a country which the Fuehrer and his satellites thought was chiefly agricultural. Canada is also the home of the Empire Air Training Plan, and thousands upon thousands of airmen have been trained there, far from any of the modern "intruder" raids by

Germans. South Africa, whose aid has been a veritable tower of strength in ridding the African Continent of the Axis, has been led by that genius among statesmen, Field-Marshal Smuts. Hitler's hopes that Hertzog would influence the Union at least to the extent of being neutral were utterly falsified. Instead, he sees a country which has been the Clapham Junction of our shipping, a country which swept its armoured forces up to Kenya against Mussolini's Colonial Empire. South Africa's industrial output, the versatility with which its factories turned to munitions and explosive products, have been factors which reflect great honour on a people whose open-handed hospitality to masses of troops from the Homeland will be remembered in British homes long after this war has ended.

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Australia and New Zealand

Australia, now in the front line, has an Air Force over 100,000 strong, and an Army powerful enough to give Japan a worrying time. In the last war her munition production was limited to small arms ammunition. Now she is turning out almost every kind of weapon, employing in the process half a million workers. Invention has played its part, too, for the Owen gun, invented by an Australian private soldier, has been in full production for the past two years. Of her sons, who in the last war and in this have fought in every field of battle, little need be said, excepting that the Empire owes their country a debt which can only be repaid by sweeping the enemy back from her shores and defeating Germany's Ally in the Far East. New Zealand, land of lamb and butter, has changed to a country turning out Bren guns, military uniforms (she has manufactured a million-and-a-half), mine sweepers and patrol vessels, millions of rounds of S.A.A. each month, hand grenades, mortars and bombs. To turn from the Dominions to other parts of the Empire, we cast our minds to India's mighty Citizen Army of nearly two million volunteers—the world's largest volunteer

band of soldiers, coming from a country which is said to hate the British. Thus from all sides we see the very reverse of what Hitler expected to find. What amazing misjudgment by a leader held by his dupes to be a superman!

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Japanese Propaganda Fails.

FOR YEARS PAST propaganda from Japan has flooded countries the world over. Small newspaper offices, libraries and national organisations have received expensively-produced pamphlets by the thousand, setting out the attractions of the Land of the Rising Sun. Either their "printed-paper salesmen" failed in their purpose, or the propaganda lacked general appeal, but the fact is that few countries were so little known to the man in the street at the beginning of this war as Japan. Our other enemies and their mode of life we know, but proof of our ignorance of Japan will be evident to every reader of the article on that subject which we include in this issue. Not a little of its contents will be "news" to many. The statement that ferro-concrete buildings are flanked by wooden houses with sliding bamboo and paper doors; that the "electric-eye" opens the doors of Tokyo's departmental stores, that one theatre there seats 4,000 people, are all enlightening facts about a country which the average man thinks is years behind the Western nations.

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Why Fight Japan?

In this connection, we venture to direct attention to a *Current Affairs* pamphlet entitled "Why Fight Japan", recently published by the Directorate in G.H.Q. which issues this Indian equivalent of the ABCA pamphlets at home. Those responsible are to be commended for the publication of what will be considered by many to be an unusually frank and outspoken document, setting out in plain language the reasons why we have to destroy our Far-Eastern enemy if we are to secure world peace. At heart, the British soldier of to-day is just as courageous.

just as full of the fighting spirit as were the "Old Contemptibles." The latter, however, fought with the knowledge that their enemy was at their doors. Japan is not, and it is essential that everyone who fights them should be reinforced with the plain facts of why he is doing so. This pamphlet tells him. Indian troops have also been told the facts of our war with Japan in a special *Current Affairs* pamphlet. Undoubtedly, the more knowledge we have of Japan, the more our soldiers learn of why we are at war with that country, the greater will be the spirited and impassioned determination to drive their armies back to their own country, and ensure that they stay there.

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Opportunities for Inventors

IT IS A TRUISM that in war ideas which can wield great influence spring from the minds of high and low rank alike. Many instances could be quoted of improvements which, having gone through the mill of research and scrutiny, have proved an enormous factor in the ultimate success of a nation. India is no whit behind in providing machinery to give scope to the inventive minds of its soldiers, for a link between civil scientific training and the war effort is provided by the G.H.Q. Supply Development Committee, which, under the Chairmanship of the Master-General of Ordnance, considers ideas and suggestions for the improvement of all types of equipment, and is responsible for the development of such ideas up to the production stage. This Committee keeps in close touch with research workers and organisations, and includes among its members Sir S. S. Bhatnagar, Director of Scientific Research. The interests of the inventor are well safeguarded, thus ensuring that those who submit inventions receive their due reward if proved successful. All ranks of the Service who have ideas are invited to submit them to the Committee at G.H.Q. They can be confident that their suggestions will receive the attention they merit.

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CAMPAIGNS THROUGHOUT the ages have been influenced by disease and sickness. Greek historians have recorded that the plagues of Athens kept the Athenians from attempting to drive off the Lacedaemonians from Attica. In 390 B.C. plague put a stop to Hannibal's advance to Sicily; Marius owed his victory over Octavius in 88 B.C. to an epidemic which destroyed 17,000 of the latter's army. Charles I, in 1643, might have marched from Oxford to London and thus changed the whole aspect of the Civil War had he not been stopped by typhus among his troops; while the French Revolution might have had a very different outcome had the Prussians not had to retreat after losing more than a third of their men through dysentery. These reflections on the effect of illness among armies are a timely warning in 1943, for despite the great advance medical science has made, one disease at least—malaria—requires constant thought if it is not to seriously retard the United Nations' work over the Eastern Frontier and elsewhere.

Sickness in War

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For that reason we invited the Director of the Malarial Institute in India to give members the benefit of his knowledge on this important subject. His hints and his advice are worthy of the closest study by officers who may be operating in malarious areas, for it must always be remembered that the Medical Officer can only be the adviser in this work. The responsibility for seeing that his advice is carried out is solely that of the officer who, by obedience to authoritative advice, cannot merely save lives, but contribute greatly to eventual victory. It is just as important to keep men fit as it is to train them for war. Our mighty armies in Britain have become "gas"-conscious during this war. Every effort should be exerted in this country to make our soldiers "malaria"-conscious. It will be an effort which will repay itself a thousand-fold.

The Advice of Experts

OUR EDITORIAL NOTE suggesting that the Dominions might consider post-war schemes for selected officers has prompted some members to inquire about Colonies. Colonies, however, are very differently placed.

Settlement in Colonies

Opportunities for farming greatly exceed commercial work; educational facilities vary; climatic conditions range from the tropical to more temperate climes; cost and standards of living present differences. Moreover, only a few British Colonies are suitable for settlement purposes, among them being the East African territories of Kenya and Tanganyika (the former mainly a British Colony and the latter a Mandated Territory), Nyasaland, Southern Rhodesia, while Cyprus, the West Indies and the Seychelles Islands in the Indian Ocean may appeal to the more elderly seeking a comfortable and easy life. Most of the above, it will be seen, are in Africa.

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Generalisations in regard to colonisation in those countries are dangerous, for conditions differ so widely. Southern Rhodesia, for instance, is a self-governing Colony, which, in the years before the war, was expanding rapidly. In mineral resources, all kinds of farming industry, scenically, and commercially, it is a go-ahead country, which will undoubtedly come to the fore in the post-war years. A modest house and grounds in the town areas would cost from £1,200 upwards, but would be considerably cheaper in the country areas; living expenses depend greatly on the produce the settler can grow himself; rent for houses and surrounding land ranges from £10 to £20 a month. Medical attention is readily available, educational facilities include Government schools from kindergarten to High Schools, at fees from £4 to £10 per annum; while there are private boarding schools, the fees of which are about £60 per annum.

Southern Rhodesia

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Kenya and Tanganyika

Kenya, which with the exception of a small coastal strip, is a British Colony, offers good scope for the enterprising man with some capital. Cost of living is difficult to assess, for the settler living up country can, by producing much of his food on his farm, immensely lower his living costs during the period he is building up his farm. Climatically there are varieties with the differences in altitude, but throughout the Highlands it is eminently suitable for white men and their children. Social amenities of all kinds are available, and educational facilities of many standards exist. Tanganyika settlement is largely in the Northern, Usambara and South-west Highlands, where the climate is suitable for Europeans. For a man with limited capital, and enterprise, there is good scope in farming, and a few years before the war a company was established in Southern Tanganyika with the object of encouraging white settlement there. A word of warning, however, is necessary, for primary agricultural producers, being dependent on world market prices, have often been hard hit when prices fall. In each of the above countries, however, the potential settler now has the advantage of helpful and expert advice from the local Department of Agriculture, and no one should get beyond the inquiry stage without seeking their counsel.

Members are earnestly requested to notify any change of address to the Secretary without delay. Such cooperation will not only help to ease postal traffic at a time when mail services are overburdened, but will also ensure prompt receipt of the Journal each quarter.

CIVIL GOVERNMENT UNDER INVASION CONDITIONS*

By H. E. the Rt. Hon. Sir Reginald Dorman-Smith, G.B.E.,
Governor of Burma

SO MUCH nonsense has been written and said about the behaviour of the Government of Burma and its officials during the Japanese invasion that at least some of the more gross misrepresentations should be answered.

The Japanese invasion of Burma was only the first phase of the Burma campaign, and during this phase soldiers and civilians were brought into very close contact. It must become even closer when the next phase, our return to Burma, begins. If the military machine is to function smoothly and efficiently, there must exist between armed forces and civilian services a highly-developed degree of mutual confidence.

When our armed forces return to the country they will be accompanied by members of the Civil Service, dressed as soldiers, but precisely the same officers who went through the invasion as civil servants of the Burma Government. It is difficult to see how the military authorities can repose that requisite confidence in those officers if they believe even a tithe of the accusations unjustly levelled against them.

But the fact is that the Burma civil services can look back on that campaign with at least the same feelings as the armed forces. They did their duty faithfully and, when the next phase begins, every military commander can know that he will have with him men who have been tried and most certainly have not been found wanting.

It is not difficult to state the main duties of a civil government towards the military authorities in time of war. They are: (1) to recognise that military requirements are paramount, and to condition themselves to meet these requirements; (2) to do everything within their power to assist the armed forces to defeat the enemy; and (3) to adapt the machinery of government to the *tempo* which war demands.

On the other hand, the military authorities have some duties to the civil administration: (1) Their main duty is to keep the civil

*Being extracts from an address given to members of the Institution in Simla by the Rt. Hon. Sir R Dorman-Smith.

administration fully informed of the military situation; (2) to be precise and definite about their requirements; and (3) to pay due—but not more than due—attention to the civil government's appreciation of the local civilian situation, a complete disregard of which may well land the army into many troubles which could be avoided without detracting from the war effort.

May I touch briefly on the civilian background against which the campaign was fought? Only a proper understanding of this will enable one to appreciate the reasons for some of our actions.

Burma was not a colony. Ignorance of this very elementary fact has caused much misunderstanding. Any idea that Burma was governed by an autocratic governor surrounded by a bevy of European officials is nonsense—yet many observers were, and still are, under that impression, and that I, as Governor, had only to give an order for it to be carried out. That was far from the truth, anyway, before war broke out.

Burma had achieved a very high degree of political development. Perhaps the best way to describe her status is that she was a self-governing unit within the British Empire, which had not yet achieved Dominion status. Burmese Ministers, responsible to a freely-elected Legislature, were in complete charge of all departments of government, with the exception of Defence and Foreign Affairs, which subjects, together with others militarily unimportant, were reserved to the Governor. Thus, Law and Order came under the Council of Ministers, the civil and military police forces being directly under the Home Minister. Public Works, Posts and Telegraphs, Finance and other Departments were the direct concern of Ministers.

In fact, Burma did enjoy, to all intents and purposes, complete domestic home rule. The Governor had certain powers of veto, but the occasion seldom arose where their exercise were necessary or justifiable. To complete the picture, railways and the port of Rangoon were both run by semi-independent bodies, neither being directly under the Governor.

But the political atmosphere was disturbing and I, a newcomer, found it hard to form any sort of opinion as to how the ordinary people would re-act to an invasion, fed as they had been, on large doses of anti-British propaganda. One of our first duties was to prevent internal unrest, and it was equally clear that if the Army was to be left free to concentrate on fighting the enemy, the political situation would have to be handled with very great care by the civilian authorities who alone had the necessary knowledge to enable it to be handled.

There was another peculiar feature about Burma which had a great bearing on the conduct of the campaign. Burma relied very largely on Indian workers—that is to say, on foreigners—for the running of essential services. This alien population of workers had but few roots in Burma soil, and it was only natural that, when the Japanese began to bomb and invade Burma, the eyes of these Indians should turn to India, where they would not be threatened with a sudden death by bombing from the air. These same Indians later formed that vast multitude of refugees with which the civil administration had to cope—and with which history will, I believe, say they coped with success.

Let me stress the importance of this point. The civil administration had the uncomfortable knowledge that if this Indian labour were to depart, those services essential to the military authorities would break down completely. As it was quite impracticable to conscript these workers, it meant that the Government of Burma had a double task: (*i*) By some means to keep those essential workers at their jobs; and (*ii*) eventually to deal with the immense problem of refugees. Not only had as many as possible got to be evacuated, but also they had to be evacuated in such a manner as to prevent them from getting in the way of the fighting troops. With only two roads leading out of Rangoon, this was a nice problem, especially as we knew (and the Indian workers knew even better) that the Burmese had no great love for the Indians.

Not for one moment do I underrate the trials and tribulations of the Indian and other refugees. Their sufferings were great. But that something like 500,000 refugees were successfully evacuated, in the face of a swiftly-moving enemy, without hampering the movements of our retreating forces, was no mean achievement, and it is one which does reflect the very greatest credit on the courage, determination and organising ability of those civilian officials and non-officials concerned with this mass movement of almost a population. It was a very different story from what happened in Europe, where military movements were severely hampered by refugees.

Certain criticisms have been levelled at our civil administration. Here are some of them:

(1) Why did civil officials in charge of districts leave their posts instead of staying on with their people?

(2) Why was not Martial Law proclaimed?—a very general query, this. Belden in his book, "Retreat with Stillwell," gives as one of the main reasons for the Burma debacle: "the emasculation of military authority owing to the original unwillingness to declare martial law."

(3) Why did I and the G.O.C. give optimistic broadcasts when most people knew that the situation was desperate?

(4) Are the accusations made by Gallagher in his book "Retreat In the East," against the *Burra Sahibs* correct?

(5) That the Government went on in the same old way, and failed to step up its procedure to meet war conditions. .

(6) That there was constant bickering between the military authorities and myself, because I not only intervened in the military conduct of the campaign—for example, I am alleged to have given direct orders that no attack should be made on Siam—but also that I interfered with the internal affairs of the Army, and even went so far as to stop all army pay for some three months!

These criticisms conjure up a pretty sort of picture: (*i*) quarrels in high places; (*ii*) a cowardly lot of civilian officers who refused to do their duty, being much more keen on the safety of their own skins; (*iii*) a rotten lot of non-official civilians, who refused to pull their weight in an emergency and yet, withal, (*iv*) a Governor and a G.O.C. who dared to make optimistic speeches, completely misleading the people when everyone knew that all was lost.

But, of course, in fact that picture could hardly be further from the truth, and is a complete travesty of what really happened.

Let me take three small points first: (*i*) There was the very closest liaison between the G.O.C., the A.O.C. and myself. I do not remember one single occasion on which we had any difference of opinion on any point of substance. No Governor could have wished for wiser and more co-operative military commanders than Generals Hutton and Alexander, and Air Vice-Marshal Stevenson, nor could our relations with the C.-in-C., Field Marshal Wavell, have been more cordial. (*ii*) It was not my job to intervene in the military handling of the campaign, although I do plead guilty to having strongly supported the idea of an incursion into Siam to cut the railway to Malaya. It is not easy to run a campaign in Burma from the distance of Singapore, and Field-Marshal Wavell must have experienced the same difficulty when he had to function from Java, with none-too-good communications. (*iii*) I did once intervene in regard to the pay of troops. I was told by the G.O.C. and A.O.C. that there was a danger that R.A.F. and British troops coming from India would have their Indian allowances cut, and that they would be put back on British rates of pay. This I was able to avert. Beyond also getting a rise of Rs. 5 a month for indigenous troops, the pay of the forces did not concern me.

Did the Government of Burma make any serious attempt to evolve an elastic system of administration? Did they attempt to step themselves up to the *tempo* which war demands? If no such attempt was made, then indeed we would be blameworthy to a degree. But in fact a novel and rather remarkable system did come into being—one which I believe would have worked even more satisfactorily if events had not moved with such disconcerting speed.

I do not wish to pretend that everything went like clockwork, and that there was no confusion. There was—and I suggest that a successful invasion always will create confusion among an invaded population. Communications break down, making it mighty difficult to get orders through; information is hard to obtain, and the great enemy "rumour" rears his ugly head.

Then the enemy may make some move which may completely alter the situation. In fact, we found on more than one occasion that plans made one day had to be altered the next because of a sudden and dramatic change in the military situation. Only those who have been through an invasion in positions of responsibility can really understand just how unsettling it is! I am not at all ashamed to admit that our plans were not all carried out with precision, because I know that under the circumstances that would have been expecting the impossible.

Let me start from the first air raid on Rangoon. Before Japan started in on Burma, I had appointed a senior civilian officer to be Chief Civil Liaison Officer, much on the same lines as a Regional Commissioner at Home. My idea was to have such an officer, free from departmental duty who, in the event of air raids, could immediately take over the city and clear up the ensuing dislocation.

Rangoon was vital to the military forces; its essential services would have to be got back to work as quickly as possible if reinforcements and supplies—our own and Chinese Lease-Lend supplies—were to come in. Clearly, some sort of local Dictator would be necessary.

Well, this officer was ready and was given a free hand. He collected round him a small band of officials and a representative of the commercial community. So all-powerful was this little band that they were quickly dubbed "The Soviet"—and a very fine job of work they did, too. On December 23, 1941, there was a very heavy raid, which killed some 2,000 civilians and wounded some 2,500 more; this was followed by a less serious raid on Christmas Day.

These raids were followed by a great exodus of Indian workers, some 100,000 of whom set off for India. They had to be got back, and arrangements made for feeding and housing them. Other arrangements had to be made to evacuate non-essential people, while the work of restoring the ordinary life of the city had to be pushed ahead. It is a rather remarkable tribute to the work of this "Soviet" that by January 3 a vernacular paper reported: "The city is returning to normal. Daylight robberies have started again."

Meanwhile, what had happened to the Burmese Ministers? The answer is that they willingly faded out of the picture during that emergency. They used to meet me every evening at Government House, when the C.C.L.O. would report, and the Ministers would, when necessary, pass such orders as would give legal sanction to his actions. As the real emergency died down, Ministers did feel that they should have a greater say in what was happening, so I set up a small Ministerial Co-ordinating Committee of four Ministers, to whom the C.C.L.O. reported. This Committee issued instructions to Departments, and automatically conveyed sanction for any necessary expenditure of money.

To avoid delays in Upper Burma, with frequent references to Rangoon for orders, as the enemy was getting close to Rangoon, I sent Sir John Wise to Maymyo, with full powers to take charge up there, and to prepare against the eventuality of Rangoon being lost to us. Sir John was able to keep in touch with rear Army Headquarters, which moved up from Rangoon, to collect such civilian officers whose districts had been overrun and re-post them, and generally act as a rear headquarters of Government, as a counter-part to rear A.H.Q. but probably with more individual authority than could have been given to an officer in charge of that headquarters.

Eventually, I wended my weary way up to Maymyo, where I was joined by all but three of my Ministers. By that time, the Government was scattered—if only because there was no one place where they could find accommodation together. Communications were by then difficult, and events were moving fast. But our forces were by no means defeated, and General Alexander had not even then given up hopes of resuming the offensive. Chinese troops were in action, and more were coming in. Even then, we were not contemplating "total defeat."

On the other hand, as the tide of invasion swept on, the normal life of the country was coming to an end. Armed bands began to roam the countryside, and against them civil police armed with shotguns were useless. We had lost command of the air and had no answer to Japanese bombing. Food and petrol rationing

problems arose, while Indian refugees congregated in their tens of thousands; they had to be fed, doctored and looked after, and plans made for their disposal. Concentrated work had to be put in on the Tamu road; other road projects involved the collection of large numbers of labourers, and arrangements for their maintenance. The fact that these projects did not proceed far did not lessen the burden, while it largely fell on civilian officials and non-officials to feed the Chinese forces in Burma.

This was not the time to resurrect the old, ponderous machinery of Government. Nor was it resurrected. The Burmese Ministers quite understood the situation, and voluntarily gave me a free hand. They undertook not to question my decisions, but to give them such legal sanction as might be necessary. This bargain they carried out faithfully. They kept their co-ordination Committee going to deal with smaller matters.

A Commissioner was appointed, with full powers to get on with the refugee problem. I broadcast a message to District Officers, telling them to use their own discretion and take their own decisions without reference to the Government—and I was rash enough to tell them that so long as those decisions were designed to hamper the enemy, I would back them up, right or wrong. In other words, we decentralised with a vengeance.

Thus, we did evolve an elastic system of administration.

I am convinced that if the front had been stabilised, if we had had any breathing space and any adequate means of communication, this system would have worked to the satisfaction of the military authorities, even though the civilian population might not have relished it. But we never did get a breathing space. The Japs rolled up the whole show with very great speed, and we had to improvise to the last.

Why was not Martial Law proclaimed? Would it not have been better to sweep away all semblance of civil administration, and let the military authorities run the whole show? In those questions lie two big assumptions: (*i*) that Martial Law was not proclaimed, and (*ii*) that the military authorities could have dealt more effectively with civil problems than the civilian authorities.

The first assumption is entirely incorrect. The second is, to my mind, highly debatable. Indeed, with all respect I am perfectly certain that they could only have made such confusion as there was ever more confounded. Here are the facts about the declaration of Martial Law.

On February 21, 1942, the G.O.C. suggested that the time had come to place Rangoon under military control. On the same date, indeed, in precisely the time it took to type out the order, Rangoon was placed under a Military Commandant. Up to that date no suggestion had been made by the G.O.C., or by the C.-in-C., that Martial Law should be proclaimed, and there was no need for such a proclamation. Later, General Alexander issued no less than three proclamations establishing Military Courts, and taking over civil jurisdiction in certain areas.

The only slight difference of opinion I had with General Alexander was how far those martial law areas should extend. That difference of opinion was quickly resolved, I think, to the complete satisfaction of both parties, as General Alexander is not the type of man to go away dissatisfied if he thinks that what he wants is right. And it is perhaps pertinent to say that had we known that the Japanese advance would continue with such speed, neither I nor my advisers would have questioned General Alexander's first request. But we were not vouchsafed that knowledge. It is, therefore, entirely wrong to say that Martial Law was not declared, or that the civil authorities fought against its declaration.

Martial Law is a curious thing. Some think that the proclamation of Martial Law has some sort of magical effect which dispels all difficulties. Others think that Martial Law brings comfort to the law-abiding, and puts fear into the hearts of the lawless. It may be true of some countries. It is most certainly not in Burma.

There the military are not so popular as all that. Indeed, if the Japanese wanted to clear a town of its inhabitants, they put out news that the military were going to take over. On at least one occasion, in order to keep Rangoon at work, I had to go to the microphone and deny the rumour that such an awful fate was in store for that city!

It might be argued that in war, feelings of civilians cannot be allowed to matter, and that in spite of any dislike of military rule, the army must just take over. It might have worked, though I doubt it, if the G.O.C. had had adequate forces to dragoon the people into obedience. But the G.O.C. in Burma never had sufficient forces to cope with the invader, much less to deal with what might have become a sulky, if not hostile, civil population.

The appointment of a Military Commandant in Rangoon made no material difference. Before he took over, police and military patrols had orders to shoot looters on sight. The mere transfer of

authority from the police to a military officer did not affect the situation one whit, because there were no surplus troops to bring in to Rangoon to deal with looting, etc. I believe one or two military courts did sit in Mandalay, but beyond that nothing happened because no personnel were available to man the courts. The Civil Government, however, promulgated a "Treachery Ordinance," which gave summary powers to District Magistrates. We even abolished hanging, and permitted summary executions by shooting.

Surprise may be felt that the G.O.C. never suggested doing away with Ministers while we were still in Rangoon.

However, he fully understood that any suspension of the Constitution might have a deplorable reaction throughout the country. If they were gratuitously dismissed when they knew they were trying to help, Ministers would not have been in a good frame of mind. As it was, they threw in their weight on our side, moved among their people, encouraging, calming, explaining. I venture to think that the fact that there was no organised opposition to our retreating troops from the villagers in Tharrawaddy or Shwebo was to a great part attributable to the work of Ministers.

Even if Parliament had agreed to suspending the Constitution, which is problematical, it would have been a major error of judgment to have ousted Ministers, for the sake of declaring Martial Law. I agree that if a proclamation of Martial Law had been necessary to enable the Army to take over essential services, it should have been promulgated. But without any such Proclamation the railways did pass into military control; the Irrawaddy Flotilla Company was requisitioned and handed to the Army; the P.W.D. in forward areas was under local military commanders, as well as the Posts and Telegraphs.

It may be argued that these arrangements should have been made sooner, but two factors must be borne in mind: (*i*) the speed of the Japanese advance; and (*ii*) the fact that the Army were short of trained staff officers to take charge of civilian departments. This is not a reflection on technical officers in Burma, who did quite remarkable work under very difficult conditious.

Thus, my answer to the criticism: "Why was not Martial Law declared?" is:—

(*i*) Whenever military authorities asked for it, it was proclaimed, though for certain reasons the words "Martial Law" were avoided, and "Security Law" substituted. The Proclamation, however, gave the G.O.C. all the powers he required.

(*ii*) The military authorities were given complete charge of communications, though it is debatable whether this transfer of control led to increased efficiency, owing to the army's lack of trained personnel.

(*iii*) Arrangements had been made to hand over the P.W.D. and P. and T. Departments to the G.O.C.

Why did not civilian officers in districts stay on with their people? The short answer is: Because I received direct orders that civilian officers should not stay on and be captured, but that they should conform to military movements and leave districts when local military commanders agreed that they could be of no further use to them.

Earlier instructions were that civilian officers should stay put. Those orders were faithfully carried out at Victoria Point and Tavoy, where the executive officers fell into Japanese hands. And I have not the slightest doubt but that had those orders stood they would have been equally faithfully carried out by every member of the Civil Services.

I am convinced that the later decision was the right one. There is some object in leaving civilian officials behind to assist the civil population when you are fighting a civilised enemy; they may be permitted to carry on, acting as a buffer between the occupying authorities and the population. But the Japanese are not quite so civilised as that. As far as we know, the Tavoy and Victoria Point officers were immediately sent out of Burma, and were not allowed to help those who had been in their charge.

I imagine that those who laid down the revised policy, knowing Japanese treatment of civilian officers in other countries, must have argued that, by remaining behind, Burma Government officials could have done no good whatsoever for the Burmese people, and that we would have lost officers whose knowledge of the country was quite irreplaceable, and who would be of vital importance to the military commander when the time came for us to return to Burma.

Do not think those officers enjoyed leaving their people. They did not. In fact, they reacted violently against it. I know how they felt, because I was much in the same position—and to this day I do not quite know what I would have done had not at the very last moment a direct order come telling me to leave Burma. My whole inclination was to stay, and it was with a very heavy heart that I obeyed.

I should like to pay a very high tribute to the work which District Officers did, and for their great devotion to duty. Apart from trying to keep their districts alive, they assisted the local military commanders passing through, as much as they could. I have every reason to believe this was done efficiently. I commend to you the words of General Smythe in this Institution's Journal of July, 1942, when he paid warm tribute to the officers of the civil, canal and railway services in Burma.

Throughout their long retreat from Moulmein to India, the Imperial Forces never failed to find the senior civilian officials at their posts. True, there were desertions among lower grades, but those defections really made not the slightest difference to the course of the campaign and were, to a very large degree, offset by the willingness of the senior officers to shoulder a double or treble burden.

Now as to those speeches of mine which were too optimistic. (The G.O.C. did not, to my recollection, make any speech). One of the curses of this age is that those at the head of affairs are expected to speak from time to time—and when things are not going well they are expected to speak generally at the most awkward times, when they themselves would give anything to remain silent. If they do not speak, then it is concluded that things are so bad that they simply dare not speak. If they do speak, they are nearly always either too pessimistic or too optimistic.

Perhaps the most-widely-criticised of my poor utterances is a speech I made on February 8, seven days before Singapore capitulated. Morale in Rangoon was low; many deputations urged me to say something. The main points I made were:

(*i*) That it was our intention resolutely to hold Rangoon.

(*ii*) That there was not the slightest truth in the rumour that Rangoon would be taken over by the military on February 15.

(*iii*) That at that moment Rangoon was being stoutly defended on the banks of the Salween and elsewhere. There was, therefore, no immediate threat to our city from that quarter.

(*iv*) Though no area of Burma could be considered safe, I could see no reason for a hectic rush from Upper Burma.

In the light of events, I suppose it can now be said that those words were unduly optimistic. Nevertheless, every word had been carefully weighed and checked up by the G.O.C. beforehand. Remember, we were actors in a very great drama, but unlike ordinary actors on an ordinary stage, we had no means of knowing how our drama would end.

Had I known precisely what was going to happen, I might have taken a different line, as nobody wishes intentionally to deceive the public—that is a policy which never pays. But I repeat that every word I said appeared justified in the light of the military appreciation on that day. We had not been beaten; we had no intention of giving up Rangoon without fighting hard for it; and we had every intention of trying to hold on resolutely to Upper Burma. Reinforcements were on their way; Chinese troops were in the offing; and we had reason to hope that our air force would be considerably increased.

Things were tough, but by no means hopeless. What would have been quite hopeless from a military point of view was to allow morale so to deteriorate that every one downed tools and cleared off without solid justification for so doing. Critics may justifiably be asked to think back to the situation as it existed at the actual time decisions were made or words uttered. Being wise after the event is a great pastime—but a very profitless one.

Lastly—the *Burra Sahibs*. I have no idea how they behaved in Malaya, but Mr. Gallagher's appreciation of their behaviour in Burma is grossly inaccurate. In Burma the business community can look back with pride on their efforts. Not only were demolitions carried out by civilians—and the *Burra Sahibs* played their full part in this work, and were among the last to leave a burning city as the Japs entered it, by which time Mr. Gallagher was many hundreds of miles away—but also, as their businesses packed up, non-officials placed themselves unreservedly at the disposal of Government.

As far as I know, there were no idle hands among them, nor was there any thought of "safety first" in their minds. Their readiness to face danger and to tackle any job which they were asked to undertake was more than merely praiseworthy, as was their willingness, before war came to release the younger members of their staffs for military service. The so-called *Burra Sahibs* of Burma acted as good soldiers, and brave subjects of the King.

It may be asked why, if everything was as I have described, we suffered such a severe defeat, and why there was so much dislocation and, at times, confusion. My answer is that a successful invasion inevitably casts a net of confusion before it. It always has, and it always will. Invasion, too, is a great test of individuals, whose strength and weaknesses it soon finds out. It is the worst fate that can befall a country.

It is as idle to pretend that there were no weak members of the civilian services as it would be to pretend that every military officer

was a genius. We were all very human beings trying to cope with an impossible situation. There is no need whatsoever to look for scapegoats for the Burma campaign. The plain fact is that we had neither men, aeroplanes nor equipment in sufficient quantities to resist the invader. If every soldier had been an Alexander and every civilian had not made one single mistake, there would have been no difference in the result.

Our fate was sealed when our flow of reinforcements dried up, and when we lost command of sea and air. All we could do was to try to do our duty as we saw it at the time.

But I have no feeling of complacency. We have got the devil of a job before us before we finally liquidate the Japanese in Burma and reconstruct that unfortunate country. The next phase of the campaign is going to be the very reverse of a picnic, unless I am much mistaken. My only plea is that, when the time does come to go back, there should be the very maximum of understanding and confidence between the military and the civil authorities.

WHAT'S A LITTLE HANDICAP?

By Major Sir Clutha Mackenzie

St. Dunstan's and its work has spread from its home in Regent's Park to India, and in Dehra Dun the welfare work for the blind which for a quarter of a century has achieved such success in London is being carried on by Major Sir Clutha Mackenzie, representative of St. Dunstan's in India.

Blindness is one of the cruel tragedies of war, but in this article Sir Clutha gives us a vivid pen-picture of the thoughts, aspirations and ambitions of blinded soldiers. They are far from gloomy. They are cheerful, heartening and full of good humour.

Sir Clutha Mackenzie would be grateful if news of all new war-blinded cases, British or Indian, could be sent to him as soon as possible after they occur. His address is Kennedy Cottage, Simla.

The Government of India has also appointed him as a special officer to inquire into civilian blindness in India, and to draw up plans for the further development of blind welfare work.—Ed., U.S.I. "Journal".

THE FOUNDATION of a training establishment in Paris by Valentine Hauy in 1784 marks the beginning of modern blind welfare. Before that, the mass of blind people—and the ratio of them was high in those days—had no option but to beg for their living. Seeing people took it for granted that they could be of no economic use, and, from sympathy, custom or religious obligation, gave them alms.

Some of the blind gave some small service in exchange—repeated portions of Scripture from memory, sang or played musical instruments in the streets or sold trinkets. A few, with more determination than the rest, found tasks with which to satisfy the yearning of their muscles and souls for something to do—sawing wood, drawing water and probably other tasks, unrecorded in history, and the women carrying out small domestic jobs in the home. For the most part, however, their lives were wretched.

The work in England was pioneered by philanthropic and religiously-minded people, and was wrapped about with a poverty-stricken, workhouse, psalm-singing atmosphere—tin plates, bare floors, restricted liberty. The societies revelled in such names as "asylum", "refuge for the indigent blind", and "institution for the poor afflicted blind".

The blind members were always labelled "inmates", and on the whole they were not expected to become really useful, nor perhaps even to have the ordinary impulses and enjoyments of the man of the world. In the main to be "inmates of an institution" was their role throughout the 19th century. Nevertheless, it represented a tremendous advance, and from it were emerging many blind people of capacity who were battling against public opinion to carry the work to a better and more human plane.

It was Sir Arthur Pearson who contributed most towards shaking off the old shackles of workhouse charity and inmate institutionalism, and of fitting the blind in as practical, normal members of society. Pearson lost his sight in 1909 at the height of his battle against rival newspaper interests for the dominant position in the London press. He accepted at first the ruling of friends and relatives that, of course, he must give up work and retire; but he soon rebelled.

He returned to London; and soon found that, by adapting his methods a bit, he could carry on as before. He speedily added active participation in blind welfare work—indeed, he swept into it like a tornado, full of wholesale revolutionary ideas—not, of course, to be particularly popular among those who were devotees of their old-time system for the "poor afflicted blind".

When in 1914-15, a steady stream of young men, blinded in the various theatres of war, began to arrive in England, Pearson founded St. Dunstan's. He would not have them scattered through the "institutional" establishments which set seven years as the necessary training period, and which then would not give the ex-serviceman the normal position Sir Arthur thought he could give him.

Otto Khan, of New York, lent his house in Regent's Park, St. Dunstan's by name. The clock-tower of the old church of St. Dunstan's in the City, destroyed in the Great Fire, had been built into it; and Pearson's work inherited the name. St. Dunstan, Archbishop of Canterbury in the 10th Century, was a robust old saint, patron of fishermen and blacksmiths, who had once pinched the devil's nose with a pair of red-hot tongs,

When I was wounded in Gallipoli in August 1915, St. Dunstan's was already a brisk and busy establishment, though still not widely known. Pearson heard of me in the New Zealand War Hospital at Walton-on-Thames, and, during my two months there he came every Saturday afternoon to see me. He, with three or four young officers and an equal number of jolly V. A. Ds. took train from London to Hampton Court, lunched, walked over to Walton and had tea with me—such a cheerful party and the fellows tremendously interested in their new life and work, and obviously not worried nor depressed by their blindness. And Pearson, of course, was a blustering magnetic storm of talk, laughter and anecdote which blew enthusiasm into everyone around.

He soon found a way to show the new fellow like myself how he could still be useful. One of those warm autumn afternoons as we sat, shaded by the trees in that pleasant riverside garden, he discussed possible outlets for me. I was but a boy of twenty, and had spent the brief years between school and the war on sheep and cattle runs in the New Zealand hill country. That life was out of the question now. We talked over the law, the church, massage—no, none of them appealed.

"Well," said Sir Arthur, "what about trying your hand at writing something for me? You said last week you were regarded as a good essay writer at school. A few minutes ago you were giving me a really very colourful account of New Zealand's native flowers. Write me twelve hundred words, if you would care to, and give them to me next Saturday."

I had already learnt enough typing in hospital to knock this out for myself, and Sir Arthur took the result away with him. Early the ensuing week the post brought a copy of the *Evening Standard* with the article in full and a cheque for five guineas. As soon as I was fit enough, I went to St. Dunstan's as a matter of course. By the following August I was editor and publisher of a war journal which soon produced a four-figure income.

There had been some experimenting in between. I began the usual braille and typing, simple string bags, got my hand in again with cards, dancing, rowing and riding. I made some baskets and a door-mat or two. Then I settled down seriously to massage. Masseurs were in short supply in those days, and our class, after a fortnight's elementary instruction, was put on to half-day work in the out-patient department of the Middlesex. The patients thought we were grand, and most of them got better.

Then hospital claimed me again for a time—after that, a grand tour of hospitable houses in England and Scotland to build up weight and strength, and back to London for the adventure in journalism.

Such things did St. Dunstan's do for us. Others were equally successful in the church, the law, massage and business, farming and insurance agency, while hundreds were turned into efficient craftsmen as basket makers, mat makers, joiners, netters, shop keepers, shoe repairers and so on.

The great thing Pearson did was to put the right outlook into our heads at the start. These days the British public knows about St. Dunstan's, knows that blind people can and should be busy active people; but even when I was wounded, it was a different story. Most people thought we should be nursed and guarded, living quiet, idle lives on war pensions.

"How do we give them their tea?" we heard a woman ask one day several of us were at a picnic. "Do we hold the cups up to their lips?"

People used to lift us almost bodily in and out of cars and buses. One day a taxi-driver, having brought me to the bottom of a flight of steps, proceeded to lift each foot one at a time to place it on the succeeding step. There was the dear old lady who wrote to Sir Arthur, "I have a roomy country house, and would like as my war work to entertain some of your blinded officers for quiet stays in the country. You could be quite happy that, if you sent them to me, they would be well looked after. I would not leave anything to my servants but would myself bath, dress and feed them."

Many people shouted at us as if we were deaf; some simplified their language in case our intellects had ceased to function; others held our hands to talk in ponderous solemnity of comforts and compensations from on High.

The parents of some of the young blinded men were unwise enough not to let them go to St. Dunstan's. They argued that they had a nice home and garden, that they were, perhaps, retired and had plenty of leisure to look after their wounded son themselves; and that there was, therefore, no need for him to go to an institution. So they took him home. They fussed and nursed him, dressed him, found everything for him, guided him about the house, kept him in an easy chair by the fire and turned him speedily into a depressed and semi-invalid.

But Pearson said to the new chap, "Well, old man, you've had a bit of bad luck, eh? Yes, sight not as good as it was .... Yes, yes, I know how you feel about it—haven't seen myself for seven years, now I come to think of it. Doesn't matter though, you know. We're a cheery lot, you know—men, just like any other men, and have a good time too. Got some advantages, too, you know, especially in the dark. You like dancing? ....

"Good, we'll soon get a nice girl to take you in hand....Engaged to be married, were you? Why 'were you'? Why not 'are you'.... Nonsense, don't talk rubbish about giving up thoughts of marrying her. If she's the sort of girl I am sure she is, she'll want to marry you far more than ever she did; and you're going to be in just as good a position to keep her—probably better—than before you went across to France.

"And a good wife is one of the best bits of equipment for our St. Dunstan's fellows. So many of them are getting married, do you know, that I'm getting a pretty little chapel fixed up down in the garden so they can be married here on the spot if they like. Oh no, don't think another thought of not getting married; and you'll find a family a great interest too. It's the best thing in the world, and, of course, St. Dunstan's is here to give you a hand with a house and furniture ....

"Yes, and you'll enjoy the theatre, too. Football, no—you won't play that again, but rowing, swimming—good, you like that—athletics, too, if you like—bicycling—yes, you know, on a tandem, with the girl in front and you doing the pushing—goes very well....Fond of gardening, were you?....Well, that's fine. There's no difficulty growing your own vegetables, a first-rate interest; and flowers, too, if you want to ....

"A clerk before the war, were you? Well, you might like to do typing and Braille shorthand and go back to office work, the job you know, or maybe you would prefer to take on operating a telephone sub-exchange in a business house or a government department.

"Then, again, you're a fine, strong-looking chap—good personality, too, I think—you have the makings of a masseur. But there's no hurry—get on with your braille, typing, wool rugs and whatever else you're doing to get a start, and we'll have another little chat when you've had time to look around and talk to the other fellows and your people. They're in Birmingham, aren't they?....Well, we must get them down and you'll take them over the place.

"I think you'll astonish them. You're going to do well.

"Remember this—your sight isn't as good as it was; but you've still a good brain, good muscle, youth, personality, experience—you've got far more than thousands and thousands of the people around you. You've got life ahead, a useful life, a man's life—what's a little handicap—everyone's got some sort of handicap, some hurdle, some limitation. It may be lack of brains, it may be health, it may be money trouble, lack of personality or just an ugly face! And you and I are not going to allow this little matter of short sight to bother us, are we? Well, I've enjoyed our talk. Good luck, old man; and we'll have another in a fortnight or so, and just ask to see me whenever you want to".

Nearly three thousand men individually had that sort of message from Arthur Pearson. For six years, letting his business slide, he poured his energy, his vital personality, into St. Dunstan's. With an amazing memory he knew the history, family details and particular facts about everyone of them. He died an accidental death in 1921; but his spirit is just as alive in St. Dunstan's to-day as ever it was; and his methods and outlook have had a profound effect upon blind welfare work throughout the world.

The men of this war are, needless to say, following with no less vigour the lead given by St. Dunstan's in the last; and those, blinded in 1940-41, have been back on useful jobs for a year and eighteen months. Because of the great distances and delays in getting men to England, it has been a long time before some have reached St. Dunstan's. To meet this situation as best we can, we have an advanced base at Capetown, a delightful spot with twenty-five men in it at present, and committees in Egypt and India.

If anyone who reads this article should happen in the course of the war to be in close contact with a newly blinded man, here are some tips.

Don't talk to him as if you are commiserating with a widow at her husband's funeral. When you see him making efforts to move along by himself, don't rush forward to take his arm. Let him find his own way to the bathroom, dining room and so on if reasonably handy. Let him shave himself and look after his clothes. It is important that his things should always be left in the same place, where he knows he can find them.

He will enjoy being read to and taken for walks. When escorting him on a walk, don't take his arm and push him—let him

take your elbow with a light touch. He will soon know sub-consciously from messages communicated through your elbow whether you come to steps, corners, inequalities in the ground and so on; but let your arm hang loosely and naturally.

He will soon learn to cut his meat himself, provided it is free of bone, and to butter his toast. If the table is arranged normally, with butter, marmalade, pepper, salt, etc., always in the same place, he can manage his food without elaborate arrangements, such as having always to eat with a spoon, etc., which mark him as sub-normal. I have been embarrassed at times during my travels to find that my thoughtful hostess has had a downstairs study turned into a bedroom, and my food prepared in a mushy way as if I had had my teeth out.

I must apologise if I have sounded rather satirical about the misdirected kindness of our friends, who really have thought they were doing their best. They are all natural mistakes. We are, in fact, deeply and forever grateful for the generous and sympathetic help so freely and willingly given. Capable as we may be in many ways, we often do need a hand in such matters as the reading of newspapers, letters and new books not in braille or on the talking book; we need a guiding hand in unfamiliar surroundings; we need a friend to describe the colours of tweeds, ties and shirts we are buying; we need someone with sight to find the hammer, chisel or screws we have lost track of during a job; and so on.

The blind man or woman will appreciate your inquiry in the street, train or tube station, "Can I help you?" He will answer: "No, thank you—I'm waiting for a friend," or, perhaps, "Thanks —would you let me know when an 86 bus comes along?" To our wives, to the thousands of friends of St. Dunstan's everywhere who made and make its work possible, to our willing helpers in every sphere of life, we are for ever grateful.

OFFICERS' TRAINING IN THE PRE-WAR ARMY—AN ANSWER TO "AUSPEX"

By "Experentia Docet"

THE FIRST ARTICLE in the April number of the *Journal of the U.S.I. of India* touches on one of the greatest problems that the present younger generation of our military leaders will have to face in the future. The article very obviously "trails the coat" and touches on many of the knottiest points regarding officers' training that have worried past generations of military thinkers. The impressions, therefore, conveyed by it to the mind of one who has spent the past thirty-six years or more soldiering and training under the policies and methods that Auspex would have changed, may be of interest.

I have a fair amount of experience, in fact, of just those sides of training in their relation to army life regarding which Auspex is so critical. I spent my first half dozen years in Field Artillery and the remainder in the P.B.I., thus gaining the knowledge of another arm that is one of Auspex's points. I have qualified at two of the Institutions that Auspex would have amended—the Staff College and the Senior Officers' School. I am also a Language Interpreter.

The first impression that an article like that of Auspex gives, in spite of much of its constructiveness, is that everything before the War was wrong with the training, not to say the very life and outlook, of the officer in the Army. Is this fair?

Is it justice, for instance, to the 4th Indian Division who went to Egypt before the War started, and the background, basis and backbone of whose training was that of its officers in pre-war days? Is it justice to the Armoured Brigade in Burma (whose true story has yet to be told)? They rode horses and were (what Auspex seems to think) professional athletes and polo players only a very short time ago. This did not prevent them getting down to nuts, spanners and oil instead of curry combs, brushes and oats, when the need arose; and from making as good a job with them as those who had known no other tools.

And, moreover, how many of the younger officers with the men—even Company and Squadron Commanders—are or were pre-war trained officers, during the campaigns of the past two

years? The answer is very few, and the (obvious) next question is: "Who, then, trained them?" The answer to that is: "The one or two Regular officers left in each unit after the expansion of the army commenced"—in fact, the very people who AUSPEX would have us believe wasted their time with too much games, too much leave and too little serious training before the balloon went up in 1940. They were in fact the ones who worked with antiquated weapons, had no one to lecture to them, and were handicapped with inadequate library facilities.

Yet the handful of them that there were made good not only themselves, but taught sound warfare to all the keen but green influx that came to work under them, and that without much linguistic ability, either in teachers or taught. I say "made good," because I think both Rommel and the Japs, when we can ask them, will agree with the phrase. Yet they had to learn new weapons, new methods, new vehicles and values, and to work with a new arm—the modern air arm. It has been done in both British and Indian armies with success, and without unduly high price having to be paid for ignorance or inexperience.

Such failures and disasters as we have suffered—Crete, Malaya, Tobruk—can never be ascribed to failure of training. In each case the army fought under a major disability—an overwhelming handicap. In Tobruk it was without air or armour, in Crete without anti-aircraft protection, in Malaya without any of these things, and without sea safety on its flanks as well.

Clearly if proof or otherwise of training soundness is needed, it must be sought or negatived in those actions where the chances have been even, and in these fights serious failure is yet to be recorded, while overwhelming success has been multiplied.

If AUSPEX's strictures on our pre-war training, its policy, facilities and methods are to be credited, how could such a result be possible? The only logical conclusion is that pre-war training was not unsound—and yet much of AUSPEX's criticism is based on fact and cannot be denied. What then is the explanation of the phenomenon?

I feel that the true significance of training lies not so much in the detail of which AUSPEX gives so clear a picture, but in the background and psychology, the character and ideals, of the leaders of our men. These are the true foundations, and any attempt to divert training effort into channels that ignore the fundamental importance of these things would be to lose sight of the wood for looking at the trees.

AUSPEX has derided the weapons and equipment we were given to train with in pre-war days as archaic; he has advocated training officers in the work of arms other than their own; and he has stigmatised fighting experience on the N.W.F. as emasculated and primitive. Again there is truth in all his assertions, but they give no support to the theory that our training was on the wrong lines. Who can say what is an archaic weapon in these times, when science marches with such bewildering rapidity? Our training principles have enabled us to take an *admi* off the tree and teach him to handle horse-power and work wireless. Is it necessary to send our cadets to the Navy and Air Force to improve them when they can show such achievement? The value obtained would be doubtful.

The handling of our frontier campaigns is, in truth, open to criticism, and our officers are faithfully described as fighting with one arm metaphorically tied behind their backs, but that is no justification for saying that the training on the N.W.F. was ineffective or the experience misleading. It is more likely that the experience of night movement on the rocks and precipices of Waziristan was what enabled the Indian troops of the VIII Army to turn the Mareth Line and unbar the door to Tunis.

It is certain that through it all, whether hedged about by political taboos on the Frontier or assimilating the use of constantly-changing modern equipment and modern tactics against a civilized enemy, the character, enterprise and initiative of the pre-war trained Regular Officer is seen as the power behind the machine and the inspiration of confidence in the men.

Looking back over my experience of training and its direction, beginning with the first years of this century, it may be of interest to set down the impression of various periods as I remember them. Before World War No. 1 the officer was taught his "drills" and, thereafter, was expected to teach himself. T.E.W.T's. or Staff rides were exceptional, manœuvre parades and drill orders were frequent, and ended not in discussion but in official criticism of the day's work by the senior present. From these the officer learnt his job.

Promotion examination papers were academic, and crammers catered for them as well as for the entrance examination to the Staff College. It was rather like being thrown into the deep end of the swimming bath as the normal method of being taught to swim. At the same time, there was every encouragement given

to the officer who showed enterprise and initiative in hardening himself, hardening his men, gaining experience or mental adaptability and alertness through games or sport of various kinds.

The officer who asked for leave to shoot in the C.P. or Ladakh, or who organized a unit games team was seldom refused; but the bachelor who asked to spend two months' leave in a Hill-station got a rude answer from his Commanding Officer. The "professionalism" in games and athletics that AUSPEX would eradicate by curtailment of leave facilities and concentration of the officer's mind on "shop," did not exist in those days; but the athlete was, nevertheless, a privileged person.

Polo as a game had complete pride of place and was within reach of practically all. It was not till the tournament restriction of a maximum pony height of 14.2 hands was removed that the canker of "all-but-professionalism" began to pervade cavalry Regiments. They were in a good position to train animals for polo, and it was lucrative. The result in a few cases led to sacrifice of professional knowledge: but the vice was a healthy one. If anyone doubts it, ask those who have seen how these same polo professionals turned into armoured professionals, and in respect of the vast majority with amazing success. If any one doubts their mental alertness or eye to the main chance, try putting one over on them. Like Rommel, you won't do it twice.

But I digress. In the post-war period of the 'twenties, the outlook changed; and in India where we were treated to an Afghan War and a Waziristan Campaign on top of the Great War No. 1, everything to do with training and soldiering was rather regarded with revulsion for a year or two. Ceremonial parades and disbandments coincided with games and athletics, and little else for a while (except on the Frontier); but then keenness returned, and with it came the handicaps of continued reductions, financial stringencies, and later, in the 'thirties, the fatal cry of disarmament.

It was during these twenty years that T.E.W.Ts. more and more replaced work with troops as a medium of training for the officer. Their best feature was to instil a certain amount of knowledge of the establishment, capacity and handling of the various units and arms into the officer. Their worst was to induce C.Os. to rely on them overmuch for judging the ability of their juniors. Nevertheless, in spite of all the handicaps of this period, the opening of World War No. 2 found our Regular Officers

possessing the essentials of character to enable them to train a vastly expanding army. The structure was sound.

To turn now to certain particular features of training in which AUSPEX would like to see changes of a revolutionary nature.

Several of his ideas come under the (hitherto) ban of finance. If money can be spent more liberally than heretofore, such things as adequate training grants, good training stations, reorganised and improved libraries, teams of erudite lecturers and better treatment for the language expert would be welcomed by all. But what a hope! Won't we be competing with the airmen and the sailors for what money there is; and won't everyone want a reduced income-tax?

AUSPEX would like to see p.s.c. and i.d.c. abolished. Like all cast-iron qualifications, such things have great disadvantages. They are difficult, however, to replace by something better. To remove them altogether would re-open the door to jobbery and the admission of "nephews" and "cousins" to appointments in which they would be a nuisance in peace and a menace in war. The Staff College system is at least an insurance against this, the major evil.

On the other hand, to expand the staff colleges to provide teaching on a larger scale would be to teach many people staff duties which they are neither anxious to know nor fitted to operate. Among such I fear would be the finance officials that AUSPEX would like to see put through the Staff College. The spectacle, however, would be entertaining, though whether it would result in financial advisers adopting any more sympathetic attitude towards military proposals is doubtful. Indeed, one is sure they already do all they can to help, but they have to follow their own rules or policies.

AUSPEX will forgive me for attacking his article—indeed, as I have suggested above, it is probably what he wanted. In any case, if this reply makes the younger generation think these things over against the day when peace once again brings the problem of how to make bricks without straw, or how to train a skeleton army without men or money—then it will not have been wasted.

No one can foresee what the next war will bring forth, though many (like Mr. LIDDELL HART) make poor guesses. The only thing certain is that there will be surprises. Train, therefore, so that you are proof against them. KIPLING in a moment of inspiration summarised the foundation of training, when he wrote lyrically of SIR FRANCIS DRAKE:

"The North Sea answered: he's my man. He came to me when he began.

I caught him young and I used him sore, so you never shall startle FRANKIE more.

If you can teach him aught that's new, I'll give you Bruges and Antwerp too, and the ten tall churches that stand between them.

Storm along my gallant captains,

All round the Horn!"

WHAT OTHER MEMBERS SAY

AUSPEX's *article has brought many letters from members, and extracts from a few are published below*:—

"SUSPEX" writes:

There seems to me considerable danger of our allowing ourselves to be unduly carried away by articles such as that of AUSPEX which appeared in your April number, and by the captious and uninformed critics of the "old school tie." As a healthy reminder of what public school education and the playing fields of Britain have achieved in saving us from disaster and bringing victory within our grasp, I would like to call attention to Lord Elton's excellent book, "St. George or the Dragon."

Amongst other reforms advocated by those who damn the whole of our pre-war mode of life are the wearing of uniform at all times, and the abolition of polo and other forms of sport. Why, to be a good soldier, must one always wear uniform? Can anyone pretend that the bush-shirt or battle-dress tend to enhance his self-respect or pride? Is it not good to remind officers and men that they are citizens as well as soldiers? I can see no benefit from such a rule, and its only reason would appear to be inordinate desire to copy the continental nations whose armies we are in process of defeating, thanks to those very qualities which the reformers threaten to destroy.

The outcry against polo and hunting has been common for many years past, but I fancy that were anyone to take the handicap list for 1938 and follow up the careers of all polo players with handicaps of four or over, he would find there are not many who

and say we were untrained because we had spent too much time on sport.

The pre-war regular officer is in a very small minority compared with all the civilians who now officer our army, and it is on the latter that we mainly rely. The fact that they have trained on so quickly speaks much for the personality and efficiency of the small regular nucleus who have had to train them.

Perhaps after this war we shall keep on conscription permanently, and I sincerely hope our armed forces will not again be reduced to the pathetic figures of the 'twenties and 'thirties. The larger the army the better it will be supplied with its needs, and the nearer it will assimilate to the professional armies of Europe. But we are a small nation in numbers and we have many irons in the fire, all of which must be kept going if our Empire, with all its ramifications of trade and communications, is to survive. Therefore, our regular army in peacetime must, perforce, be comparatively small. If we are to maintain our superiority over our continental rivals, we must not try slavishly to copy their methods, but to foster and improve the essentially British qualities which have stood the test so well in 1914-18 and again in this war.

By all means substitute a general form of training institution in place of the Staff College, and any other institution which tends to separate the sheep from the goats; most certainly increase the periods of collective training and embody all forms of combined operations in the training; and ring military leave rules into line have failed to make good. Sport is a grand training for an officer and in peace there is ample time for both. To do nothing but soldiering year in and year out throughout one's life may produce a professional General, but it certainly does not improve the qualities of courage, loyalty, discipline and endurance which are the mainsprings of our superiority in this war.

The reason why we failed at the beginning of the war was not because the few pre-war formations we possessed were not adequately trained—does AUSPEX suggest that the 4th Indian Division was not trained?—but because our equipment was so utterly inadequate and out of date. It was difficult to maintain enthusiasm or any sort of reality even during the little training we did do, with all the varied assortment of mock and token weapons with which we were told to play. It is not fair now to turn round

with the civil. But do not do anything calculated to narrow an officer's general outlook, or to reduce those pre-war customs which did so much to improve the British officers' patriotism—as opposed to Nazism or Fascism—self-confidence, courage and endurance.

Let us remember the Jock Campbells of our army as well as the Montys.

"F.G." writes:—

Congratulations to AUSPEX for his excellent article in the April Number. While in general agreement with him, may I make the following comments on his demands:

An Adequate Training Grant.—My own experience has been that Training Grants are adequate. I have never yet known of any measure or gadget being refused on the grounds of an inadequate Training Grant.

A Re-organized Library and Good Team of Lecturers.—These demands are "guilding the lily." In one Command, at any rate, no such reforms are needed.

Periods to be spent with "Other Arms.'—AUSPEX did not mention the converse, that R. N. and R.A.F. officers should do proper tours of service with the Army.

Curtailment of Leave.—It has been my experience that very few officers ever get the full amount of leave to which they are entitled. It is only by allowing them two months that they manage to get one month. If they were only entitled to one month, they would be lucky to get a fortnight! Anyway with the bigger cadre of officers that AUSPEX demanded, officers could well be spared for leave.

Stamping Out the Supremacy of the Athlete.—The peace-time organization of ambitious athletic programmes not only provided a healthy mental and physical change for the troops, but also gave young officers excellent practice in organization and in developing the qualities of leadership. To my mind, we want to discourage officers clubs games, such as polo, tennis, golf and squash, in favour of games which require (*a*) organizing, and (*b*) the participation of officers with their men.

A member who signs himself "Colonel Blimp" wrote:

"AUSPEX asks: 'What is it that officers need to be taught?' He leaves it unanswered. The British Empire, very much a non-militaristic congregation of nations, with a very small standing Army, has commitments all over the world. The professional Army has to be prepared to fight its small wars in any type of country under any conditions. At the same time, it has to be prepared for a 'European War,' and to officer the enormously expanded forces which that entails.

"Therefore, the officer has got to be taught to do his job as an Officer in the position in which God and the Military Secretary have found good to place him, and to prepare himself to hold a job three or four times senior to his present standing anywhere in the world.

"Considered from these angles—and the fact that the writer was dealing with the Indian Army officer—the results were far from unsatisfactory.

"AUSPEX produces two bitter complaints—one that we were not trained for modern war—'primitive' was his expression, and he blames the 'primitive' army. But that hardly comes into officers' training. We had not got modern weapons, and the reasons were finance and the policy of the Government—nor had they at Home for the same reasons. We are the servants of policy and slaves to finance.

"The other complaint is that we were not expert at forest fighting. Prior to this war who thought of an Asiatic war? Who thought of fighting through Malaya and Burma? Did AUSPEX foresee it? I doubt it.

"The suggestion regarding 'curtailment of leave' is a pathetic joke. What percentage of officers in active battalions had more than a month's leave in a year during the 'thirties? I remember the old joke that an officer in my subaltern days was, according to regulations, entitled to three days' leave in a week, 10 days in a month, two months' privilege leave in a year, eight months every three years, or one year after five years. That sounds grand, except for the provisos 'if he can be spared,' and if he can afford it.

"To those who know the Indian Army it is hard to take seriously the suggestion that 'few officers took the trouble or had the initiative to try to teach themselves much more than a proper swing at a polo, tennis or golf ball!" There are a whole series of misconceptions here, both of facts and inferences.

"First is the inference regarding working hours. Any member of a Trade Union would have a fit if he was asked to work the hours worked by the Indian Army. Parade starts between 6 and 7 a.m., finishing about 11 a.m.; office until 2 p.m., then lunch. Men's games or parades for an hour; night ops. once a week; plus inquiries, court-martials, etc., lectures, preparation of T.E.W.T.s and schemes.

"With the work and climate (the I. A. does not go to the hills) to keep physically fit leave is a necessity, and two months, when you can get it, is none too much. Games are essential for an officer to keep fit; they are essential for the men, and it is necessary for officers to play with the men."

"SIT-BOTH-GYI" *writes*:

"Cadet Schools must get more practical work out of cadets, as is being done at present. In the sphere of tactics this might be achieved by not aiming higher than platoon training, except for the odd T.E.W.T. on company training. But every cadet before passing out must have had ample experience in commanding a platoon on the ground in several different operations.

"Military Law remains a closed book to many officers. This could be remedied by insisting that all punishments given by Cadet Under-Officers and N.C.Os. should be given during Orderly Room along correct military lines.

"AUSPEX mentions our poor knowledge of foreign languages, and the hard treatment of the language expert. It is not surprising when one considers that about 75 per cent. of the G.Cs. at Sandhurst and Woolwich will serve for some period in India, and yet Urdu is not compulsory, and is studied by very few G. Cs. It should be compulsory for cadets to study at least one language which will be useful for them in the Empire—be it Urdu, Arabic, Swahili, or Hausa, and later perhaps one continental language.

"But however much we improve training at Cadet Colleges, our reforms will have very little point unless we aim at getting the more intelligent, as opposed to the less intelligent, of the country's youth into the Army. We shall have to bring the Army within the range of the average man's purse by cutting down the cost of uniform, or by eliminating expensive mess life and entertaining, or by increase of pay.

"Much more could be done in the way of visits to big industrial undertakings, railway and transport centres. In modern war, transport is one of the leading factors for victory, and the importance of railways grows even greater. Yet how many officers when stationed at, say, Jhansi or Colchester, have ever thought of visiting the railway stations in pursuit of knowledge, as opposed to catching a train for the Hills or to town?

"It has been said that a country gets the Government it deserves, and the same holds true of its Army. As long as the British people in peace-time regard the Army as the resort of rather wealthy young men, or young men who can act to perfection a be-whigged general in Rushmoor Arena, so long shall we remain in a rut."

.333 *writes*:

"Could not university entry be insisted on for officers? During his time at the university the O.T.C. could be more strictly run than normally for those who wished to join the Army. Record could be kept, and considered when accelerated promotions were reviewed. Following the university course there should be a year's concentrated work in Officer-Cadet units. Everything should be as in a Regular battalion; barrack living, barrack food,

barrack fatigues and normal punishments. Only rare leave should be given at short intervals. O.Rs.' pay would teach many how to get value for their money.

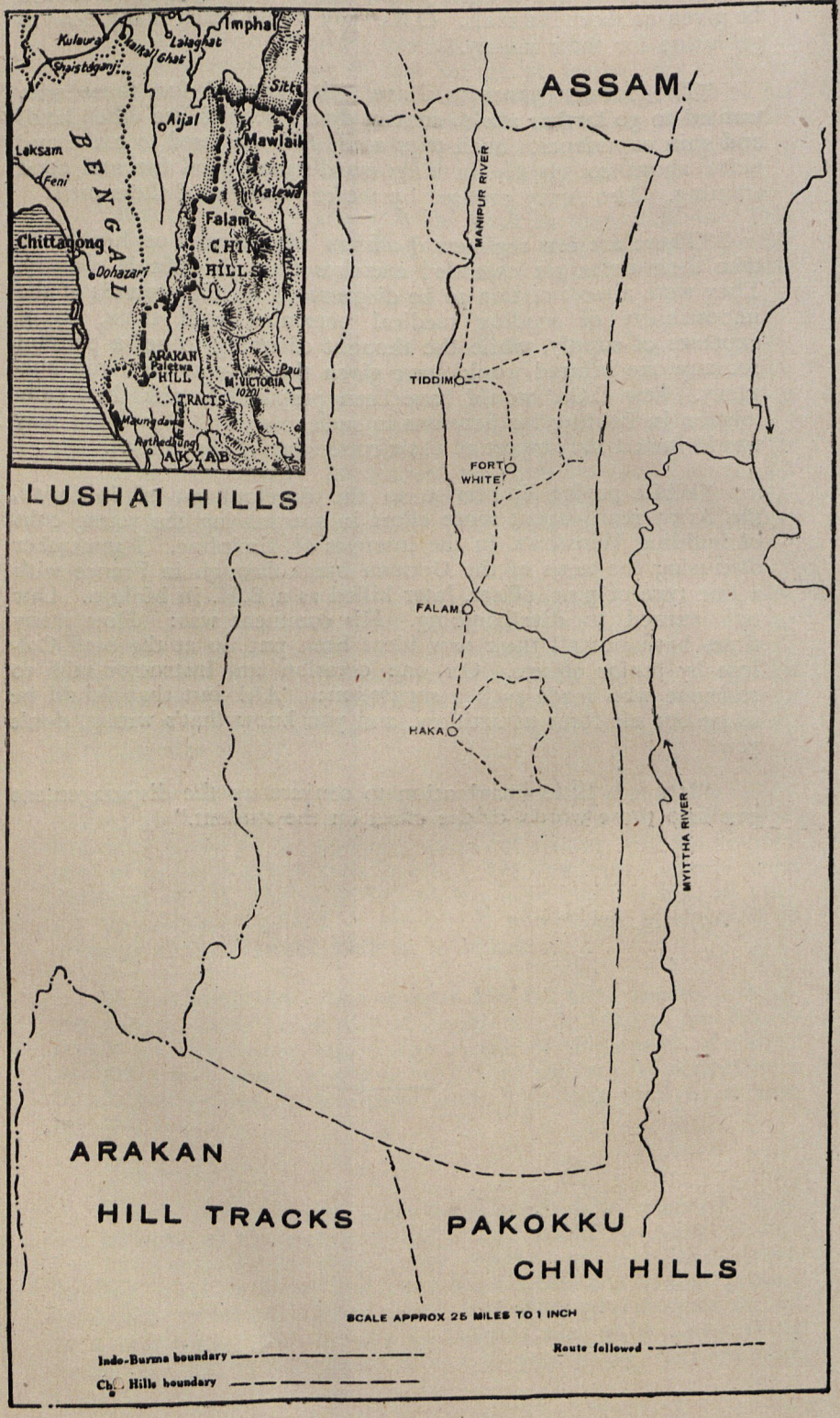
"The former generous leave rules catered for those who wanted to go farther afield, contact divers peoples, see other lands and gain experience. Such trips as *Al Khanzar* used to make and write about so vividly in *Blackwood's* were good fun and good training. The Army profited by the experiences of these men.

"There are few regimental officers who have not longed to take their units, on extended exercises through difficult country. They were almost certain to be discouraged on the grounds of the impossibility of sending medical personnel with them, or of expenses of supply, while the thought of trying to get a pension for any one injured would have given the 'no-cost-merchant' apoplexy. Few C.Os.' would have been prepared to risk their commission in fighting for pensions in such cases, and they knew they would forfeit the respect of their commands if they failed.

"While paying lip service to the development of initiative, the Army really spent more effort in suppressing the young cubs of budding Winston's, in the interests of discipline. I remember discussing the news of the German break-through in France with a fine type of p.s.c. officer, later killed as a B.M. in Malaya. Our talk turned to dive-bombing. His comment was: How many times have not all these new ideas been put up at the Staff College by junior officers. On one occasion an Instructor said to someone who made such a suggestion: 'Ah! but that would be using our air force as artillery, and you know that's wrong, don't you?'

"It needs little imagination to conjure up the disparagement put into those words, or the effect on the student."

Rough Sketch of Chin Hills

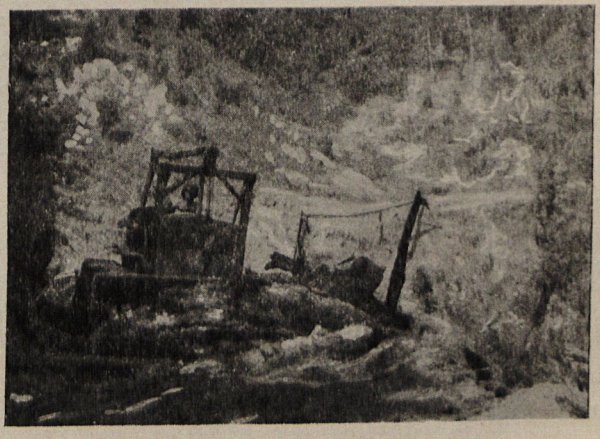


A TOUR IN THE CHIN HILLS

By Major-General H. H. Rich, C.B.

IT HAS JUST been my privilege to make a protracted tour in the Chin Hills, where I saw for myself the grand work that has been and is being done by Civil officials, British officers, regular troops and the Chin villagers themselves, in preventing Japanese infiltration into that area of Burma.

As the Chin Hills are in the front line, reasons of security prevent my mentioning all the places I should have liked to, and any noted are to be found in the *Imperial Gazetteer of India*. In the same way, when the word "Chin" is used in connection with military operations, it must be taken to include all forces, regular or irregular, which happen to be in this area.



Bulldozers at work.

Towards the end of February, I found myself at a place somewhere in Assam, on the borders of India and Burma, facing a 500-mile walk. The first ten miles were done in a jeep. Luckily, the jemadar in charge of the transport detachment decided, he would drive me himself, and he turned out to be an extremely safe driver over a track which, to say the least, was distinctly unnerving.

On the way, I passed the bulldozers at their work of "blazing the trail." These monsters were doing spectacular work, and literally cutting a road out of virgin hillside. Two that I saw were on opposite sides of a hill, and were moving inwards

towards each other. It was thrilling to watch them at work on quite a steep slope, and to see how quickly the ground took the shape of a track. They are so powerful that they can cut the roots of, topple over, and finally push out of the way, trees of 1 to 1½ feet in diameter.

After a ten-mile hair-raising drive I reached the bridle path where I met my porters. These consisted of a newly-raised company of Khasis, who come from the hills around Shillong. It was my first experience of porters, and although my kit was carried on ten of their number, and ration calculations had only been made for a five-day trip, I found to my horror that it required a total of sixty to carry the food and kit of the whole party. As these porters do not carry very heavy loads, this meant that the useful load per man was somewhere about 5 lbs. However, they were quite cheerful, and always greeted passers-by with their salutation of *"Kubalai."*

The bridle path was wide, well-graded, and passed through what the map described as "fairly dense mixed jungle." This jungle was typical of that met over most of the trek, and it appeared to consist of grass, scrub and low trees. Later a forest officer told me that the official description of this jungle was "evergreen scrub of stunted oaks and chestnuts."

From the word "go" the country was extremely big, and consisted of a tumbled mass of hills with deep valleys between them. The hills were from 5,000—9,000 feet high and the valleys between them went down in some instances to less than 1,000 feet above sea-level. The characteristic of these hills is that there are no underfeatures, as are to be found in most Indian hill country. This meant that the descent to, and the ascent from, any stream was always remarkably steep, and entailed zig-zagging up or down one big spur. I reckoned that during the trip I climbed three times to the top of Everest and down again.

After a comparatively short march we arrived at the rest hut, which is a feature of the smaller villages throughout the Chin Hills. It was made of wood and appeared dirty, so I passed on and camped in the jungle by the side of a stream. Later, when I became less particular, these rest huts provided quite a reasonable abode after a long march. The porters quickly made a hut for me out of the branches and leaves. I had a travelling radio with me, and frequently picked up the B.B.C. news in the middle of the jungle.

Next day eggs for breakfast cost four annas apiece. They were obtained by the headman of the porters, who rejoiced in the name of Rostan Well. He was quite a talkative gentleman, and told me a lot about the habits and customs of his tribe. Among other things he said that until the arrival of the Welsh Baptists in the Khasi Hills, clothes were practically unknown. This explained the rather Welsh-like capes worn by the Khasi women, about which I had often speculated.

The bridle path grew much narrower, and was on the sunny side of the hill, which meant that although the distance was short, the day was a tiring one. Just as I had finished tea in the jungle camp I had my first visitor, a Sapper Major in charge of some bridge building. He was rather weary, as he was trying to do a double stage, and was not a bit optimistic about his pace over the next six miles. I was able to refresh him with a cup of tea before he went on his way.

Marches in hill country take it out of you more than they do on the level and, at the end of my trip, I calculated that the energy expended was 25 per cent. more than for the same distance on the level. Boiled sweets were most comforting and sustaining, particularly during the hot days. I would recommend everybody going on a trek taking some with them.

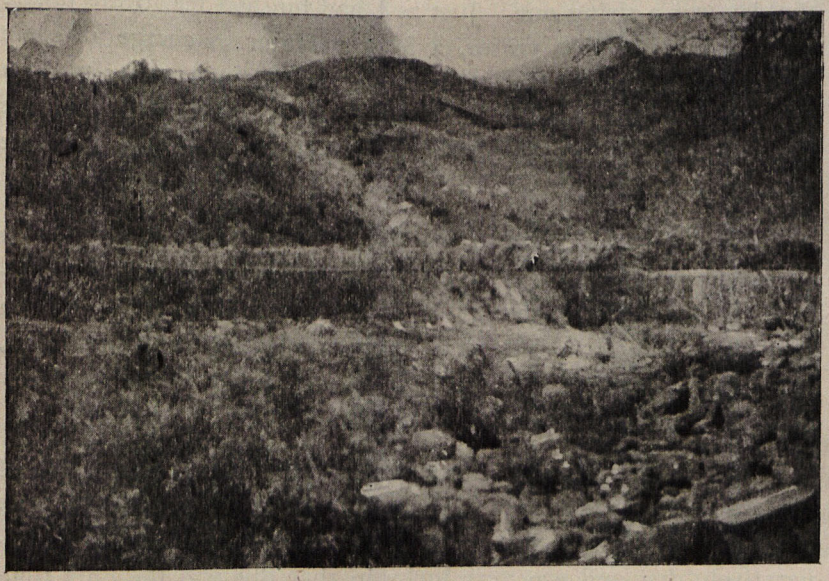
There was a thunderstorm during the night, and I found that a leaf hut is not the best means of keeping out the rain. However, with the aid of a waterproof sheet I managed to keep comparatively dry, and was very lucky in that this was the only time in the whole six weeks that I was caught by rain in the open. The Khasi porters obviously did not like the rain; they took a lot of moving the next morning, and we did not get off till half-past nine.

The first part of the day's trek was a three-hour drop to the Manipur River. I got heartily sick of the Manipur River before I finally left it, as it was always crossing the path, and usually meant a climb down and up of anything up to 4,000 feet on each side. At the bridge which, like many other bridges, was not at the place indicated on the map, I came across my Sapper acquaintance, who returned the compliment and gave me some very excellent tea on the river bank.

His gloomy prognostications had been confirmed, as he told me that his rate of movement in the last two miles had only been

one mile an hour. He gave me the glad news that a pony had arrived on the other bank—not that the country was good for riding, but the moral effect of having a horse behind you, knowing that you can ride it at any moment, is great.

The Sappers were building a bridge, and had been allotted a whole village to work for them, but the great majority of workers, as far as I could see, were women and children. The old bridge at this point is the usual type of wire suspension bridge met in the



Bridge over the Manipur River.

Chin Hills. It had had much more traffic than usual, and my Sapper friend told me he thought it would break at any moment. However, it was still standing when I recrossed it some six weeks later.

The climb up on the far side was extremely steep, and I was very glad to have an occasional ride during the 3,000-foot rise. The Khasi porters, who were used to living in the hills, took to the steepest of short cuts, carrying their loads without feeling the slope at all.

As we approached the big village on the top of the hill, we came to the tombstones of the various hill chiefs. These tomb-

stones are either made of slate which is procurable locally, or of wood. They commemorate the exploits of the various chiefs. As this village was that of the paramount chiefs of the northern area, the tombstones had a correspondingly important note. The carving is rather rough and not deep, and depicts incidents in the life of the chief.

A Chief's Tombstone.

At the top of the tombstone is the chief's name and pedigree, and in the first panel underneath this he will be depicted wearing a topee, the sign of high rank in Burma, riding a horse. One tombstone was different from the others in that the chief was shown riding a bicycle. Behind this leading figure, and, if necessary, overlapping into the next panel below, are representations of his wives and children; below this will often be a scene of fighting with the chief shooting his enemies or taking them prisoners; in the bottom panels will be the hunting exploits.

The more usual animals shot appear to be elephants, tigers, bison and deer. Very occasionally is rhinoceros carved out, and this must have meant that the chief had travelled pretty widely, as, although the other animals are to be found in the Chin Hills, there are no rhinoceroses. Fishing is obviously one of the "lesser sports" and only on one occasion did I see a *mahseer* depicted. Around these tombstones, and in the houses of the chiefs, are to be found the various trophies of animals killed by him and his ancestors. Some of the houses are veritable museums.

The village proved to be quite a big one, with a well-kept, though unfurnished rest house. I managed to procure some eggs at a considerably lower rate than before, and a few vegetables. In the village were a lot of English chickens, mostly Plymouth Rocks. This choice of breed was a slight error on the part of the official

concerned, and is not very popular with the Chins, who would rather have Rhode Island Reds or White Leghorns, as, at times, the omens demand the sacrifice of a red chicken or a white chicken, but never of a black-and-white one.

I was provided with three pack ponies in place of the 60 porters, and these comfortably carried my rations and kit. They can only carry 60 lbs. aside, but the whole of this is a useful load, as they live entirely on the country and all the "pony man" has to do at the end of the day's trek is to cut some grass or bamboo leaves for them.

A drop of about 3,000 feet in six miles brought me down to the Manipur River again. There was a rest hut about eight miles on the way, but, having noticed that the climb into Tiddim was a steep one, and having had the experience of the day before, I decided to camp by a nullah at the foot of the further slope. This was lucky, as, after half-way, the track might have been Piccadilly from the number of people I met, all making for the rest hut I had passed by.

First, I came across two R.A.F. officers, who I rather hastily assumed had "force-landed" and were making their way out. However, I was quite wrong, as one turned out to be a doctor, and the other had been to Tiddim on some technical matter. Later, I met the Commando platoon of a famous Scottish Regiment, who were coming out after having spent some six weeks in the area. They had had no luck, and always just missed the enemy on their various raids. They looked very cheerful and fit, and there were one or two fierce-looking beards among them.

Fortunately I found a pleasant stream at the foot of the hill into Tiddim. There were some rather dirty shelters by the bridge, but with the prospect of more rain I decided not to be so pernickety, and after having one thoroughly cleaned out, I spent the night there. I was interested in the antics of a white-capped Redstart, which hung about the stones in the nullah for quite a time. On the whole, bird life in the Chin Hills was distinctly disappointing, and I saw about half a dozen varieties and only few of each species. On the other hand, towards the end of my visit, the butterflies were superb, both in size and colour. Anyone who makes a trip at the same time of the year should take a net and killing bottle along, and become the complete "bug hunter."

The 3,000 feet up to Tiddim was a reasonable climb, due largely to the fact that I had now got marching fit, and that the morning was a pleasantly cool one. On the way up a smoky grey

squirrel came out of a hole in some rocks, and disappeared quickly on seeing me. Altogether it was a very attractive-looking animal. The last two miles at the top of the hill were comparatively flat through pine trees and scarlet rhododendrons. In fact, it was a pleasant stretch in every way. The rhododendrons of the Chin Hills are of the tree, and not the bush, variety, and grow to as much as 30 feet in height.

As I came into sight of Tiddim, there were some sounds of an aeroplane, and I arrived just in time to see the ration-dropping plane at work. It was not an easy operation. The aeroplane had to fly extremely low, and at one time had great difficulty in clearing the tree tops. As there are practically no level places in the Chin Hills, the dropping area was a football ground, and the size of this necessitated careful aim. Even then some of the bags dropped among, and seriously damaged, village huts.

On arrival I was greeted by some old friends, who had been in the Burma Rifles, and I also met the local Zone Commander, a large gentleman with a fine, red beard. If you had seen him in peace-time you would undoubtedly have called the village policeman and had him arrested on sight. Two Guards of Honour were ready for inspection, one found by the Burma Riflemen who had been sent to their homes when the Army came out of Burma, and the other, of the local Levies.

Types of Levies.

The former were comparatively uninteresting, as they only possessed a pair of shorts and shirt each, and these not always of military design. The latter were as badly dressed, but were armed with flint-lock "Tower" muskets and some carried powder horns made from "Mithun" horns, and shot-bags of leopard skins. The mechanism of some of these muskets was dated in the early eighteen hundreds. It would be safe to say that they had been used with effect against the French at Waterloo in 1815, and against the Japanese in the Chin Hills in 1943. I was told that there are one or two bearing dates of the seventeenth century, but I didn't have the luck to see them.

The Tiddim Inspection Bungalow, 5,600 feet above sea-level, was quite comfortable. While I was waiting there the unfortunate

officer who was due to accompany me for the rest of my trek put in an appearance, having been recalled from somewhere in the blue.

On March 2 I started the strenuous period of marching, with a double stage of 24 miles. This entailed going over the Kennedy Peak, the highest hill in the northern Chin Hills, and about 8,800 feet. All paths in the Chin Hills go along the highest spurs and ridges, and although this particular one did not go quite to the top, it was only 300 feet below the highest point. It was a pleasant trek, being gently uphill practically the whole way. In spite of clouds, there was a good view over the Kale Valley below, and into Kalemyo, which is one of the places held by the Japanese.

Kennedy Peak is only wooded on the western face, the eastern face having comparatively bare wind-swept grasslands, but in the sheltered spots towards the top there were masses of lovely mauve primula almost semi-circular in shape, and about 1 to 1½ inches in diameter. At one point we passed two or three yew trees. These were the only ones I saw throughout my trek; how they came to arrive at such a spot was a mystery to me.

We spent the night in the Inspection Bungalow at Fort White. The fort, named after the defender of Ladysmith, has long since ceased to exist, and it is only represented by the bungalow. Parked outside is "Mrs. Murphy," now immobile, but one of the two jeeps which made its way up from the plains of Burma. Fort White came into prominence in the operations against the Chins in 1890, when it was occupied by our troops.

The bungalow was of the usual type in the Chin Hills, and consisted of one dining room and two bedrooms, all fully furnished. There was a kitchen and sufficient crockery for two or three people. Like other Inspection bungalows, it was in charge of a "Durwan," and had quite a reasonable garden, from which we could get the odd vegetable. This particular bungalow, had three other officers in it, all doing interesting jobs. From one I learned the prices which the Japanese have put on the heads of all officers in the Chin Hills. It was gratifying to find out that the Government valued my services more highly than the Japanese did my head.

Next day was another pleasant trek of 22 miles, mostly downhill; we passed many more rhododendrons, purple primula and some kind of wild daisy. Our routine was normally to have a chota hazri of a sustaining, but not very palatable, dish of porridge made from broken army biscuits, which were further pound-

ed and cooked, before we left; a meal of some sort during the midday halt, and the main meal in the evening when we got in. I also learned the value of tea as a reviver; on these marches about twelve very large cups of tea was about an average for a day's consumption.

In the past I had only known the Chins and their womenfolk in the cleanliness of peace-time barracks, and it was a distinct shock to find how dirty they were in their own country. All of them, men, women and children, looked and smelt as though they had never had a bath, and if by any chance we did come across a neat-looking woman, it was a safe bet that she had something to do with the army, either as the wife or sister of a soldier.

Village life, too, is very unhygienic, and there is no form of sanitation whatsoever. At one spot we passed an extremely uncouth party of men and women who were even dirtier than the others. The men were armed with spears—the only occasion I saw these during my tour. The women wore short kilts made of string, and it was obvious from their giggles that they had not often, if ever, seen white people. They turned out to be members of an almost aboriginal tribe who have a few villages in the Chin Hills country.

There are absolutely no flat places, and all agriculture has to be done on the hillside. The Chins do not yet understand the method of terracing, and consequently their methods are more primitive than those of India. When the time comes to prepare the ground, the villagers cut down the trees on the hillside of an area near their village. Just before the rains, when everything is extremely dry, they set fire to the patches in which the trees have been cut down, and then mix the ash with the soil. This mixture of ash and soil is sufficient to produce crops for one season only.

Country prepared for cultivation

Every year fresh patches of jungle have to be cut down and burnt. The Chins do not make any effort to control the fires thus lighted. This means that they spread over very large areas, and are destroying a

number of trees unnecessarily. The result will be that the trees in the area will become less, and this in its turn will reduce the amount of rain. If this happens, there will be no covering for the rich top soil, which will be washed down into the rivers and lost for ever. Even to-day it is noticeable that there are extremely few young trees.

On March 4, as the march was only a short one of ten miles, we made a late start after listening to the 8-15 news from Delhi. The path was downhill practically the whole way to the village of Lamban, which was well laid out with each house having its own little patch of garden. The village water supply was brought from a spring some four miles away by aqueducts made of hollowed-out tree trunks, and was so arranged that water could be brought to any part of the village.

The Inspection bungalow was quite the nicest in the whole area, with an excellent garden in which poinsettia, holly-hocks, larkspur and petunia were in full bloom. In peace-time there is a garden prize which the "Durwans" of the various Inspection Bungalows compete for, and I was told that this particular bungalow usually gained the first prize. In the evening the Chief of the Lamban village came along. He was a pleasant, go-ahead man, who had been in the Chin Labour Corps in France during the last War and had won the I.D.S.M. As he was able to speak Hindustani, we got on very well together.

The next day took us into Falam, administrative capital of the Chin Hills. The path was a long slope down to the Manipur River, which is here less than 1,000 feet above sea level. It is crossed by a suspension bridge, from the middle of which there is a view of a fine gorge which must be a grand sight in the rains, when it has the effect of piling up the water in the river to such an extent that the bridge, which was then some 80 feet above water-level, is very often only a few feet above the flood. The pull up to Falan is about 4,500 feet in eight miles, but the ponies were used to be ridden uphill, and we got up much quicker than I thought.

Falam must be a lovely place in normal times, when there is leisure to keep up the gardens and hedges by the side of the road. Even in war-time it is beautiful. I was lucky enough to stay with the superintendent in an almost English bungalow in English surroundings.

On March 8 I started trekking to Haka and the southern outposts. Falam to Haka is 35 miles, and owing to the situation of

the bungalows it had to be divided into two stages, one of ten and the other of 25 miles. The first stage was an easy downhill, but otherwise uninteresting, trek, but the next day brought us into a different kind of country. As usual we had a long downhill slope to a picturesque stream, which had some deep pools and clear

Typical bridge and stream.

water. Had the day been warmer, it would have inveigled us to bathe, but as it was, we pushed on up the 3,000 feet to the bungalow, where we stopped for the midday meal.

Shortly after leaving we came to a vast amphitheatre of open rolling country, on the other side of which Haka itself could be seen about five miles away as the crow flies, but the path followed the edge of the semi-circle, and we had some ten miles to go before we reached the village.

For the first time we came across teak trees, but these were small, few in number, and of no value as timber. There were many wild peach trees in blossom, and at times we passed brambles of wild raspberries; these are edible but very tart, and where sugar is short nobody has enough to spare to cook them. The rhododendrons were also numerous, but were still of the same scarlet hue.

The Haka Chins are just as dirty as the others, and the men carry the heaviest loads in the hills, bearing 60 lbs. up to 14 miles a day for days on end. It is noticeable that, while in the northern area the women carry just as heavy loads as the men, in the Haka

subdivision the women practically never do any porter's work at all. The Haka Chins wear their hair long, coiled up in a bun in the front of their heads, and they tie their *pagri* in such a way that the bun sticks out in front of it. The wearing of long hair is prevalent in the Falam and Haka sub-divisions, and is indicative of their spirit worship. They consider that the spirit lives in the brain, and that the hair, being nearest the brain, is holy; that is the reason why they do not cut it.

Just outside Haka we were met by the Zone Commander, the son of the first Deputy Commissioner ever appointed to the Chin Hills. He introduced me to the local chiefs, and I inspected what Levies there were in the place. Although it was a 25-mile march, the air was so bracing and the weather so cool that we both felt that with a short rest we could have done another ten miles.

After a day's halt in Haka we set off towards the outposts, and had our midday meal at a rest hut, as we had now got out of the bungalow area. The normal type of rest hut is just two rooms, and is completely unfurnished. It is the duty of the village headman to keep the place in repair and clean, and some headmen do it better than others. There is always water and firewood to be obtained.

The people of Haka are great drinkers of *Zu*, which is made from rice or millet. It is quite a palatable drink, rather like a very thin cider, and is hardly intoxicating at all, but having, as one sometimes had, to drink a couple of glasses in the middle of the day, the effect was to produce a slight headache during the heat of the day.

We were accompanied by two Levy leaders of repute. These were brothers, and they had given a good account of themselves in affairs with Japanese patrols. The elder rejoiced in the singularly appropriate name of "Yahoo." He was a great organizer of raids, but not such a good performer during them as he had to keep himself going on *Zu*, and if he missed that he quickly petered out. "Lien Ul," his brother, was the "go-getter," but not the planner, and the combination worked extremely well. Lien Ul had been in the Police for some time, and combined the salute of the P.T. instructor with that of the infantry man, as he invariably rose on his toes when he slapped the small of the butt.

During the trek in the southern area it was very heartening to see Allied bombers go over every day to bomb the Japanese. We only heard one enemy plane the whole time, and this was at such a great height that it was impossible to see it.

There had been a big landslide on the route, and at one place although we, on foot, could scramble along where the path had been, the animals had to make a very big detour to get round it. After crossing the landslide we came into a pretty valley with a stream, on the banks of which were many trees covered with red flowers which looked like, but were not, "flame of the forest." There were unripe wild figs, some as big as a breakfast coffee cup, and I was told that they are palatable when ripe. A very steep climb took us to the village where we were spending the night, and on the way we passed a herd of "mithun." This kind of cattle is a cross between the domestic animal and the wild bison, the characteristic type being mostly black with a white blaze and white feet. They look terrifying, but I was informed they were in reality quite cowardly. A further march of 18 miles took us to one of the outposts where we spent the night. On the way I saw a rather quaint bird, a racket-tailed drongo, with its blob of a tail at the end of what appeared to be thin wire.

Next day we spent in visiting the forward troops in this area, and on the way we passed the scene of a successful skirmish. What happened was this: the Chins had news of a Japanese patrol going up one of the tracks on which they had an ambush position. The country was very heavily wooded, but patches of the track could be seen at various places. After manning their positions, the Chin leader and two followers went to meet the Japanese patrol. They made use of the Chin tactics of firing two or three shots and withdrawing to the main position.

The Japanese followed them up with two scouts ahead and the rest of the patrol in a "football crowd" formation. One or two men opened fire, killing the scouts, and the rest of the Japanese rushed to pick up the bodies yelling, as was described to me by an officer who was there at the time, "like a pack of monkeys." As soon as the Japanese collected round the bodies, everyone opened fire and caused a considerable number of casualties. The Japanese then got their mortars into position on the hill behind, and the Chins withdrew to the next position, to which the enemy did not follow them. Later on, as they were not attacked, the Chins worked forward again and found that the enemy had withdrawn. Reports coming from the Kale Valley indicated that the Japanese must have lost about 40 to 50 in killed, as the Burmese villagers in that area were asked to collect 45 cart-loads of wood, which was presumably to be used for cremating the bodies. This was further confirmed by a villager who discovered a pile of corpses under a tarpaulin.

Next day we moved off to another outpost which was situated on a dominating hill. The track was through delightful woodland country which, in places, gave a good view over the Kale Valley. On arrival I found that an almost palatial hotel had been built for me out of brushwood. In the afternoon we visited the forward posts, and had our best view of the Kale Valley. With the aid of a map, we were able to pick out various interesting places where the clashes had taken place between our patrols and the enemy.

On March 15 we had a steep downhill descent of five miles to a small village, which had only fifteen houses. Out of this small population five men had gone down to the plains and had not returned, which meant a big difference in the life of the village. The remaining men, women and children came out to see us. Among them was a small child with a badly burned hand, which

Types of Levies.

had been tied up in a mouse skin. The child was obviously on the mend and the mouse skin, although it sounds horrible, had at least kept the air from the burn. One of our party did up the child's hand with sulphilamide, and advised the women to take it to the Haka Hospital, which was only two marches away, but nothing would induce her to do this. The child was extremely brave and hardly whimpered at all. There were very few smiles among the children of the Chin Hills.

Leaving the village, we moved to a picturesque stream which we had to ford, and which gave us an opportunity to have a good wash. Some of the pools were big and deep enough to have a short swim. There followed a tough climb up to the rest-house, which was eight miles away. The village turned out to be one of

the few which makes a good type of Chin knife; the village armourer was brought along in the evening, and bargaining took place for his products. Later on the villagers gathered round to hear the radio, and to drink *Zu* with us.

The next day on a pleasant morning we went to meet the same stream of yesterday, and to repeat the bathe. The trees came right down to the water's edge, and the last 500 feet of both sides were extremely steep. It was with the greatest difficulty that the lightly-laden mules managed to get either up or down. A meal by the stream was followed by a long climb up to the outpost position, and this was so steep that I found it necessary to halt every 25 minutes, and that even with the cool day helping us considerably.

The bearded commander and his "cut-throat" band met us, and we found he had built a grass hut for my use. The Chins in this outpost were a mixed crowd, and included some of the few Karens who had come out of Burma into the Chin Hills. The radio reception on this particular hill was quite the best I have heard anywhere. We got a very good B.B.C. programme.

Next day we went off to visit the forward posts, and a dangerous proceeding it was too, as the path had many booby traps and other surprises for the enemy, and if we slipped off it, the chances were that we went into a *panji* field. Needless to remark, I made someone walk in front of me the whole way, and even then I only just missed stepping on a *panji*. It was fine to see the ingenuity

Making panjis.

displayed in the welcome prepared for the Japanese, should they come along this way, and I was even able to suggest some refinements. That evening news of a possible Japanese raid on the post we were due to visit the next day made us change our minds, and

we slept in our clothes, all packed and ready for a quick get-away, if necessary.

There were no alarms or excursions during the night and early the next morning we had two stiff climbs down to streams and up again the other side. A distinctly unpleasant day, as it was very hot and steamy. However, on arrival at the top of the second slope we had a fairly reasonable walk to the village, where we spent the night. At two or three places on the road we crossed pleasant-looking streams, where we were able to get a cool drink and do some paddling. On the way we saw droppings of tigers, and the villagers pointed out to us one hill which, in November and December, is the haunt of bears, as many as 20 to 30 collecting there at a time. I suppose there must be some delicately-flavoured acorn or something of the sort on that particular hill. It was again a day of many bright and varied butterflies. As it got dark we heard a barking deer coughing quite close to the bungalow.

After a stiff climb early next day, we had a reasonable, though somewhat long, trek back to Haka, where we again enjoyed the "pansy" standard of the Inspection Bungalow. We felt that we had earned some *Zu* especially as we were going out of the area where it was good and abundant, so we arranged for what we thought was a couple of bottles. What actually arrived was a large jar of the concentrated fermented millet, to which water is added to produce the *Zu*. After taking out a couple of bottles, the rest was given to the local Levies who thoroughly enjoyed what we couldn't drink.

The return trip to Falam was uneventful, and after two days' halt we started off again on the round of the northern outposts. We had to stop at the village of the most important chief of that area, and he insisted on us drinking *Zu* at 11 o'clock in the morning. He was a very persuasive old gentleman and the *Zu* was good, so we did not get away with under two large glasses apiece.

It was interesting to note the difference in the two generations of women we met at the Chief's house. His older wives wore normal village dress of sombre colours, and the chief wife appeared to have very considerable personality and chatted freely. She and the other wives squatted on the ground. The rising generation of girls, however, were very Burmanized in dress, and sat on benches. Whether it was their youth or their modern upbringing I don't know, but they did not appear to have the personality of their elders.

We did a double stage the next day, having lunch at the normal stage bungalow half-way. There were five of us in the bungalow, so it was a bit of a squash, but luckily it was a cool night. Among the people there were two Intelligence Officers who had not got a high reputation for speed in the Hills, and in fact from the way the others pulled their legs, I came to the conclusion that their particular hobby was watching the tortoises whiz by.

On March 26 we left the main track, and proceeded along the narrow jungle path, which was hard on the feet. Luckily the day was a cool one and, in fact, was almost cold and we had a few spots of rain. Four miles from the jungle camp where we were going to spend the night we had to drop our mules at a village, while we went on with porters carrying what we required for the night. This outpost covered what was referred to locally as the "Road to Burma," but which to me appeared to be a very difficult jungle path. From one of the forward posts we could see Kalemyo in the valley below us. As the Levies in this area have no uniform, they wear a cock's feather in their headdress as a distinguishing mark. Actually any form of headdress is very difficult to obtain, and many of the Levies had made for themselves an open-work bamboo crown in which they stick the feather.

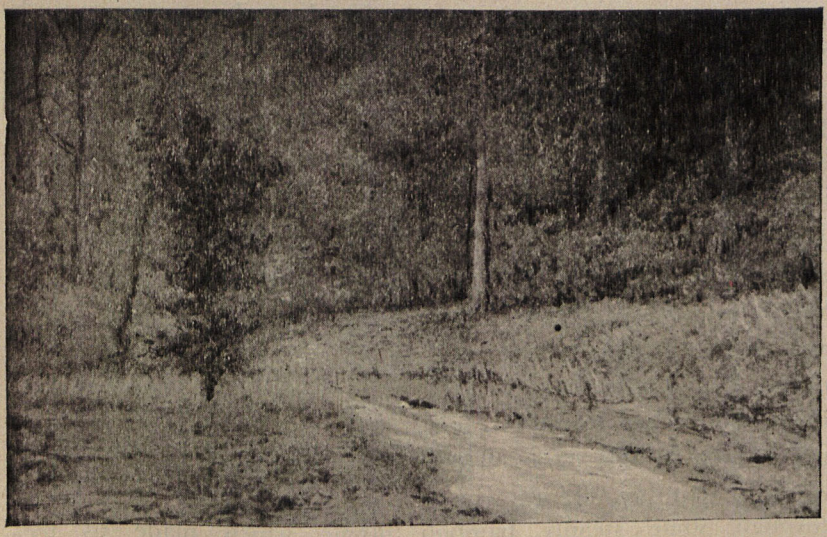
The next day we went almost straight down the side of the khud which led to the next outpost, which was off the main track. The stream at the bottom was bridged by a fragile-looking bridge, but, luckily, it had a handrail. The slope up to the outpost was not quite as steep as the one we had come down, but even then, in places, we had to use our hands. In this part of the trip we went through some steamy bamboo jungle which made us feel as if we were going through a huge hot-house. On the way up it began to rain, and so we took shelter in a house of a Chin villager, and sat in the wide porch which this type of house usually has. The owner, who had been a soldier some years ago, and his family came and entertained us while we waited. The man's family must have been mighty hunters in their day, as there were numerous trophies stacked up on one end of

Primitive bridge.

the porch. The trophies included two small elephant skulls and a pair of immature tusks.

After the rain, we continued our climb up to a place which is called a "stockade" on the map. We looked forward to seeing some remnants of this, which had been built when the British occupied the Chin Hills in 1890. Our hopes were dashed. All there was to mark this place was a dilapidated Inspection Bungalow. This stockade overlooks the main road to Burma from the Chin Hills, and this was the axis of advance of our troops when the Chin Hills were first occupied.

The next day we went along a spur to the forward outposts in this area, which again were in the neighbourhood of another "stockade," marked as the other one was by an Inspection Bungalow. The ridge down which we went was the scene of an engagement against the Japanese early this year. In this battle the enemy, who probably consisted of about two companies, attacked our forces in this area according to plan, our plan that is; they ran into the various ambushes, and when fire was opened on them, they took cover in areas full of *panjis*. The defenders



Panjis across the road to Burma.

heard their shrieks as these spikes pierced their bodies. The fight lasted over one day and into the next, and eventually resulted in the enemy withdrawing in some haste, as was evidenced by the fact that he abandoned a mule carrying a gun and ammunition, which had fallen over the khud side. The enemy's casualties in this engagement are estimated to have been about 50.

Going down to this forward post, I had a lucky escape as I trod on a *panji,* but its angle was such that although it went about 1½ inches into the sole of my boot it did not even scratch my foot. At various times, officers and others have walked on these *panjis,* which are very difficult to see, and the result has been that they were out of action with a painful wound for about four days.

In the evening I had the honour of presenting to a local Levy leader a "Sanad" given by the Superintendent for good work done in the skirmish referred to. It was quite an occasion, and we had some regular troops as well as the Levies on parade. This particular Levy leader had been in charge of the very forward outpost and when the Japanese advanced, he heard fire on the ridge to the south of him. He ordered his Levies to take up their prepared ambush positions, while he and two others went off to see what they could find out about the enemy. He found the enemy all right, with the result that his two companions were killed, but he managed to get away back to his outpost position. Later, as the Japanese attack progressed up the ridge, he, on his own initiative, withdrew his Levies up a parallel ridge and joined in the battle at the top.

Next day we moved to another outpost position and had to climb up a steep goat-track to reach it. In the afternoon we visited the forward "look-out" in this area, and there found a Levy with a musket dated 1811, actually in the most forward post of all. This Levy was fully equipped in that, besides his musket, he had a powder-horn and a leopard-skin shot-bag. The powder is all made locally, and in order to get the saltpetre in some villages a special place for urination is allotted; the earth round this place is used in manufacturing the powder.

Levy with 1811 musket, powder-horn and leopard skin shot-bag.

On the way back from the forward position we had an interesting and practical T.E.W.T. against the am-

bush positions worked out by the outpost commander. Although the actual breast-works were not well concealed, it was found that by occasionally playing a game of double bluff in combination with well-sited *panji* fields, any Japanese advance in that area would have been costly. The next three days were spent in visiting outposts further on, and entailed some unpleasant trekking in a temperature which had very rapidly gone up.

On April 1, the last outpost in my tour was visited, and we started back to Tiddim, which we reached three days later. On the way we passed the site of a new village, and it was gratifying to see that it was being nicely laid out with a small compound for vegetables round each house. At one of the tombs we were shown with great pride a square-inch of scalp taken from the head of an enemy during one of the raids into the Kale Valley. This had an honoured place among the other trophies of that particular family.

On April 5, I set off from Tiddim back towards civilization. On the way I found at one of the villages my old orderly and he regaled me with some welcome *Zu*. The next day we met a jeep at a place considerably more forward than the one I had left on February 24.

The general impression left by my trek was one of pleasure to find that the Chins, those serving in the Army as well as those in the villages, were, in spite of very adverse circumstances as regards the food supply, in such good heart, and had given such a good account of themselves in their skirmishes against the Japanese. I came to the conclusion that they were a people who deserve well of us.

WHAT MANNER OF PEOPLE ARE THEY?

By Squadron-Leader A. R. Boyce

PERHAPS ONE OF the most remarkable things about this war in the Far East is that we should find ourselves at grips with an enemy about whom we know so little and who, unfortunately, knows a great deal about us. It is true that innumerable books, articles and pamphlets have been written about Japan but the fact remains that the average Westerner's knowledge of the Japanese individual is practically nil. In this article an attempt will be made to give a thumbnail sketch of the simplest aspects of Japanese life and the influences that surround them—little everyday things which most writers might disdain to mention but which should help us to assess the individual.

A well-known little Japanese fire-eater and great talker, one General Araki, once remarked that "to know one's enemy *and* one's self is the secret of victory," and assuming this to be true, it is worthwhile knowing the answers to such simple questions as "How do they live?," "How civilized are they?," "Is it true that they are all quite dishonest?" and so on. Many foreigners have found it possible to live in Japan for years without learning anything about the people, partly due to absorption in their own affairs, or to lack of interest, but mainly to the language difficulty. The writer of this article has had the unique experience of not only starting out as a student of the Japanese language, but of spending eleven years there working the whole time with Japanese. The types he has associated with include the army (which involved twelve months attached to Japanese units), the Diplomatic Corps, big business for a short time, and university professors for some seven years.

One of the more outstanding points about all things Japanese is the contrast presented by almost every aspect of their lives, customs and ways of thinking. This makes it necessary to give the answer "Yes and no!" to almost every query that one might put about them. For example, here in India we are interested about their language. Is it difficult? The answer is that although it is the easiest language in the world to pronounce, it has by far the most complicated written system in the world. As everyone knows, they adopted the Chinese characters some fourteen hundred years ago, and then evolved a simple syllabary to indicate the somewhat

formidable agglutinations which characterize Japanese, and all this would not have been so bad if they had not added to their difficulties by having three Chinese readings for each character (three waves of Chinese learning were introduced into Japan at various times), together with four or five Japanese renderings. Hence the reading of each character—an educated man should know about six thousand—can only be determined by context.

Although the Japanese are 98 per cent. literate, a higher ratio than the U.K., it is necessary for them to have the reading of each character printed at the side in their own simple syllabary for the benefit of newspaper and magazine readers. Sir George Sansom, the author of "A Historical Grammar of Japanese," has referred to this as a "system of writing so irrationally complicated that it requires a subsidiary system to explain it."

Apart from this difficulty, the spoken language is very easy to pronounce, and is not marred by a single tongue-twister or, for that matter, by a single swearword. It is peculiar that the Chinese should show such prolific invention in this matter, whereas the Jap, under extreme provocation, may mutter "Beast!" and thereby exhaust his entire vocabulary of invective.

About the people themselves, although they claim to be an unsullied race, the observer in their midst cannot fail to detect two very distinct types. The mass of the people, with their broad faces, bridgeless noses, nobbly legs and squat muscular bodies, are frankly not too prepossessing, but there is an aristocratic leaven of delicate build, with oval faces and small, high-bridged noses. The women-folk of this latter group have features which are charmingly described as *urizane-gao*, or "melon-seed faces." Both groups are represented in the army, and it is the "hoi-polloi" type in high places that has always rattled the sabre loudest.

Surprising as it may seem, the Japanese, under normal circumstances, are easy people to live amongst. The writer of this article, who must have been a good test as he was recently described in writing by a brother-officer as "hard to work and live with," never fell foul of any Japanese during an association of eleven years. On the other hand, very few western people have ever succeeded in making a real friend of any one individual.

It is generally conceded that the Japanese are not by nature xenophobic. Indeed they look up to foreigners, no doubt because they owe so much to them. This trait has long been a source of disquiet to the military clique, who for the last ten years have devoted a large proportion of the pamphlets with which they flood

the country, to stirring up general anti-foreign feeling. As in all else, this otherwise attractive attribute is offset by the Japanese lack of social graces. Even their conventional politenesses jar on one's susceptibilities; the continual bowing, for example, and the inevitable hissing intake of breath (the object of which, by the way, is to avoid breathing on the august person addressed), all tend to irritate. Worst of all, perhaps, is the Japanese expression of sympathy, actually a poor English translation of a really attractive Japanese phrase—that is, "I am sorry for you." It is very difficult to accept this without feeling that the speaker is adding under his breath "you poor so-and-so." Indeed, this is but one of the many incongruities that seem to characterize their life and manners.

Japan has often been referred to as a country of contrasts, and this is particularly true of the difference between the men and the women. The smug arrogance of the vast majority of the former is only equalled by the demure acquiescence of the latter. If this were pointed out to a Japanese man, he would probably agree, and attribute it to the training which the Japanese male has given his womenfolk during the centuries.

Children have the time of their lives, and in spite of being thoroughly pampered by their adoring parents, behave extremely well. In all public vehicles, for example, people give up their seats for the children, but nobody would dream of doing so for women. Kipling once wrote that Japan was "a paradise for children," but perhaps this lack of early discipline is partly responsible for the arrogance so common among grown Japanese men, an arrogance which reaches its peak with the Japanese policeman.

This individual lives on a miserable pittance of some four pounds a month, but is vested with remarkable authority. No servant of the public is he. Rather he personifies the old *samurai* who were "without the law." These exalted creatures must be addressed bare-headed, and are not there to assist the man in the street, but to tell him where he gets off. We are all familiar with the charge of "conduct not becoming an officer and a gentleman," a perfect generalization to cover any crime the compilers of our Military Law might have omitted. Similarly, in feudal times in Japan—a mere eighty years ago—a *samurai* was justified in cutting down a citizen for "having done anything other than was expected of him," and to-day a Japanese policeman can arrest anyone for that delightfully vague offence: "an insult to an official."

With all his bombast, the policeman has no need to risk his life dealing with gangsters for they don't exist, although Japan is cursed with a political bully type which now finds an outlet for its talents in occupied China under the wing of the military garrisons there.

Petty thieving is remarkably rare, and small traders are scrupulously honest. Large concerns, however, have established a world-wide reputation for crookedness, and this phenomenon manifests itself in all official circles, for the juniors, who are grossly underpaid, seem to be above the temptations of bribery, while their seniors accept "inducements" as a matter of course. This provides a good example of how difficult it is to give a direct answer to even such a simple question about these people as: "Are they dishonest?"

Japan has frequently been referred to as a "new-old" nation and this is quite a reasonable description of a country which, in a few generations, has passed literally from bows and arrows and isolation to battleships, tanks and a divine mission to rule East Asia as a stepping-stone to world domination. This "new-old" aspect of the country manifests itself in the daily life of the people. All office-workers wear European dress while on duty, but on returning home they invariably change into their traditional and far more comfortable kimono after a piping hot bath (probably the second one for the day). Most middle-class houses have a foreign drawing-room, usually furnished in execrable taste, very different from the dignified simplicity of their own Japanese rooms.

This contrast runs throughout the whole country; ferro-concrete buildings, flanked by wooden houses with sliding bamboo-and-paper doors; underground railways but no drainage system, even in Tokyo; electric light in every house in the country, but no system of modern highways; an amazingly high standard of literacy, but no legal rights for women, and a hundred-and-one other examples. In this latter connection, the foreign community in Tokyo, some ten years ago, was mildly shocked to read in the newspapers that Japanese husbands were legally entitled to maintain concubines. At about that time a Bill was introduced in the Diet to forbid a husband's concubine living in the same house as the rest of his family. A Japanese acquaintance of mine commented sarcastically on this as a typical rich man's law, for the penurious husband would be deprived by it of his just extra-

marital pleasures, while the rich man would merely move his mistress to another establishment.

This all rather leads to the question of how civilized they are from our point of view. Let us first consider the obvious material mechanical civilization of our age. It may come as a shock to many to learn that the Japanese lead us in many ways; for example, not a single dwelling-place throughout the length and breadth of the land lacks electric light, and a scheme for the electrification of the *entire* railway system of the country was well in hand by 1938, but Japan's ambitions in other directions have checked it for the time being.

In the Ginza, Tokyo's famous shopping street, at least two department stores have doors which function by means of an "electric eye," and I would be prepared to bet that any square hundred yards of this particular district had more garish neon lights (before they were prohibited as a war economy measure) than the whole of London.

English theatres are puny in comparison with those in Japan. There is one in Tokyo which seats four thousand people, and has no less than seven restaurants in the building. The Japanese, by the way, really are the inventors of the revolving stage. This "modernity" sometimes takes queer forms, and the tip-up theatre-type seats in Tokyo's famous Nishi Honganji Temple suggest a very un-Buddhistic desire for comfort.

These material things do not perhaps represent civilization, but it is of the utmost importance to take due note of them in assessing the country's capacity to wage a modern technical war. It has always been my opinion that apart from her technical progress, Japan's national organization has always been perfect for the conduct of total war. To begin with, the Family System is such that every family in the country is docketed and filed as it were by central authority, and the officially-appointed head of the family is responsible to the Emperor for each member of his brood. This, coupled with State education for the last seventy years, and a natural ant-hill mentality, makes anything that Hitler has accomplished in this line with the German nation seem mere child's play.

In spite of the fact that this same universal education involves students' walking from a class on astronomy to a lecture on the Sun Goddess, and the descent of their ancestors to earth from the Plains of Heaven—at a specified date, too—the illogicality of it all does not seem to deter them in the least. It is inconceivable that

there can be any other nation so capable of swallowing nonsense as the Japanese. For example, the first Act of the newly-formed Japanese Diet less than eighty years ago was a solemn decree that the Emperor Meiji had changed overnight from a living Reincarnation of Buddha to a real Shinto God Incarnate!

A not-too-endearing characteristic of the Japanese is to imbue words and even phrases with meanings to suit their own convenience. Like "Humpty-Dumpty," a word with them means what they want it to mean: "it's a question of who is to be master, that's all!" Perhaps the worst of these is the word "sincere." As used by the Japanese who, like the Germans, have no conception of the spirit of compromise, it is applied to any quisling acquiescing in their aggressions, while "insincerity" characterizes all who disagree with or oppose their policy. They complain that the whole democratic world became "insincere" the moment Japan attacked and annexed Manchuria. The other slogans "Asia for the Asiatics" and the "Greater East Asia Co-prosperity Sphere" mean, of course, "Asia for the Japanese" and the "Greater East-Asia Japanese Prosperity Sphere." Perhaps the Chinese interpretation of Japan's "New Order in East Asia" as the "New Odour in East Asia" is best of all.

With all this, we are confronted by a determined and powerful enemy, who will repeat their performances of fighting to the bitter end, as they have done in Guadalcanar and on Attu Island, until their defeat is complete. Perhaps you have read the opinion on this point expressed by Mr. JOSEPH GREW, who was U. S. Ambassador to Japan from 1932 to Pearl Harbour. He believes that Germany's end will be a repetition of the history of 1918, but as for Japan:

"Japan will not crack, morally, psychologically or economically, even when eventual defeat stares her in the face . . . Only by utter physical destruction or the utter exhaustion of their men and material can they be defeated. That is the difference between the Germans and the Japanese. That is what we are up against."

This may give the impression of being "strong meat," and is doubtless partly intended to counteract a general impression that the Japanese are merely comic little people with large teeth, tortoise-shell spectacles and an English vocabulary consisting mainly of "honourable." Nevertheless, it is true, and may after all be a good thing, for nothing short of "utter destruction" could possibly constitute a lasting deterrent for the "only nation that has never been defeated."

MALARIA AND WAR

By Brigadier G. Covell, C.I.E., V.H.S., I.M.S.

IN PAST WARS, as in the case of that now in progress, malaria has frequently played an important rôle in determining the courses of military operations.

The instance most often quoted is that of the ill-fated British expedition to the Low Countries in 1809. The force left England on July 28, and disembarked at Middleberg and Walcheren on July 29 and 30. Flushing was besieged and surrendered on August 15. Apart from battle casualties, there was little or no sickness among the troops up to that date, but by August 29 there were 3,000 men in hospital out of a total of 25,000. Early in September the number in hospital reached 7,000, and by the middle of the month it was estimated that, out of a strength of 15,000 at Walcheren, 10,000 were actually sick, whilst deaths averaged 25 to 30 per day.

In the space of two months there were approximately 30,000 cases of fever, and 3,469 deaths in the whole force out of a total strength of 70,000 soldiers and sailors, as compared with 247 battle casualties. There seems to be no doubt that a great majority of the fever cases and deaths were due to malarial infection. At the end of September the epidemic began to subside, and the remnant of the army returned to England on December 23.

Several features in the history of this expedition are of particular interest at the present time. In the first place, the locality in which the troops disembarked was notoriously malarious. A Scottish regiment in the Dutch service, stationed in the vicinity, had lost a number of men equal to its total original strength in three years. It was also known that the French army serving in the same area regularly lost about one-third of its complement every year, and a Dutch corps which, on its arrival in 1806, had been 800 strong was reduced to 85 by 1809. A previous expedition to Zealand in 1747 had also suffered severely from malaria, some of the battalions operating in Zuit-Beveland and Walcheren being reduced thereby to less than one-seventh of their original strength.

Not only was Walcheren and its vicinity known to be intensely malarious, but the period at which the disease was most prevalent was also known, for Sir John Pringle, the famous military

medical historian, wrote in 1765: "The epidemics of this country may therefore be generally dated from the end of July or the beginning of August . . . their decline about the first falling of the leaf: and their end when the frosts begin." The Walcheren landing was thus undertaken at the very time when the malaria season in this locality was due to commence.

Another striking feature of these two expeditions to the Low Countries was that, both in 1747 and 1809, whilst the army ashore was being decimated by the ravages of malaria, the personnel remaining on the ships which lay at anchor in the channel between Zuit-Beveland and Walcheren enjoyed perfect health.

Two lessons are to be learnt from the events recorded above: (1) that active operations in a malarious country should be restricted wherever possible to the non-malaria season, and (2) that only the minimum number of troops should be landed on a malarious coast until all preparations are completed for an immediate advance.

It is of considerable topical interest to note that the Arakan expedition undertaken during the Burma wars of 1824—26 was practically incapacitated as a fighting force by the ravages of malaria. Early in the campaign 5,500 men fell sick, and soon "everyone who was not dead was in hospital." Of the original European force, three-fourths died, and it was alleged that the miserable residue was ruined in constitution and did not long survive.

The French campaign in Madagascar in 1895 was another instance in which malaria played a major part. It is said that owing to the confusion brought about by a division of authority between various departments of the French Government, the force was compelled to undertake a march of 43 days through an intensely malarious country, whereas it might have been transported by steamer without great difficulty. The deaths among combatant troops amounted to 320 per 1,000, due almost entirely to malaria and its sequelæ. The total number of deaths from disease was approximately 4,500, as against 13 killed in action.

In the Ashanti expedition of 1896, in six months there were 1,401 admissions to hospital for malaria out of a British force of 5,213 men, including 40 per cent. of the total complement of officers. British expeditions operating up the Blue and White Niles also suffered severely from malaria during the Soudan campaign of 1904.

During the war of 1914—18, malaria exerted a devastating effect on two campaigns in particular, namely, those conducted in East Africa and Macedonia, on both of which fronts the author happened to serve. In Macedonia in 1916 there were 30,018 admissions to hospital for malaria and 287 deaths (average strength 123,394): in 1917, 71,412 admissions and 287 deaths (strength 182,583): in 1918, 59,087 malaria admissions and 272 deaths (strength 128,747). The French army also suffered very severely and, fortunately for the Allies, the forces opposed to them were affected to an equal extent.

In East Africa, the malaria figures were even more startling. In 1916 there were, among combatant troops, 50,768 admissions for malaria and 263 deaths (average strength 58,114); in 1917, 72,141 admissions and 499 deaths (strength 50,782); in 1918, 22,941 admissions and 69 deaths (strength 41,033). The ratio of malaria admissions per 1,000 in 1917 reached the appalling figure of 1,422.

In contrast with the campaigns cited above, there was apparently little malaria among the Italian troops during their war with Abyssinia in 1935-36, and it was claimed that this was due to the rigorous enforcement of quinine prophylaxis. It has been alleged that the statistics relating to malarial incidence in the Italian army were intentionally falsified for propaganda purposes. There is, however, a much more probable explanation for the low malaria figures recorded, namely, that the campaign, which lasted for only seven months, was conducted for the most part during the non-malaria season. There was also very little malaria (10 per cent. only) among the British force in Abyssinia in 1867. In this campaign also operations were restricted to the least malarious period of the year—January to May.

It frequently happens in war-time that a particular area acquires a greater reputation for malariousness or non-malariousness than it deserves. Many parts of southern Europe and Asia Minor, *e.g.*, the Balkans, Cyprus, Palestine, Syria, the Caucasus, Iran and Iraq, are potentially intensely malarious, and any force operating in them during the height of the local malaria season is likely to suffer severely from fever. The area of operations is thenceforward designated as a hotbed of malaria, *e.g.*, the Struma and Jordon valleys in the war of 1914—18. A force conducting a short campaign in a similar area during the non-malarious months of the year may escape practically scot-free, and the locality may thereby acquire an undeserved reputation for salu-

brity, as in the case of the two Abyssinian campaigns cited above and the British operations in Syria during the present war.

There have been great advances in the control of malaria in recent years, and there are numerous examples of the striking reduction in the incidence of the disease which can be accomplished under peace-time conditions. It is common knowledge, however, that during the present war, malaria has seriously affected the conduct of military operations on certain fronts. It may well be asked why, seeing that so much can be done to reduce malarial incidence in peace-time, the disease should continue to be a major cause of inefficiency among troops in time of war.

The answer is that the problems of malaria control in war differ in many essential respects from those obtaining under peace-time conditions. The very nature of an army's normal activities is such that almost every action it performs in a malarious country is calculated to promote the spread of the disease. Chief among these unfavourable factors may be mentioned the constant movement of troops both by day and night, often without warning of any kind: the employment of large numbers of men on night duties: the difficulty of enforcing measures of personal protection, especially in forward areas: the aggregation of large bodies of labourers, introducing new strains of malaria parasites among the troops: the hazards to which units are exposed when compelled for strategic reasons to encamp in close proximity to malarious villages: the ever present difficulties of transport: shortage of anti-malarial equipment and drugs: and the difficulty of ensuring that such drugs are actually taken in the dosage and manner prescribed.

Malarial Conditions in Assam and Burma

Because there has been a high incidence of malaria among evacuees from Burma, and among the troops operating in that country and on the Assam-Burma border, and because many of the cases have been particularly severe, including a number of the cerebral type, it has been suggested that there is some peculiar form of the disease prevalent in this region, hitherto unknown to science, or that malaria is transmitted by a mosquito whose life history and habits are unknown, or known only to medical men who have had years of experience in this part of the country.

Actually, there is nothing mysterious about the malaria prevalent in Assam and in the foothill tracts of Burma. The malaria parasites which cause the disease are of the same species as those found in other parts of the world, but their virulence

and numerical prevalence are maintained at a high level because the local malaria carrier, *Anopheles minimus* (which is the same throughout this region and throughout south-west China) happens to be one of the most efficient transmitters of the disease in existence.

The life history and habits of this mosquito have been subjected to more detailed and intensive study than those of any other species in India, or for that matter in any other country of the world. It is a house-haunting mosquito, passing all its life in intimate contact with man, and feeding almost exclusively on human blood. Its favourite daytime resting place is on the lower half of the walls in dimly-lit rooms, frequently on umbrellas or clothes hanging from nails or pegs; but the greatest number are found hanging from the underside of the large bamboo beds which often cover half the floor space in the local huts, under piles of firewood supported on a bamboo framework, or under similar dark horizontal surfaces.

Different species of mosquito vary widely in their time of biting. *A. minimus* may bite at any time from dusk and dawn, but 90 per cent. of its biting is done between midnight and sunrise. If, therefore, troops are issued with mosquito nets, if these are maintained in serviceable condition and properly applied, and if their duties allow them to remain in bed from say 10 p.m. to dawn, the risk of incurring malaria infection is enormously reduced. Generally speaking, the effective flight range of this mosquito does not exceed half a mile.

It is a curious fact that almost all malaria-carrying mosquitoes require fresh water in which to breed, and will not lay their eggs in water containing a high proportion of organic matter. *A. minimus* is no exception to this rule. Its favourite breeding place is in clear, slowly moving water with grassy edges. Small streams, irrigation channels, drains, seepages and *nalas* containing clear water are the most dangerous breeding places. Large rivers, stagnant swamps, tanks, ponds, ricefields and borrowpits (except those recently excavated and fed by springs) are relatively harmless.

The favourable climatic conditions and the man-eating habits of the extremely efficient mosquito vector render this region one of the most malarious in the world. The transmission of malaria is possible during every month of the year, although it is reduced to a very low level from mid-November to mid-March. The frequent passage of the malaria parasite from man to man during eight months of the year, a much longer period than in most other

parts of India, maintains its virulence at an exceptionally high level. There may be other places in the world with as high a degree of malaria prevalence, but it is safe to say that there is none which is more malarious. The average inhabitant who takes no precautions against being bitten is likely to incur not one malaria infection each year, but many, possibly 50 or 60, or even more. It is indeed a matter for surprise, not that there have been so many cases of malaria among the troops in this area, but that any single individual has escaped at least one infection.

Methods of Prevention

It will perhaps be useful to give a brief account of some of the preventive measures which are of particular value under war-time conditions.

Site selection is perhaps the most important of all such measures. In a malarious country, no site should be selected within half a mile of local habitations, unless it is the only one available. Where this rule cannot be complied with for strategic reasons, the systematic spray-killing of adult mosquitoes should be practised in all habitations within half a mile from the periphery of the camp, as well as within the camp itself. Permanent camps should be located as far as possible from the breeding places of malaria-carrying mosquitoes, a rule which is much more easy to apply in these days of mechanical transport than was formerly the case. Where a site is to be occupied for a few days only this precaution is of minor importance, provided that there are no local habitations of any sort in the vicinity, because the mosquitoes, though prevalent, will not be able to infect the troops with malaria. Foothill areas in India and throughout the Far East are almost invariably intensely malarious, whilst villages located in the plains, no further than a mile or so from the hills and possibly entirely surrounded by flooded ricefields, may be almost entirely malaria-free. A general idea as to the malariousness of a locality can be obtained in a few minutes by examining a dozen or so of the local children for enlargement of the spleen.

The spray-killing of adult mosquitoes with pyrethrum insecticides is a method which has come into great prominence in recent years, and has proved particularly useful under war-time conditions. Its efficacy depends on the fact that the only way in which malaria can be transmitted is through the agency of an anopheline mosquito of a carrier species which, having fed on a person with the sexual stage of the malaria parasite in his blood, *thereafter succeeds in surviving for at least ten days*, and then has the

opportunity of biting another human being. This is because the parasite has to undergo a cycle of development in the stomach wall of the mosquito before it can infect the insect's salivary glands. The object of spraying is not to prevent individuals from being bitten by mosquitoes; for those killed by the spraying are quickly replaced by others from outside, but to reduce the length of life of the average mosquito of the carrier species to such an extent that though possibly *infected* with malaria parasites it cannot become *infective,* and therefore cannot transmit the disease. For this reason it is of the greatest importance to spray not only the quarters occupied by the troops, but also every local habitation and other likely resting place of mosquitoes within half a mile from the periphery of the camp.

Villages from which the inhabitants have fled on the approach of the troops need special attention, because the mosquitoes left behind, many of which may be infective, will be attracted to the nearest source of a blood meal. This measure is effective not only against mosquitoes, but also against sandflies, houseflies and other insect pests.

Among *methods of personal protection,* it has been already mentioned that most malaria-carrying mosquitoes bite late at night or just before dawn, and that *A. minimus* in particular feeds almost exclusively between midnight and sunrise. Hence the paramount importance of the proper use of the mosquito net, which should be looked upon as the most essential item of the soldier's equipment in a malarious country, being far more important for instance than a gas-mask. Wherever possible, the holding of early morning parades should be postponed till an hour after sunrise. If they are held at dawn, the majority of the men, especially Indian troops, will certainly be exposed to the risk of infection long before the sun has risen.

The anti-mosquito cream originally issued to the troops during the present war was unpopular owing to its greasiness, which made it unpleasant for use in hot, moist climates. This has now been replaced by a non-greasy preparation which promises to be more successful. All repellents have the disadvantage that their effect is transient, and none can be depended upon to give complete protection for more than about two hours; but they are effective if used regularly and with sufficient frequency, and in forward areas they often constitute the only practical means of preventing malarial infection.

The proper use of clothing (slacks and turned-down sleeves from dusk to dawn, two pairs of socks, mosquito-boots, veils, etc.) is also important. It is difficult to enforce the wearing of slacks if shorts are also issued to the troops, and in the author's opinion the latter are entirely unsuitable for campaigning in the tropics. Apart from the danger of malarial infection, their use exposes the wearer to abrasions of the skin or sunburn ulcers which may become infected and cause a great deal of inconvenience and loss of efficiency, whilst if shorts are worn in the daytime it is difficult or impossible to ensure that the men change into slacks at sundown, especially when active operations are in progress.

As regards *drug prophylaxis* or *suppressive treatment* as it is now called, there is no known drug at present available which can prevent malaria infection. Quinine or mepacrine (atebrin), however, taken regularly in sufficient dosage, will mask the symptoms of malaria in most cases, and is a valuable and often the only practicable means of maintaining a body of troops or a labour force in an effective condition for a limited period in order to allow it to complete some specific task of great urgency. It has to be remembered, however, that when this measure is discontinued, all or almost all of the men who have received an infective bite will go down with malarial attacks.

Generally speaking, in past wars the results of drug prophylaxis have been disappointing, chiefly because of the extreme difficulty of ensuring that the men actually take the drug in the manner and dosage prescribed. One obstacle to its success is a widespread belief that the taking of such drugs may lead to sexual impotence.

There are two campaigns in which a striking reduction in malarial incidence has been claimed as the result of this measure. One was the Italian campaign in 1935-36 already referred to, the other the French campaign in Macedonia in 1917. There is reason to believe that in both cases the claims were exaggerated, but there seems no doubt that the number of malaria cases was considerably cut down by this means, at any rate in the case of French Salonika force.

The drug was administered under strict supervision, and was classed not as a medicine, but as a ration. Any attempt to avoid taking it was regarded as refusal to obey orders in the face of the enemy. Frequent parades were held, at which the urine of every tenth man was tested to see whether he had actually taken the drug in the prescribed dosage. If the test was unsatisfactory, *the*

responsible officer, not the private soldier, was punished. Similar measures were adopted in the Italian army during their recent campaign in Abyssinia. Any success which may have attended this measure is attributable solely to the strict disciplinary action employed in enforcing it.

As in the case of suppressive treatment, methods of personal protection can only succeed where a very high degree of anti-malarial discipline is maintained. Experience has shown that such discipline cannot be brought to the requisite degree of protection unless officers commanding units are made aware that if it breaks down they are likely to be deprived of their commands.

AIR PHOTOGRAPHS AND INTERPRETATION IN WAR

By Squadron-Leader G. E. Daniel

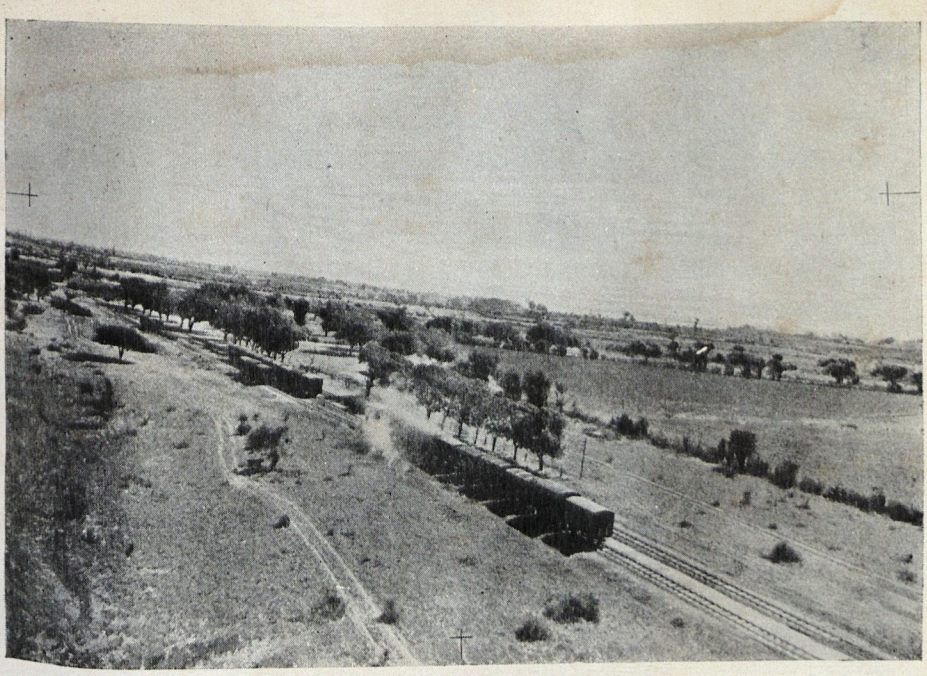
AIR PHOTOGRAPHS provide the General, Naval and Air Staffs in wartime with a constant and reliable source of vital topographical and intelligence information which cannot readily be obtained in any other way. Aircraft can fly hundreds of miles behind the enemy's lines, and with their cameras record faithfully what is happening in the heart of the enemy's territory. So many other sources of intelligence may be falsified by the enemy: the camera cannot lie, and, indeed, can often be used to check directly the accuracy of information derived from other sources.

The camera has tremendous advantages over the visual observer: it really enables the visual observer to say: "Let's roll up this interesting piece of country, with its aerodrome and its ship-building yard, take it back to base, and study it carefully, comparing it with what we saw last week".

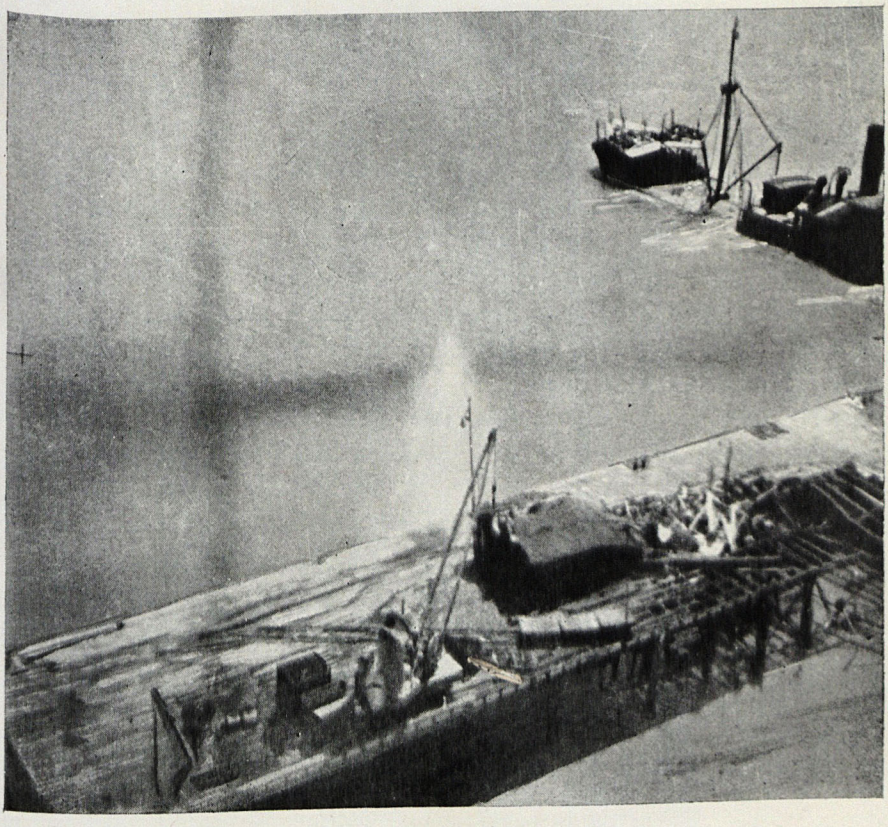
Three kinds of people in an Air Force are directly involved in the business of air photography: first, the air crews who fly the aircraft and take the photographs; secondly, the technical photographers, who are responsible for camera maintenance and developing and printing the exposed films; and, thirdly, the intelligence staffs who brief the aircrews before they set out on their photographic missions, and interpret the photographs taken. Behind all these, and controlling them, is the air staff, who decide photographic priorities and collate requests for photographic cover.

Air photographs are taken in wartime (*a*) by special squadrons engaged on Strategical and Tactical Photo-Reconnaissance, and equipped with special camera installations, (*b*) by bomber and fighter squadrons during their normal operations: and (*c*) by general reconnaissance and patrol aircraft when anything of interest is seen by them.

There are two main types of photograph—the vertical and the oblique. The oblique is taken by a tilted camera held in an aircraft or fixed in its fuselage, and takes views not far removed from the normal fields of vision. (Photograph I is a good example of a fixed oblique.) The vertical is taken by a camera fixed in an aircraft, and looking out through a hole in the floor of the



PHOTOGRAPH 1
Fixed oblique photograph taken from the nose of a fighter during an attack on rolling stock in Burma.



PHOTOGRAPH 2
Mirror oblique photograph taken from a bomber during a raid on Akyab. The mirror records bombs bursting on the target after the bombing aircraft has passed over it.

fuselage: it takes bird's-eye views, which at first appear unusual and well-removed from the normal viewpoint. Obliques can also be taken by vertical cameras fitted with mirrors and prisms, and photograph 2 is a good example of a mirror oblique.

The fixed vertical and oblique air camera is usually automatic; that is to say, once started it goes on taking photographs until it is stopped. Generally it is arranged to take photographs that overlap each other, so that stereoscopic cover is obtained of everything photographed. Cine-cameras are useful for recording the results of bombing missions, and, of course, the camera guns fitted in fighters are cine-cameras. Cine-camera photography, however, is not of especial value for intelligence purposes, although valuable for tactic training.

Tremendous improvements in the technique of air photography have taken place since the outbreak of war, and these have been added to a very fine tradition of Service Photography that existed before the war. It is, indeed, now rare to get many unsuccessful photographic sorties due to camera and technical failures, and it must be remembered that on the average thousands of air photographs are being taken every day in all the main theatres of war, and from tens to hundreds of photographs every night.

Night photography, as well as infra-red photography, are both undertaken where necessary with most successful results. Photograph 3 is a night photograph, taken during a night bombing raid over Burma. Night photographs such as this one are records of actual bomb bursts taken over the target, which is illuminated at the time of photography by a photo-flash bomb bursting below and behind the aircraft. As the shutter of a night camera recording bomb bursts is open for several seconds, the night photographs usually also contain records of fires, searchlights, etc. which take the form of many lines and bars following the direction of flight.

Information obtained from all this air photography is varied in its usefulness: it falls into three main categories—topographical, narrative and intelligence. The topographical information derived from air photographs is invaluable for making maps of hitherto unmapped regions, or for correcting existing maps. In areas such as the coast of Burma, where mangrove swamps are affected by every monsoon, and where the details of coast topography are really different each year, map revision becomes very important.

By narrative information is meant information about the success or failure of bombing missions. A careful study of photographs taken by bomber crews during operations shows the success of their navigation, and the effectiveness of their run-up —it records the bomb-bursts and, to a lesser extent, part of the tactics of the attack. Photographs taken after the bombing show the results clearly. The reports on photographs taken after bombing raids are invaluable also for future plans—they indicate which features are destroyed, which ships sunk, what harbour installations have been wrecked, and they enable new raids to be planned to the best advantage.

It must be stressed that the purpose of bomber crews carrying cameras is not so that the Air Staff may "spy" on the crews, but to obtain an independent impartial narrative of actual bombing which, with the crews' own visual reports, may be used to build up a full picture of the operation. The camera is not affected in any way by the emotions necessarily intensified during the heat of battle, and it is not distracted by the many other things with which members of an aircrew have to be concerned during bombing.

The resultant photographs provide a permanent record of the operation, and may be studied at leisure by the aircrews themselves and by specialist interpreters. Photographs 1, 2 and 3 were taken during offensive action: photograph 4 shows the results of bombing of Monywa, while the oblique of Akyab (photo No. 2) also shows the results of previous bombing in the sunken merchantman and the damaged pier.

By intelligence information is meant information about the enemy's dispositions, intentions and equipment. A study of air photographs shows the types of naval and merchant vessels, of guns, M.T. or A.F.V's. and of land and seaplanes that the enemy is building and using, while constant photography of ports, aerodromes, lines of supply and nodal points, and careful comparative scrutiny of these photographs, gives some indication of the enemy's strength, dispositions and probable intentions.

The personnel who attempt to derive this information from air photographs are called Photographic Interpreters. Photographic Interpretation is now a specialist trade among Army and Air Force Intelligence Officers, and this is because so many photographs are taken nowadays that studying them constitutes a full-time job, and because in photo interpretation, as in all other specialist trades, the man who specializes in that one aspect of

PHOTOGRAPH 3

Night photograph taken during an attack on Toungoo aerodrome in Burma. The aerodrome is well illuminated by the photoflash bomb (traces of whose direct illumination can be seen on the left of the photograph), and the photograph records bomb flashes and bursts.

PHOTOGRAPH 4

A vertical photograph giving the results of a previous bombing operation on Monywa aerodrome in Burma. Note how the bomb craters are grouped together along the runway.

Intelligence becomes rapidly an adept at plotting, and an expert in recognition and comparative study.

This specialist trade has absorbed during the war a large number of officers and airmen and airwomen who in peacetime studied air photos for non-military purposes: surveyors, geologists, geographers, forest officers, archæologists, oil geologists are all to be found now tracking down the installations and artifices of the enemy as seen on air photographs, as also are many others with no previous training, but with good eyesight and an aptitude for hard and painstaking work.

The work of interpretation is not intuitive or magical: it does not constitute being able to see on air photographs what others cannot see, but in being able to recognize at once, for what they are, unusual views of country and military installations and equipment. It consists of three main activities—plotting, recogtion and comparison. Plotting is finding out what areas of the countryside are covered by the photographs in question. The plotting of daylight photographs in well-mapped country is extremely easy, but the plotting of night photographs is frequently a matter of very great difficulty.

Recognition is identifying the various features of military importance—ships, aircraft, gun positions, tanks, wireless stations, factories, marshalling yards, etc.,—on air photographs. On good scale photographs, the interpreter must be able to identify the exact types of ships and aircraft, and this calls for skill and practice. He works from detailed measurements, from the form of the object to be identified, from its shadow and tone, and finally from any associated features, such as tracks or cables, etc., which may give away the real nature of what he is studying.

Accurate measurement and accurate appreciation of scale is at the basis of all photographic interpretation: next comes the appreciation of form, particularly the appreciation of length/width ratio, which is so marked in the top or bird's-eye view provided by vertical photographs.

Most air photographs are taken in an overlapping series so that two views of every object are provided to the interpreter: these views can be combined in a stereoscope, so that an accurate magnified three-dimensional view of the object to be studied is obtained. With his accurate measurements and his three dimensional view, the interpreter is well on the way to identifying the military features.

The third and most important aspect of interpretation is comparison, for by detailed comparison of the current photographs with those previously taken change can be detected, and change in the number and types of aircraft and ships, in the number of rolling stock in the marshalling yards, in the number of A.A. sites and M.T. and so forth betokens significant activity, and turns interpretation from the static recognition of types to the appraisal of the enemy's apparent intentions.

When all available information is obtained from air photographs, it is set out in Interpretation Reports, which are sent out on a restricted distribution to the intelligence staffs. It is not widely disseminated, for, after all, air photographs are only one source of intelligence information, and it is the work of the Intelligence Staffs to collate the Interpretation Reports with other sources of information, and disseminate accurate information, balancing all the suggestions received from the specialist sources.

The Interpretation Report is in itself merely a typewritten document containing the topographical, narrative or intelligence information derived from current air photographs: to enhance its usefulness it is often accompanied by, or supplemented with, what may be termed the Visual Aids to the appreciation of Interpretation Reports, namely: (*a*) annotated contact photographs; (*b*) enlargements; (*c*) maps, sketches or plans drawn from the air photographs; (*d*) mosaics; (*e*) photomodels, or three-dimensional mosaics.

Rough plans and sketches can be made from ordinary contact photographs: more accurate plans can be made by drawing in on enlargements and mosaics, and reducing away the image subsequently. Finally, very accurate cadastral maps and plans can be made by rectified photographs (*i.e.* photographs corrected for all tilts), studied in complicated machines such as autostereographs, where accurate measurements in all dimensions can be made. These visual aids must, of course, assist the reader of interpretation reports, and the indiscriminate distribution of photographs when they do not add to the information supplied in reports is everywhere discouraged.

These visual amplifications of Interpretation Reports are invaluable for briefing aircrews and landing parties, who can be shown photographs of the target from all angles, photographs of the surrounding countryside, and also photographs of any dummies and decoys in the neighbourhood of the real target. They could have explained to them in detail the method of camouflage

practised by the enemy at any particular target, but it must be remembered that what may be clearly visible as camouflage on a vertical air photograph or mosaic may yet be most deceptive when being seen on operations, and from an oblique viewpoint.

The work of an interpretation section is not over when the reports are written and any Visual Aids prepared and distributed. All the photographs and the information derived from them have to be filed, so that they are immediately available for reference, and so that immediate answers can be given to the perpetual questions of the Staffs. These questions resolve themselves into two main enquiries:

(*a*) enquiries for cover, *i.e.* "Do you possess adequate photographs of so and so?", and here adequate photographic cover means cover at a certain scale at a certain time; and

(*b*) enquiries for information, *i.e.* "Do your photographs confirm or negate this or that piece of information?"

It is small wonder that as the number of air photographs taken during the war has increased, central photographic interpretation units and sections have been developed in all the main theatres of war to deal with the work of interpretation, of photo-production (annotated contacts, enlargements, maps and plans, mosaics, photo-models), and of photo-filing and central storage.

The considerable propaganda value of air photographs must not be overlooked, and the centralised interpretation organizations must always keep in close touch with Directorates of Public Relations, so that intelligently selected air photographs may constantly appear in the press and in service journals, and the general public thereby become appreciative of our bombing, our intelligence and technical ability. In this way the goodwill without which no army can operate may be fostered, and also a contribution made towards that confidence in the right direction of the war which means so much to the Services themselves.

There is reason to suppose that in the aspects of warfare associated with photographic reconnaissance and interpretation we are, and have been throughout the war, well ahead of the Germans and Italians and Japanese. But even so the enemy does photograph us, and the study of air photographs is a constant incentive to increasing and perfecting our own camouflage and deception measures, which must be directed not only against the enemy pilot and bomb-aimer, but against the enemy camera and enemy photo recce pilot, because behind them are the

enemy's centralised interpretation organisations with their specialised interpreters and reproduction facilities ready to send out on the one hand to the bomber squadrons details of camouflaged targets, and on the other hand to the Intelligence Staffs notes on our equipment, installations and dispositions.

Photographic sorties flown by our own aircraft over our own territory are invaluable in telling us what we are giving away to the enemy, and in assessing the success of our camouflage. This is yet another service which photographic interpreters are called upon to perform—not only providing information about the enemy and the territory he holds and the success of our air operations against him, but assisting in the secure denial of similar information to the enemy.

Let not the many services rendered by photographers, photo recce pilots, and photo interpreters, in time of war blind us into regarding them as super-intelligence men. The camera is the handmaiden of intelligence, and only one of many handmaidens. It has, moreover, many limitations: the first of these is the weather—bad weather causes aircraft to be grounded, and hides in mist or very low cloud targets to be photographed.

Secondly, however much increased are the ranges of modern aircraft, parts of the enemy's territory will remain well without the range of photographing aircraft. This is especially so at the moment of Japan, who is being fought on the perimeter of her extensive conquests in South-East Asia and the S. W. Pacific, and whose vital industries are relatively invulnerable to constant photo recce.

Thirdly, the enemy can, by effective camouflage, by building his submarines and tanks and aircraft under roofs, and by the use of smoke screens, mask from us the information we seek with our cameras.

It may be true to a very great extent that the camera never lies; but in many cases the camera cannot speak at all. This is the great limitation to the use of air photographs as a source of topographical, narrative and intelligence information in wartime.

EVESDROPPING *

By Enid Scott

"WHAT'S ALL THIS talk about more education for women? We don't want our girls to be given advanced ideas." Thus spoke the old Daffadar.

"Certainly not, Daffadar-ji. But we don't want them left out of all progress and modern enlightenment, do we?" replied the Q.M. Jemadar. "When the *jawans* come back after the war, they must not return to homes where the standards of health and comfort fall below those which the army has become accustomed to."

"But is education going to teach our women all that sort of thing?"

"Certainly. That is the intention. So that our daughters may learn to be good wives and mothers to the fighting men; so that they may learn how best to tend the house and feed the family; how to prevent sickness among the children, and to treat it wisely if it comes. That is what education will do for our girls.

"And not that alone. It will teach them to read and to write, and to know a little more about the outside world, where their men-folk go when they enter the army. Thus, they will read our letters with understanding, and be able to answer them, too. And when we return again, they will have some knowledge of what life has meant for us, whilst we have been away from home."

"All this will be good," said an alert young Jemadar, lately returned from overseas. "We of the younger generation don't look for old-fashioned, *purdah* brides, chosen by our elder relations. We want intelligent girls, who will be our companions also. And, speaking of letters, I don't think that all our British officers realize how great is their advantage, in that they can exchange free written converse with their families, whilst they are serving far from home.

"The keenest soldier suffers discontent, if he be long without cheerful home news, or if what news he has be scanty and confused. The morale of our troops can withstand the hardship of war,

*With acknowledgments to **Current Affairs**, the fortnightly pamphlet issued by the Directorate of Welfare and Amenities.

but it isn't always proof against lack of reassuring words from home. A letter, written by his wife's own hand, would cheer many a *jawan* upon his way."

"I, too, am all in favour of enlightenment in our homes," said an elderly Risaldar who had now joined the group. "And I know, too, what good work the Regimental Family Welfare Centres do for our families whilst they are with us in the Lines. In the dispensaries, their ailments are treated by the lady doctor, and the *dhai* visits daily in the married quarters, to enquire if there be sickness or trouble anywhere. Arrangements are made for serious cases to be transferred to government hospitals, if the Welfare Centre has not adequate accommodation, and assurance is given that all *purdah* customs will be respected. I speak of what I know. But for the maternity ward at Lahore, I should have lost my youngest son at birth."

"But what is the use of women being taught that they must have their babies in a hospital? There are no women's hospitals in the villages where most of our children must be born; and I have lost two of my young sons for lack of medical aid," exclaimed the Daffadar.

"That is so, alas! Daffadar-ji," replied the Q.M. Jemadar. "But hospitals are increasing everywhere. Meanwhile the women are being taught in the Regimental Welfare Centres how best to care for themselves and their infants, so that future generations may benefit from what they are learning now. They are losing their old fears of modern hygiene methods, and will more readily apply to the nearest village dispensary for help, should need arise, rather than trusting to superstition and to fate."

"Besides", commented the sophisticated young Jemadar, "I am told that in the Welfare Centres, women learn more than treatment for the sick. I am told that there are talks by the Lady doctor on the prevention of disease; on housewifery; on cooking and food values too; and the war is teaching all of us how important that may be. They have competitions for knitting and needlework, organized by officers' wives. They and the children have tea-parties and games, and they have fun. Fun is very important for everyone, and I consider that in the close seclusion of old-fashioned homes, women had but few opportunities for fun."

"You speak but truth, young fellow," nodded the Risaldar. "I have heard all of this in my own home. I know how much it means to the women to meet the English ladies of the regiment. At first there is shyness on both sides, and the barriers of language

and of race. But that passes, and real friendship follows soon. Our women welcome the visits of the English ladies; to see their clothes, to hear them talk, and to learn, however dimly, something of their children, homes and ways. Some English ladies still hold aloof, more's the pity for themselves also.

"But I well remember the excitement there always was when the Colonel Memsahib gave a *purdah* party in her home in the days before the war. I used to hear about it long before and afterwards!—how the ladies dressed: their trinkets, and the strange arrangement of their rooms. And I have heard the English ladies speak also of the courteous welcome they receive in the family quarters, and of the quick response our women give to any efforts on behalf of the families of the men, who with the British officers, all serve the honour of the Regiment."

"The Colonel Sahib used to tell me also," he continued reminiscently, "how this friendly intercourse between the ladies, has sometimes led to the unfolding and adjustment of problems that otherwise might not have been revealed. We all know how women talk, whether they be educated or uneducated, and sometimes their talk reflects the feeling of their men."

"Well, Risaldar Sahib, I expect that they will talk more sense, once they have been educated!" said the young Jemadar with a grin. "And for myself, when I return after this war is ended, I want a comfortable and modern home, with a contented companionable wife, who will rear my sons in health and sturdiness."

"That is what Government is aiming at, with its female education scheme," chimed in the Q. M. Jemadar with enthusiasm. "We have seen what may be done in the Welfare Centres, and we see how much more may be done to help the women-folk that they may be worthy of India's fighting men. Little boys and girls will be taught side by side in the village schools. But the older girls will have schools of their own, which will open up the way to happier, healthier wives and motherhood. They can continue with higher education and a career, should that be the wish of the girl and her parents. Women are needed as doctors, nurses and teachers, to help their sisters everywhere. As such, they can earn good pay, and we all know that where daughters are plentiful, dowries may cost more than the *kharif* crop may bring. So let us educate our girls, for their sakes and for our own."

THE FOURTH INDIAN DIVISION

By "Camel."

DURING THE last war few divisions became known to the general public. Men and their relations were proud of their regiment or battalion in the infantry, or of their brigade in the artillery. Their division did not in the majority of cases mean much to them. There were, of course, some exceptions, such as the 29th Division or the 51st Highland Division. In the Indian Army possibly the best-known was the 6th (Poona) Division, but it was battalions who became famous.

In this war, on the other hand, divisions have become well-known. The doings of the 7th British Armoured, the 50th Northumbrian, the 9th Australian and, once again, the 51st Highland Divisions are watched with the greatest interest and pride. There are others which are almost equally famous, but possibly the most famous of all is the 4th Indian Division.

Some people—and there are always people ready to "crab" the famous—have suggested that the fame of the division is all a publicity stunt. It has been said that they are advertisers, or that they have good publicity agents. Publicity, it is true, does make a unit or formation known to the public, but it counts for absolutely nothing with other units in the Army. They judge solely on results, not on successes but on the fighting quality of the unit. In the opinion of the 8th Army, the 4th Indian Division is very, very good.

The record of this formation is so well-known that recapitulation is unnecessary, and anyhow impossible in a short article. It was the first infantry formation to go into the Western Desert, and it has fought throughout the campaign in North Africa, as well as in Eritrea and Syria. It has had its share in the bitterness of retreats. It ended the campaign by capturing the commander of all the Axis forces in Tunisia, and by taking more prisoners than it had in its first battle at Sidi Barrani. This time they were Germans and not Italians.

The 4th Division started its fighting career with three Indian Infantry Brigades, the 5th, 7th and 11th. The 11th was the first to go overseas, arriving in Egypt before war broke out in 1939. The 5th followed shortly afterwards, but the 7th did not arrive until November, 1940. While waiting for this last Brigade to arrive, the Division was made up to strength by the 16th British Infantry Brigade, which fought alongside the 5th and 11th at Sidi Barrani.

Since then this British Brigade has seen much fighting and has also gained a great name for itself.

No less than 19 different infantry regiments, British and Indian, have had battalions in the Division at one time and another. From the Indian Army there have been battalions of the 1st Punjab Regiment, 5th Mahratta Light Infantry, 6th Rajputana Rifles, 7th Rajput Regiment, 10th Baluch Regiment, 11th Sikh Regiment, 14th and 16th Punjab Regiments and the 2nd, 7th and 9th Gurkha Rifles. From the British Army, including those in the 16th Brigade, there have been battalions of the Queen's Royal Regiment, the Buffs, the Royal Fusiliers, the Leicestershire Regiment, the Royal Sussex Regiment, Essex and the Welch Regiments, the Argyll and Sutherland Highlanders and the Queen's Own Cameron Highlanders.

All through these campaigns the artillery has been British, although in some cases the drivers have been Indian. The 1st, 25th and 31st Field Regiments R.A. have been part of the Division throughout most of the campaigns, and at times other regiments have been attached. All three Corps of Sappers and Miners have been represented, and so it can be said that the 4th Indian Division is a good cross-section of both the British and Indian Army.

There have been only three commanders since fighting began in 1940. Major-General (now Lieut.-General) Sir Noel Beresford Pierse, K.B.E., C.B., D.S.O. (Royal Artillery) led the Division to victory against the Italians at Sidi Barrani, Agordat and Keren. Major-General F. W. Messervy, C.B., D.S.O. (Indian Armoured Corps) was commander from April to December, 1941, and it was under him that the Division defeated Rommel's forces and advanced to Benghazi. Then Major-General F. I. S. Tuker, D.S.O., O.B.E. (2nd Gurkha Rifles) took command until Tunisia. Under him the Division carried out the rearguard action from Benghazi to the Gazala line, fought at El Alamein and won its great final victories.

For security reasons the names of the present commanders of the Brigades cannot be disclosed, but they also have not had many changes. Brigadier W. L. Lloyd, O.B.E., D.S.O., M.C, (19th Hyderabad Regiment) and Brigadier D. Russell, D.S.O., O.B.E., M.C. (13th Frontier Force Rifles), both of whom are now Major-Generals, commanded the 5th Infantry Brigades for considerable periods. Brigadier (now Major-General) R. A. Savory, D.S.O., M.C., and Brigadier A. Anderson, D.S.O., M.C. (Queen's Own Cameron Highlanders) commanded the 11th Brigade until its capture in Tobruk. Brigadier H. R. Briggs, D.S.O. (10th Baluch Regiment) led the 7th Brigade throughout all its early campaigning, until he was promoted.

The Battle of Sidi Barrani was the beginning of the Division's not unbroken run of successes, and was a comparatively easy initiation into modern warfare. It was followed by the campaign in

Eritrea, which was a much more serious affair. Nearly four thousand casualties were suffered, and none of them were prisoners of war. It would, however, be wrong to think that these victories over the Italians were of little worth. It was these victories which cracked the morale of the Italians and made later actions easier.

After the fall of Keren, the 4th Division returned once again to the Western Desert, with the knowledge that they would now have to meet the Germans for the first time. There were those who said that the Indian soldiers would not be able to stand up to the concentrated bombing and mass tank attacks of the Germans. These Jeremiahs were proved false by events, as the Indian Army had indignantly maintained. But before the Indian Division went into action against the Germans another foe had to be met.

In Syria, against the Vichy French, the 5th Brigade fought in truly amazing fashion. One American correspondent who was captured made his way to Turkey. At Istanbul, with no censors to cramp his style, he let himself go in a cable to his newspaper of no less than four thousand words, telling the story of the fighting. He had covered the fighting in Spain during the Civil War, in Finland during the winter of 1939 and in France in 1940. He wrote that he had never seen such magnificent fighting spirit and irresistible dash as that shown by 3/1 Punjab Regiment and 4/6 Rajputana Rifles in their capture of Kissoue and at Mezze. It may here be mentioned that the 4th Bn. 6th Rajputana Rifles has been with the 4th Division throughout its campaigning. It has also served under the command of the 5th and 10th Indian Divisions at times and has seen more fighting than any other infantry battalion.

During the campaign in Libya in the winter of 1941-42, the 4th Indian Division made its name. Against Germans, against mass tank attacks, against heavy dive-bombing, whether advancing or retiring, it showed itself staunch. On one occasion the Corps Commander wrote: "The ferocity which your troops invariably show in every encounter with the enemy is beyond all praise. The 4th Indian Division is again setting an example to all."

If the men of the Division were asked to whom the palm for the 1941-42 campaign should be awarded, they would undoubtedly vote for the gunners. On numerous occasions the three British Field Regiments stood up to attack by large formations of panzers, supported by artillery and lorried infantry. They fought the battle out in the open desert. The 1st Field Regiment on the frontier and again at Carmusa, the 25th Field Regiment at Sidi Breghisc and the 31st Field Regiment at Sidi Azeiz and Alem Hamsa saved the infantry and administrative units from heavy loss by the way they stood up to the Germans. Their guts and skill were the admiration of the infantry and the rest of the Division.

In April, 1942, the Division left the desert and had its first real rest since August, 1940. It arrived back in the Delta and promptly disintegrated. It had the mortification of being split up over three continents: Headquarters and the 7th Brigade in Cyprus, the 5th Brigade in Palestine and the 11th Brigade in Egypt. The period of rest did not last long for the 5th and 11th Brigades. When Rommel attacked the Gazala line in May, 1942, both returned to the desert once again. The 11th Brigade, with the 2nd Cameron Highlanders, 2/5 Mahrattas and 2/7 Gurkha Rifles, fell with Tobruk. The full details of what happened are not yet known. What is known is that the remnants of the Brigade were still fighting long after the fortress had surrendered. The 5th Brigade was part of the force which broke out of Mersa Matruh and made its way back to Alamein. After a week for re-equipping it returned to the line and captured the Ruweisat Ridge.

The story of the great battle of El Alamein and of Tunisia is still fresh in mind. The 4th Indian Division finished the campaign, which it had begun at Sidi Barrani twenty-nine months before, in a blaze of glory. The 11th Brigade had been avenged.

Curiosity may be felt as to why this Division has continued to show itself so very good when units have changed and it has suffered so many casualties. There can be few left who took part in the original battles. The main reason is possibly the spirit of confidence, understanding and affection that has always existed between units in the Division. New units arriving sensed this spirit and adopted it. Every man was proud of the Division and passed his pride on to the new arrivals.

The Indian soldier fights his best when alongside British soldiers who believe in him. This has always been the tradition of the Indian Army since its earliest days. Given that confidence and friendliness, the men of the Indian Army will do literally anything to help their British comrade-in-arms, whether it be in fighting or in administrative work. This was realized from the first in the 4th Indian Division. In consequence, there has been no looking over the shoulder for fear that the units on either flank or in rear would break. There has been real affection between the British and Indian units, whether infantry, artillery or administrative. It is this spirit of confidence that has made the 4th Indian Division what it is.

There are many stories which show the affection which has existed between units. The 2nd Bn. Queen's Own Cameron Highlanders and the 1st Bn. 6th Rajputana Rifles grew to know each other in peace-time. The friendship was cemented in battle, and the final touch was given by the presentation of a march composed by the pipers of the Camerons to the Indian battalion and called "With Wellesley's Rifles at Keren."

This spirit was not confined to the infantry. On one occasion a Brigadier visiting one of his forward posts saw two Tommies having tea with the sepoys. On his way back he asked the Lance-Naik in charge in the post if he always gave tea to those who passed by. "Oh no, Sahib," was the reply: "Those were OUR gunners." On another occasion a subedar remarked to the Brigade-Major: "If only we had the Royal Sussex in our Brigade . . . ."

What the future holds in store for the 4th Indian Division is known only to those at the very top. In his special Order of the Day, saying farewell to the Division in April, 1942, the Corps Commander, Lieut.-General "Straffer" Gott of fond memory, said: "During the great battles of this winter you have proved that you can achieve against the German troops and tanks the same success that you had already won against Italians." The 4th Division hopes that it will be allowed to reach Berlin before it is brought back to help deal with the Japanese.

"KEEP HIM GUESSING"

By "Rajah"

IT HAS ALWAYS been impressed upon us that Defence is only the attack halted. Whenever we plan an attack, one of the first points we consider is, "How are we going to achieve surprise?" In the attack halted, do we give this the priority of thought which we should? Do we consider it at all?

The answer, I am afraid, is that we allow our minds to assume the defensive outlook, and are apt to look at things from that point of view and say, "How are we going to avoid being surprised by the enemy?" The jungle lends itself to surprise in every shape and form. We cannot always be attacking, but there is no reason why, with well-trained troops, we should not assume the offensive defence while the attack is halted, and keep the enemy guessing.

Many means are at our disposal for achieving this, for the following can all be employed in surprise roles; air, artillery, field A. A. & a/tk., A.F.Vs. infantry, M.M.Gs., mortars, grenades, a/tk. mines, anti-personnel mines, booby-traps, and *panjis*, not forgetting that surprise may be achieved more effectively by withholding fire than by employing it prematurely and by the use of alternative positions.

So when we have to establish a firm base, let it be an effective offensive one, about which the enemy will find out little or nothing without giving away just that information about himself which we require for the next phase. Let the first thought of commanders of all formations, arms and services be: "How can I surprise the enemy?"

The Jap, as we know, is not good at either invention, design or application of weapons. He relies primarily on cunning and a set drill; let us therefore see how we can keep him guessing with regard to inventiveness in the employment of weapons. Here are some suggestions as to how this might be achieved by the use of anti-personnel mines in forward areas. There are a thousand and one others which deserve equal consideration.

Anti-personnel mines of the push or pull trip-wire type may be laid around, or, if holding a broad front between localities watched by small standing patrols, these then afford an added

safety valve as to when the S.O.S. Defensive Fire signal should be fired by Company Commanders in forward areas. Should the enemy wish to discover our gun positions, M.M.G. or infantry posts, he might send out an infiltration party, a raiding party, or even an attacking force with a limited objective, by day or night, possibly supported by artillery or mortar fire. Should these succeed in passing through our wire, and over-running or infiltrating between our Forward Defended Localities (F.D.Ls.), in nine cases out of ten the S.O.S. would be fired, defensive fire would come down on pre-arranged targets, and, in addition to having little or no effect on those who had reached our F.D.Ls., would give away our gun and infantry positions; whereas if our defences contained some anti-tank mines where necessary on tracks or open paddy areas, and A.P. mines as well, ample warning would be given, and Company Commanders concerned would have a much better impression of the scale of enemy attack before calling for defensive fire. Moreover, the chances of gaining identification of the enemy would be very much better, and the chances of his reconnoitring our position or removing our a/tk. mines reduced.

Anti-personnel mines could be used as a means of thickening up Defensive Fire on the front by setting them as booby-traps in likely concentration areas of thick jungle or dead ground that cannot be engaged by fire from Forward Defended Localities, but into which the enemy or his patrols might move. This would force him into the open, surprise his patrols and at the same time inform us. In thick jungle, where artillery observation is difficult, A.P. mines could take the place of defensive fire in certain areas where accurate ranging is impossible. It would give ample warning of, if not prevent, infiltration between our localities or round the flanks of a locality.

They could be used in the more open places as a guide by day as to when enemy A.F.Vs. and infantry should be engaged by fire. Our artillery and infantry fire is invariably drawn too early, with a consequent lack of effect, instead of waiting until the enemy is in difficulties on our mixed minefield, and then hitting him hard and accurately with everything available.

They could be employed as an aid to the effective control of infantry and vehicle gaps into the position, or to flank ambushes on roads or tracks both by day and night. It is folly to imagine that gaps in defences can be closed hurriedly if our recce units A.F.Vs. or patrols withdrawing through the position are

closely followed. Infantry gaps can be made very narrow and safe by laying A.P. mines along both sides while they are in use; these mines can be controlled by pull wires or if circumstances permit from the nearest post to go off in pairs or more, and could knock out the whole of an enemy patrol if skilfully laid and set off.

Vehicle gaps, whether in the open or on jungle tracks, should be tactical gaps only; in fact ambushes, so that any attempt to follow up would be stopped by forward troops flanking the gap. By night, all gaps should be closed, except those in use by our patrols, and they should be watched very carefully during the absence of the patrols. Anti-personnel mines with flare attachment could even be placed by our patrols on all approaches leading from known enemy positions; this would have the effect of preventing his movement by night or giving us ample warning that he was on the move.

They could be used instead of barbed wire in the defence of forward areas. If wire and anti-personnel mines are compared from the transportation point of view, it will be found that, weight for weight, it would be approximately the same to lay 100 yards of double apron fence as 100 yards of anti-personnel mines at four per yard of front, assuming the weight of a mine to be four pounds; but with mines neatly packed in boxes, there is no doubt which would be the easier to convey by lorry, pack or porter. Again from the morale point of view on the enemy, the effect of any obstacle or device which can be seen is never so great as that created by one which not only cannot be seen, but kills.

Some of the disadvantages of wire are that:

(*a*) It reveals to ground and air observation the position of our defended areas.

(*b*) It indicates the layout of the defence L.M.Gs.

(*c*) It is easily cut on a dark night by assault troops or patrols.

(*d*) It is easily cleared by tanks, unless mined.

(*e*) It is expensive, bulky, and often difficult to obtain in the necessary quantities on the battlefield, in the time available.

(*f*) It must be covered by fire, or covered by patrols, or is quite useless and tends to give a false sense of security.

(g) It cannot give warning, inflict casualties, or come as a complete surprise to the enemy which other devices can achieve.

I am convinced that the extended use of A.P. mines and booby-traps would add to the defence an element of surprise which is lacking, and it would affect the enemy's morale accordingly. Only by new inventions and by constant thought and change in the method of employment of existing weapons offensively will our morale be retained at the highest level, and that of the enemy reduced.

In other words, "keep *him* guessing."

WHERE THE RAINBOW ENDS

By Colonel R. B. Phayre, M.C.

"GREAT BIG FISH of a variety unknown to us, with red cheeks like those of an English master."

This was the somewhat astonishing report sent by an old Sinhalese village fisherman to the Secretary of the Ceylon Fishing Club, after some strange fish had been breaking up the villagers' lines, tackle and nets at a spot many miles below the Club waters. These fish were subsequently identified as "Rainbow trout," with which the upper waters had been stocked. To reach the lower waters, they had to negotiate a series of most formidable falls, including leaps of 100 feet, while in some places, the river dropped 1,530 feet in 800 yards.

What is the exact definition of a Rainbow trout? These elusive fish, which have a mysterious habit of disappearing completely, have always been the subject of great interest and controversy among keen anglers. Even the experts disagree. Although screeds have been written on the Salmon, Brown trout and Sea trout, there is surprisingly little literature on the subject of the Rainbow, and it is worth while examining some of the evidence on the subject.

Origin.—The Rainbow originated in the River McCloud, a tributary of the Sacramento in California. The indigenous fish was known as *Salmo Shasta.* This trout was purely a non-migratory river fish, and it is important to note that it had about 160 scales along the lateral line, and a vertebræ of 63.

In the same river there was another very similar fish, known as the Steelhead (*Salmo Rivularis*) or *Gairdnerii,* but described by some writers as *S. Irideus* and also *Irideus.* It is definitely an anadromous fish, *i.e.* it is migratory, like the Salmon and makes its way down to the sea. The count of scales along the lateral line comes to approximately 130, with a vertebræ of 60. Dr. Kendall, the scientific Assistant to the United States Department of Fisheries, described *Shasta* and *Rivularis* as "two entirely separate fishes", but others disagreed.

Up to two pounds in weight it took an expert to differentiate between these two species.

Accepting the statement that these two species were distinct and interbreeding took place, the hybrids also produced progeny

but on a reduced scale and inferior to their parents. These hybrids were termed by some writers *S. Irideus*. In habits and appearance they more closely resembled the Steelhead (migratory) than *S. Shasta* (the purely river fish and non-migratory).

Dispersion.—Rainbow were first exported from the U.S.A. to the United Kingdom in 1882. They also went to other countries in Europe and to the Dominions, and reached New Zealand, Ceylon and India. It is quite possible that among them were the true *S. Shasta*, but many must have been the cross between *S. Shasta* and the Steelhead. The same stories of mysterious disappearances came in from all these countries. Many admitted that they were baffled, so all sorts of theories were put forward to explain how they effected their vanishing trick, when they appeared to be thriving in suitable localities.

Further reports were received later from the countries which had imported these so-called Rainbow. Germany, for example, described them as voracious feeders which, having cleared out all the natural food in a pool, would move *downstream* in search of more food. They did not, however, appear to suspect any migratory tendencies to be connected with a natural move towards the sea.

(*a*) Notes from the United Kingdom confirmed that they were heavy feeders and ate nearly twice as much as the Brown trout; consequently, if Brown trout and Rainbow inhabited the same pool, the Brown trout stood a small chance of thriving; (*b*) their livers were about three times larger than those of the Brown trout; (*c*) given favourable conditions, they gained in weight about one pound a year; (*d*) they did best in alkaline water; (*e*) when netted in, they did their best to escape; (*f*) they were affected by very cold water and invariably tried to escape. They have been known to bury themselves in the muddy bottoms where many died, either from suffocation or from the effects of marsh gas; (*g*) they did quite well in water of about 77°, a temperature that would probably kill Brown trout (other writers do not agree, and consider that 70° is reaching the danger mark); (*h*) the average life was about five to six years, when they were inclined to go blind. Several have been dug out of the mud in this condition or caught in nets among the weeds.

Most keen anglers will be able to quote cases from their personal experience regarding the complete disappearances of these fish from a favourable locality a year or two after stocking. The writer recalls a stream-fed lake of about five acres in England,

which had a good food supply, but was very deep and cold. It was stocked with Rainbow from Blagdon and did reasonably well for two seasons; after this the fish began their vanishing trick, so the lease was terminated. Curiously enough, three seasons after the vacation, one Rainbow of about 2 lbs. was taken on a fly.

A friend of the writer diverted a small stream running through his garden into a series of small pools, erecting wire netting at the exit from the garden. Although on high ground near a moor, and thus rather cold, the site was a sunny one; rather shallow with a rocky bottom. Besides natural food, artificial food, such as snails, shrimps, insects and liver, was supplemented. It was stocked with a strictly limited supply of 9-inch Rainbow. The owner amused himself by inviting his guests to catch one on a fly for lunch. The rate of growth was far higher than mentioned in para. (*c*) above, some of the fish attaining 7 lbs. in weight in $2\frac{1}{2}$ years. No casualties from natural causes were observed. It was always a matter of interesting conjecture as to what was going to happen to Rainbow after they attained a weight of over 7 lbs. Unfortunately, the sudden sale of the property, owing to the untimely death of the owner, prematurely terminated the writer's observations.

The most illuminating and fascinating account of Rainbow culture in the East comes from the pen of Mr. Philip Fowke, a former Superintendent of the Ceylon Fishing Club Hatcheries in Newara Eliya, whose research work regarding Rainbow places him in the very highest rank of pioneers.

The author gratefully makes acknowledgment to him for his kind permission to disseminate some of the valuable information which he has discovered after years of study and practice. The facts are of such importance that every reader who is interested in Rainbow is strongly recommended to acquire his masterly pamphlet, reprinted from the "Ceylon Journal of Science," Section C. Fisheries, Vol. VI. Here are a few salient facts:

Although Brown trout were introduced into Ceylon in 1882 (some 13 years before their introduction to India), Rainbow were not imported until 1899 and 1902. They were bred successfully at heights ranging from 7,200 feet to 5,800 feet; below the latter height they were affected by the heat, and it has been found that they will not breed freely below 5,500 feet.

They thrived well, and, four years after their introduction, large numbers of really good fish were being killed on fly. They

then moved to Lake Gregory, which checked their downward progress and, from the lake, went up to the smaller streams to breed. Those fish, however, which had ready access to the river passed away downstream. In 1903, in the same lake, the biggest Rainbow killed (on a worm) was 10 lbs. 9¾ ozs. Another, found partly eaten by an otter, was judged to be 18 lbs., but its weight was not officially recorded as it could not be properly weighed. The conclusion drawn was that the more or less pure *S. Shasta* were content to stay in the rivers, whereas the Steelhead variety invariably made for the sea when they had attained a weight of about 5 lbs.

Later, indisputable evidence was received that large Rainbow (so-called) were being caught miles away in the lower reaches of the rivers down to 1,500 feet, negotiating as they went most formidable falls in which one would expect a fish to be dashed to pieces. The point is that they survived; consequently, it may be assumed that these fish would have little difficulty in overcoming the rapids of such rivers as the Beas or Jhelum, where the dangers would be infinitely less, even during the heavy spates; besides which the temperature, especially during the cold weather, would be considerably lower than those pertaining in Ceylon.

It has already been mentioned that scale and vertebræ counts of Dr. Kendall were:

(*a*) True (river) Rainbow (*S. Shasta*) lateral line count of scales 160—vertebræ 63; (*b*) Steelhead scale count 130—vertebræ 60.

In order to test the new theory, Mr. Fowke went to the Natural History Museum, South Kensington, and asked the authorities to show him a marine-run Steelhead trout; he was shown a perfectly preserved Ceylon "Rainbow" trout! He next asked Mr. Donald Carr to give him a scale-reading of some of the famous Rainbow at Blagdon. The lateral line count of scales given was 139. 139, 140, 140 and one of 145. Finally, he sent three Ceylon Rainbow for scientific examination; the result of the scale count was 138, 127-128 and 132-134, with the vertebræ never more than 60.

To check this point, Mr. Fowke wrote to America asking whether the so-called Rainbow in Ceylon were not really Steelheads. The reply confirmed that it was very difficult to differentiate between the two, up to a pound or two in weight, but that the average size of the true Steelhead seldom exceeded 6 to 8 lbs. in weight. This confirmed Mr. Fowke's experience, for he put the

weight of the average river (Ceylon) Rainbow at 6 lbs., and had been unable to trace any river Rainbow being taken over 7 lbs.

The result of these tests seems to prove that all these so-called Rainbow were really Steelheads, hence their migratory propensities.

Mr. Fowke also mentions that, in 1935, Dr. H. S. Davis, of the U. S. Bureau of Fisheries wrote to him saying that they were rearing several strains of Rainbow in America, hoping to establish one whose habits would be no more migratory than those of the Brown trout. If this enterprise succeeds, it should be very interesting indeed to all fishermen. Unfortunately, in these days it is very difficult to get up-to-date information in India, but it is quite possible that these experiments may have been crowned with success. Should this be the case, it would be interesting to stock some virgin water with these non-migratory Rainbow. All evidence received heretofore seems to confirm that hybrid stock having any connection with the Steelhead rapidly adopts migratory tendencies until the whole stock is lost, unless it inhabits some land-locked lake.

If this theory is correct, then the very distinctive markings of the Steelhead should make recognition an easy matter, even to unsophisticated villagers. Further, if these fish really are going down to the sea, stocks put down in Kashmir, Kulu, the Nilgiris and elsewhere should be filtering into the larger rivers of India, and already may have been netted hundreds of miles away from their hatcheries.

In order to produce further evidence, the writer corresponded with various Game Wardens and Pisciculturists in India, to whom he makes grateful acknowledgment for the trouble they have taken in sending him the following details.

Kashmir.—Characteristic disappearance was observed, although Rainbow did well in the deep pools near the stewponds at Harwan Hatcheries up to from 5 lbs. to 7 lbs. In certain streams where they were put down, they were prevented from moving downstream by grids and gratings. In such cases the fish became emaciated, and some deformed. In other cases they did well, fish of from 4 lbs. to 5 lbs. being taken. There was a tendency for them to move down to the deep, low-level lakes (such as the Dal, Anchar and Wullar lakes). Some of the Kashmir stock was sent to Kulu.

The opinion of Mr. G. M. Malik, the Pisciculturist at the Achabal Trout Culture farm, is that the Kashmir Rainbow resembles *S. Gairdnerii*. This point was confirmed when a specimen

was sent home to Mr. J. R. Norman of the British Natural History Museum.

Confirmation has later been received that the so-called Rainbow are being caught miles below the streams in which they were liberated or bred. In 1942, one Rainbow of 3 lbs. was caught on rod and line three miles below Baramulla; consequently the confirmatory evidence which was anticipated, is now coming to hand. Further enquiries are, however, being made, and it is hoped that in a few years' time, much more data will become available.

Scale counts of Rainbow at Achabal and Harwan gave the following details: (*a*) Lateral Dine: vary from about 132 to 138. (*b*) Vertebræ 60. These figures have been taken from the measurements of a large number of fish at both the above hatcheries.

Nilgiris.—In the Nilgiris the same difficulties were encountered in breeding Brown Trout as those experienced in Ceylon, namely the spawning of the hens never synchronized with the milt of the cock fish; consequently Rainbow were introduced.

I am indebted to Mr. P. W. Davis, M.C., I.F.S., Hon. Sec. of the Nilgiris Game Association, for the following notes:

"Regarding migration, it may be assumed that Rainbow do (or did) get over the falls into the Bhavani and Moyar rivers, but—as purely negative evidence counts—I believe that no trout has been picked out of the rivers in the low country. There are also Mahseer in both the above rivers which eventually join the Cauvery and flow across Southern India to Tanjore. I doubt that the Nilgiri trout finds its way very far to the sea. The Pykara Hydro-Electric Works now tend to prevent any fish getting below, as they are held in the Mukerti and Glen Morgan Reservoirs.

"I and a Committee member, separately, counted the lateral (line) scales of two fish—one a 2-pounder and the other about 1½ lbs. The extraordinary thing is that they came out differently! The scale count of the larger fish was 126 or 127 and the vertebræ count was 61. The smaller fish was more difficult, even under a glass, as scales were small and indistinct, but different counts totalled 147 and 149 .... (Vertebræ not mentioned.)

"Mr. Fraser, for many years Fisheries Superintendent of the Nilgiris Game Association writes to me:

" 'I took it (scale count) up with the experts in California, and we sent sample fish to California in formalin for identification. I cannot, however, remember the number of scales, but there is no doubt that the fish, in the Nilgiris rivers is the "Steelhead"—*salmo irideus.*' "

Kulu.—To Mr. T. Tyson, of Katrain, one of the best-known resident fishermen in Kulu, and who has long experience of those waters, I am grateful for the following notes:

"Years ago, I fished the river (Beas) almost down to Mandi, but caught no trout of any description below Bajoura (about 12 miles below the fishing reserve).

"Rainbow have now practically disappeared from the Beas. Up to about 12 years ago, I occasionally caught them around Katrain, but during the whole of the last season (1942), I don't think any were landed in the fishing reserve.

"From my experience of Rainbow in Kulu, the fighting qualities of the species gradually deteriorated. Years ago, shortly after they were introduced into the Beas, one could almost invariably 'sense' a Rainbow while playing it. In more recent years, however, there was very little to distinguish its fight with that of the Brown trout." (A most interesting observation; corroboration from other waters would be of value.—*Author.*)

I also appreciate the help given me by Dr. Hamid Khan Bhatti, M.Sc., Ph.D., Game Warden of the Punjab, who writes:

"It has been found that Rainbow trout does not exist in the lower reaches of the River Beas beyond the Kulu Valley. It is, therefore, doubtful whether these fish have made their way to the sea or have otherwise disappeared. The lateral line count is 134.

"It is sad to relate that a very heavy flood swept through the Valley in August, 1942, and killed thousands of trout, both in the river and in the hatcheries. The extent of the damage will not be fully known until the opening of the season in March 1943."

Travancore.—Mr. W. S. S. Mackay sent some very interesting notes on the High Range Angling Association of which he is Honorary Secretary.

This is a purely private Association, and is *not* open to the public. As in other places in South India and Ceylon, Brown trout having failed (introduced 1906) owing to the male and female not coming into season together, Rainbow were introduced from stock taken from the Nilgiris, and also from Ceylon. Some of this strain originated from Germany, New Zealand and Kashmir, so there is a good mixture of blood. Mr. Mackay states that the scale counts have never exceeded 140, and that the fish are Steelheads and not Rainbow.

There have been considerable losses of stock in the past, as these trout seemed to make their way down to the warmer waters of the foothills, and to die there. Lt.-Col. Stockley, however, states that Rainbow will live in waters at 2,000 feet in Africa.

There were the usual setbacks and failures at the initial stages, but Mr. Mackay relates that when these Rainbow were put into a small pond or lake, where the food supply was good, they had a phenomenal increase in weight from 2 lbs. to even 3 lbs. a year; but they ceased to rise to fly after the first year and usually died prematurely. They did very well in clean, running water where there was plenty of space. Their voracious and migratory tendencies were very marked.

Mr. Mackay attributes the failures in breeding to the high temperatures, it being clearly established that they would not breed well much below 5,000 ft. They did well, however, at Hamilton's Plateau (7,500 ft.), and Mr. Mackay has now had the satisfaction of hatching out his own trout. Some nice fish are being taken weighing from 3 to 5 lbs. Mr. Mackay later sent me a photograph of a two-year-old Rainbow, length 25½ inches, girth 15½ inches, weight 8 lbs. This seems to be very exceptional growth. He remarked that the fish was spawn-bound, and picked up dead. An Air Force officer records that some Rainbow were being taken in a river above which was a waterfall having a sheer drop of 400 ft., only the upper waters had been stocked, so this falls into line with the reports emanating from Ceylon.

Here, then, is some of the evidence on the Rainbow-Steelhead controversy, regarding which the reader can draw his own conclusions.

It seems, that a great deal more could be discovered concerning the migration of these so-called Rainbow. Members who are keen anglers are scattered over the length and breadth of the country. It seems quite possible that, if enquiries were made on rivers perhaps hundreds of miles below preserved trout waters, they might result in the identification of these wanderers, either after being trapped in the village nets, or even caught on rod and line. If such an event did occur, it would be of considerable interest to other anglers, and a communication to the author would be greatly appreciated.

The problem to be solved is: where does the Rainbow end? The answer seems to be: In the sea, if he can ever get there—poor devil!

THE INDIAN ELECTRICAL AND MECHANICAL ENGINEERS

By S. H. S.

QUIETLY and unobtrusively there has come into existence a new Corps of the Indian Army whose influence on present and future military operations will be vital, and whose impact on post-war India will be far-reaching and momentous. The new Corps is the Indian Electrical and Mechanical Engineers, a counterpart to the British Army's R.E.M.E., and the culmination of a move begun in 1939.

Four years ago, the mechanical maintenance units of the R.I.A.S.C. were amalgamated with the workshop side of the I.A.O.C. A considerable degree of rationalization of technical resources was effected by this merger, and the creation of I.E.M.E. as a separate Corps is but a logical development. I.E.M.E. has been organized because experience on the battlefields—particularly in the Middle East—has proved conclusively that closer co-ordination of the mechanical engineering services of the Army under a single direction was a vital necessity to victory.

Military writers, and war correspondents with the Eighth Army, have gone so far as to suggest that the operations of R.E.M.E. and I.E.M.E. in the campaign which drove the Axis out of North Africa, made the difference between decisive victory and another agonising stalemate. Both General Alexander and General Montgomery have publicly praised the technicians. So there is no doubt that this experiment of reorganizing the widespread maintenance organization of huge armies in the middle of the greatest of all wars has been proved successful.

But the exigencies of the battlefield were not the only factors which influenced the decisions to form I.E.M.E.—the conservation of skilled manpower was another weighty consideration. India, on the outbreak of war, had neither widely developed engineering industries nor a large mechanised army. Both have been created by the character and trend of the war. Both have competed for the few skilled tradesmen available.

The merger of the R.I.A.S.C. and I.A.O.C. technical services was an early understanding by the army authorities of the shortage of these tradesmen and the means taken to obtain maximum efficiency from slender resources. The acuteness of the problem

has not lessened with the passing years, and I.E.M.E. is but one further step towards its solution.

Then again the problems of war stimulate human endeavour to the highest scientific research with a corresponding increase in scientific development. While the war lasts, this development is translated into the production of weapons of war, so that in the equipment of the Indian Army of to-day are to be found the results of the latest scientific discoveries. It can, therefore, be no longer said that the army's equipment is easily understood by the ordinary soldier and is simple to maintain in efficient working order.

It has become increasingly clear that modern intricate fighting weapons can only be retained at maximum efficiency by trades men highly skilled in their maintenance and repair. Only a self contained corps of technicians specially instructed and specially equipped can hope to cope with the diversity and magnitude of such a maintenance problem.

So I.E.M.E. was born, and its heritage is the responsibility for the inspection, maintenance and repair of all tanks, artillery, wireless, radio location equipment, scientific anti-aircraft position-finding equipment and other numerous technical stores, in the Indian Army. It is no mean job. To fulfil this task efficiently has entailed the creation of a vast administrative and workshop organisation which takes I.E.M.E. activities into every single sphere of army function.

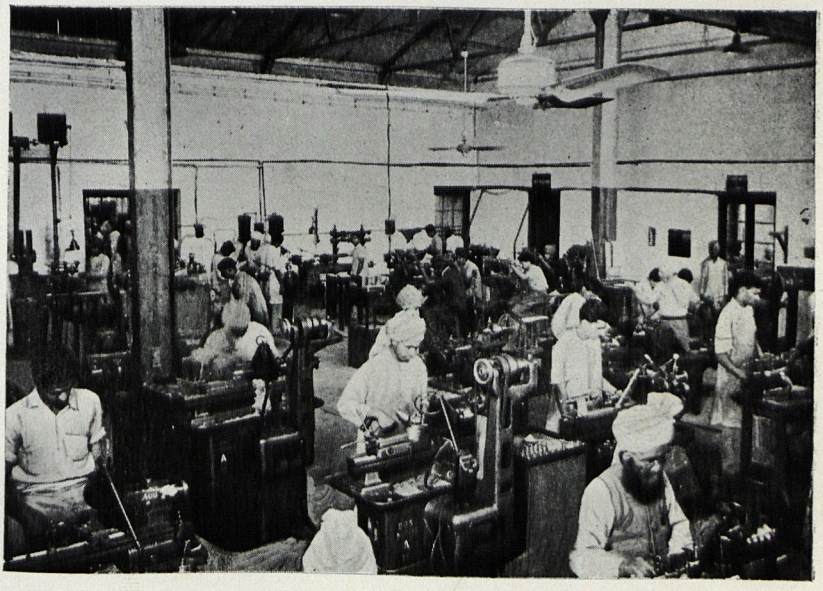
At General Headquarters under the general control of the M.G.O. in India, the direction and co-ordination of the activities of the new Corps of Indian Electrical and Mechanical Engineers is in the hands of the Director of Mechanical Engineering, passing down through Deputy Directors, Electrical and Mechanical Engineers, at the headquarters of armies, eventually to the E.M.Es., who act as technical advisers to unit commanders. Each formation and certain individual units have their own mobile workshops and mechanical engineering staff. Backing these are the static military base workshops in this country and in all theatres of war, where any type of repair to any equipment can be effected and where, if necessary, manufacture of parts can be undertaken in limited quantity.

Experience of the past war years has shown that engineers especially those attached to units or in a light aid detachment (I.A.D.) must also be fighting soldiers, and much doughty work has been done by workshop units in the Middle East and elsewhere.

WORKSHOP IN THE DESERT

Away from the din and turmoil of battle, but often within hearing distance of the guns, the workshops carry on their job swiftly and smoothly. Damaged trucks, carriers, guns and even tanks are brought to them for repairs. They must be put right quickly. The workshops personnel—British and Indian alike—working with a co-ordination and understanding which months of co-operation perfected—get busy. The damage is assessed. The blacksmiths, carpenters, gunsmiths and mechanics are working full pressure, each doing his particular job. The result of their labour is evident. With surprising celerity, trucks, carriers and tanks, which had been towed to the workshops only a short while before, go back to the line under their own power, taking with them the guns which will be hammering the enemy soon.

Photo shows a Bren gun carrier, damaged in action, being brought in by the I.E.M.E. Recovery Section.



Wireless Test and Repair Section.

Light aid detachments frequently have to do repair work on tanks, vehicles, guns and other equipment under fire, and effect the recovery and evacuation of badly damaged tanks and other equipment—now an I.E.M.E. responsibility.

The I.E.M.E. field organization has been devised to provide a high degree of operational flexibility and to bring within the reach of every Army unit, expert and well-equipped technicians capable of handling every conceivable type of repair, adjustment and maintenance.

The system—of echelon recovery and repair—is one which was introduced early in the last war by the British and later adopted by the Germans. Briefly, it comprises four echelons or lines—first line—the light aid detachments—small mobile units operating in the forward areas: second line—mobile workshops which function with formations on the fringe of the battlefield: third line—semi-mobile shops on the lines of communication: and fourth line—static base workshops well outside the battle area.

By means of this flexible echelon system, a small detachment of trained men can get a broken-down tank on the move by replacing the damaged engine or equipment with a new assembly and have the broken mechanism sent back to a workshop which has the facilities for its repair. By the skill of I.E.M.E. personnel time taken over the replacement of engines in tanks has been steadily reduced. Defective guns which in the last war meant that the weapons had to be sent from the battlefield miles back to the factories for reconditioning can now be repaired in the field in a matter of hours.

Pivots of the echelons are the 3rd and 4th-line shops. They overhaul and repair the damaged assemblies and send them back to the forward units as replacement. The bulk of this work falls on the 4th line, the base shop equipped with modern tools and machinery, which can effect any and every repair to any and every type of equipment. It is also capable of producing spare parts if their local manufacture is necessary.

The whole basis of modern recovery and repair is to replace damaged apparatus with serviceable assemblies, and leave the heavy repair work to the workshops outside the fighting zone—to replace a damaged engine with a new one on the spot and leave the repair of the broken engine to a shop which has more time and greater facilities. The two forward echelons do the work possible on the spot."

The 1st echelon—the Light Aid Detachment, which goes into action in trucks and tractors with the tanks, with artillery regiments, on the A.A. gun sites, and with the infantry brigades—repairs in the field what can be so repaired or condemns it so that it can be replaced.

The 2nd echelon—the mobile workshops, machinery-equipped heavy lorries with breakdown outfits—effects the heavy replacements and the repairs which its machinery can handle in a short time and still allow it to keep pace with the division or the brigade to which it is attached.

By a scientific grading of the jobs which each echelon can do, and by equipping them with the machinery and the stocks of spare parts necessary for these tasks, their capacity has been designed to deal with a flow of defective equipment for repair and serviceable equipment for refitting, and ensure its return for use in battle.

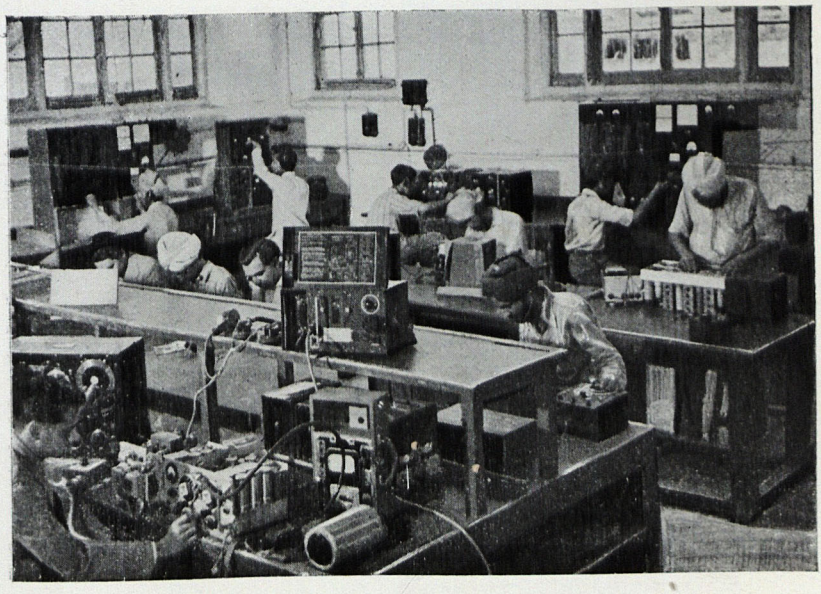
In all fairness, credit for reaching this high standard must be given to the efforts of young Indian recruits rather than to the adequacy of means for training them. Indian technical schools and colleges before the war had indifferent success in training students as electrical and mechanical engineers to the standard required by modern conditions. Industrial development was such that hardly any Indian educational institution foresaw the day when demands would arise for masses of trained engineers of the highest standard.

The emergence of the Indian technician has been one of the most promising features of the war effort in this country. Volunteers in thousands have enrolled in the Civil training centres, and considering the shortness of the course and the rawness of the recruits the standard reached by I.E.M.E. craftsmen has been remarkable.

A severe handicap has been the necessity for creating *ab initio* large and well-equipped I.E.M.E. training centres for both basic and advanced training, but energetic steps are now being taken to overcome this, and in the very near future these technical training centres will be in full operation.

The story of the growth and development of I.E.M.E. is similar to that of many other enterprises—it is a saga of improvisation, of struggling against the burden of pre-war unreadiness: of the untiring efforts of the small band of British technical officers who, with the help and enthusiasm of a few Indian officers and other ranks, have created a great and highly skilled Corps.

Army lorries under repair and overhaul in an I.E.M.E. 4th Line Workshop.



General View—Machine Shop.

They would have failed had it not been that young India is awakening to the call of mechanisation and the urgings of adventure through the study of engineering. And in this development is the shadow of coming events.

In three years the entire outlook of thousands of young Indians has radically changed. These boys from the fields, from the plains and the hills, from the villages and the towns, have learned skilled trades in the civil and I.E.M.E. training centres. Through that training they are to-day holding down well-paid positions in I.E.M.E. They are looking to a continuance of this new-found life after the war. Many of them will stay on in the Corps: many others will be attracted to the future industries of peace-time India.

They have found a way to earning good wages; others will want to follow their example. Indian universities will have to provide improved training facilities in syllabus, instruction and equipment for engineering degrees: technical colleges will have to come into existence to meet the demand for skilled artisans.

A stage of Indian development which might have taken generations has happened in three short years. What the full effect on India's economics and social future will be cannot yet be foreseen, except that it will be considerable and vital.

BACKGROUND NEWS AND VIEWS

Secrecy and Surprise

"Preparations for the North African landing were begun in March, 1942. They included the provision, collection, packing, marking and dispatch from depots to ports of hundreds of thousands of stores, as well as many thousands of vehicles. Numerous troop transports and cargo ships had to be collected, berthed in selected embarkation ports, and the men and materials brought to those ports from all over Great Britain.

"As an indication of the magnitude of the task, 185,000 men, 20,000 vehicles, and 20,000 tons of stores had to be moved in three weeks from billets to ports. This meant running 440 special troop trains, 680 special freight trains, and 15,000 railway wagons by ordinary goods services, and the subsequent embarkation of that mass of men and stores in transports and cargo ships. Cargo could not be stowed anyhow. Success or failure might depend very largely on the speedy discharge of equipment in the order required for each operation on shore. It had, therefore, to be chosen in meticulous detail before ever stores were sent from depots.

"All that involved weeks and months of preliminary work, made more anxious by the inevitable insistence on the utmost secrecy, and the consequent restriction to the absolute minimum of those who were fully or even partially in the secret. The almost complete surprise achieved in an operation of that magnitude was unbelievable, and reflected the greatest credit on all concerned."—*Sir James Grigg, Secretary of State for War.*

"Be Prepared"

"Until the fall of France neither Congress nor the people of the United States were at all willing to incur the expense of preparation for war. Here is one example. Probably the most fundamental weapon of modern warfare is powder. When I took over in July, 1940, we didn't have enough powder in the United States to last the men that we now have overseas for anything like a day's warfare. What was worse, we didn't have any powder plants or facilities to make it; they had all been destroyed after the last war. The criticism that had then arisen against 'merchants of death,' as the commentators call powder manufacturers, had resulted in such unpopularity that the greater part of the powder manufacturers had gone out of business. Some had spent a great deal of money destroying their plants. The first few weeks I was

here I went around like Israel Putnam in the beginning of the Revolution, crying 'Powder, Powder, for God's sake give me powder,' because it takes two years to construct and get into operation a large-sized powder plant. . . . We had no facilities for manufacturing weapons except our six little government arsenals, whose capacity is only five per cent. of the facilities we have to-day for manufacturing weapons."—*Mr. H. L. Stimson, U. S. Secretary of War, at a Press Conference.*

The Refugee Problem

"Human refugees will present an enormous problem after the war. The most numerous groups consist of those who have had to flee before advancing armies. In China alone there are said to be fifty million of these. There must be almost as many Russians who have been evacuated or have escaped from German-occupied territory. Two million Indians who had long been settled in Burma have found their way to India. No reliable figures are available on the Poles who fled to Soviet Russia or on those who fled from Russian Poland into German Poland and the Vilna territory, but the number must run into millions. When the Low Countries and France were invaded, the stream of refugees blocked the roads, and although most have now returned, thirty thousand civilians and many more soldiers escaped to Great Britain alone. So it has gone all over the world—in Greece, Jugoslavia, Malaya and the East Indies. Transfers of populations and the mass expulsion or deportation of Jews suffice to show that, when the war ends, millions of persons will be scattered over the face of the globe, separated from their homes, many with no homes to return to, and some with no governments to protect them."—*Sir Herbert Emerson, in "Foreign Affairs."*

Another Arsenal of Democracy

"Great Britain's war industrial effort is enormous. No population has ever before been so mobilised. We had 27,000 war factories in July, and the number increases as still more industries are concentrated, still more floor space taken over for production. With a population of working age (that is, between 14 and 65) of $33\frac{1}{4}$ millions, we have managed to mobilise for wholetime work and in the Forces no fewer than $23\frac{1}{2}$ millions. 'Work' here has been strictly defined as work for pay. It does not, for instance, include such jobs as taking in and feeding two or three transferred workers or looking after evacuated children. There are over 9,000,000 children in the arsenal to be looked after, and a proportion of old people and invalids, while the nationally essential business of bearing and rearing is not counted, nor are the five or six million

voluntary jobs, such as canteen work, holiday work on the land, War Saving collections, Home Guard and fire watching, and many others which are somehow fitted in with the rest."—*Mr. A. Williams Ellis, in "The Spectator."*

In a Few Words

"China is said to possess the best-lighted coast in the world".—*Mr. W. Robertson Myers, speaking in London.*

"*Scouting for Boys* is one of the Commando handbooks."—*Mr. J. E. Sewell.*

"The average American soldier of to-day weighs about eight pounds more than his fellow in 1918."—*Mr. H. L. Stimson.*

"India has a network of radio stations providing news and entertainment in 27 languages."—*The Hon. Sir Sultan Ahmed.*

"Lack of equipment—not lack of generalship—was Britain's greatest handicap in 1940."—*Miss Barbara Ward.*

"The 1918 warplanes carried about 40 pounds of bombs; the 1943 models carry 8,000 lbs."—*The Hon. James V. Forrestal, Under-Secretary, U. S. Navy.*

"Though India is only two-thirds the size of the United States, she has three times her population".—*Sir Girja Shankar Bajpai.*

"When Generals have to be chosen and an order of battle arranged or a position taken, then the military will advise and not the rhetoricians."—*Socrate's observation in Plato's "Gorgias."*

"The Eighth Army is the finest instrument of war which has so far been fashioned in the history of the British Empire".—*Sir James Grigg, M.P., Secretary of State for War.*

"It is an open secret in Italy that the feelings of the Crown Prince towards Mussolini are the reverse of cordial."—*Sir T. Vijayaraghavacharya.*

"At the end of this war the deadweight debt of the United Kingdom will probably be in the neighbourhood of £20,000,000,000."—*Viscount Bennett.*

"To the best of my belief there is no single British newspaper correspondent in Free China to-day."—*Lord Ailwyn, speaking in the House of Lords.*

"When this ghastly war ends there may be 20,000,000 men, women and children who will enter this problem of the human refugee."—*President Roosevelt.*

"The U.S.A. now occupies the position of Britain in the 19th century—that of being able to out-produce and undersell any other industrial nation."—*Miss Barbara Ward.*

"Since 1921 the population of the British Dominions has risen from 22,000,000 to well over 30,000,000."—*Mr. C. R. Attlee, M.P., Deputy Prime Minister.*

"It is amazing how many of England's best roads to-day follow the bold road plan laid down by the Romans nearly 2,000 years ago."—*Mr. L. Dudley Stamp.*

"The average yield of rice per acre in India in 1938-39 was 731 lbs., compared with 1,480 lbs. in the U.S.A., 2,307 lbs. in Japan, 2,079 lbs. in Egypt, and 3,000 lbs. in Italy."—*Sir Jogendra Singh.*

"A male tortoise given to the Chief of Tonga Island by Captain Cook on the occasion of one of the latter's visits to the island, is still living and is well on into his third century."—*Sir Harry Luke.*

"Short Bros. Ltd. plans to build immediately after the war new flying boats for civil use of nearly 100 tons, with a total engine power of 18,000 h.p., and a range of 3,000 miles."—*Squadron-Leader H. W. McKenna.*

"The idea of freedom is derived from the Bible, with its extraordinary emphasis on the dignity of the individual. Democracy is the only true political expression of Christianity."—*The Hon. H. A. Wallace, Vice-President of the United States.*

"The British Empire to-day must be thought of in terms not of a Mother Country which denied freedom to American colonists 175 years ago, but of a Mother country which spontaneously conferred freedom on the conquered Boers 38 years ago."—*Field Marshal Smuts.*

"One of the principal military achievements of this war is the building of the Canada—Alaska highway, connecting Canada with the United States through north-west Canada. By the end of this year it is expected to cover 14,800 miles, and will extend from Alaska to Argentine."—*Mr. F. M. Cowlin.*

"We now have ten times the number of A.T.S. we had in 1939, and we could do with twenty times. Four years ago there were five types of employment for women in the Forces. Now there are sixty. More than 40 per cent. of the A. A. Command are women."—*The Secretary of State for War.*

"There is no reason why, after the war, booklets no less inspiring than have commemorated the deeds of Fighter or Bomber Commands or the Defence Services should not be prepared by the same talented writers to familiarise the elector in England with some of the miracles of progress that have been achieved in his name in Africa."—*The Spectator.*

"One of the chief weaknesses of England to-day is the lack of parental responsibility in all classes. The poor are content to hand their children over to the care of the State, while those who are better off send theirs away during the most impressionable years of their life; and then both duke and dustman wonder why there is a difference of opinion between the older and the younger generation."—*"Ocellus" in the "Empire Review."*

"One of the finest qualities in man is the ability 'to take it.' If you have the discipline to keep going when your body calls for rest, if you have the discipline to stand when your body wants to run away; if you can keep control of your temper and remain cheerful in face of monotony or disappointment, you have got 'guts' and can take it."—*"Onlooker," in "The Journal of the Royal Artillery."*

"A war regulation recently brought in in Germany prohibits permanent waves for men or children under 16! Few people know that a considerable number of German men are in the habit of having their hair permanently waved. This throws a vivid light on a great weakness in the nation, of which there has been much well-founded evidence not only under this regime but under the old one, too."—*Review of World Affairs.*

"Memorial cities should be established throughout the Empire as War memorials. That for Great Britain might well take the form of a new sub-capital. It could belong to all parts of the Empire and be its joint war memorial. Empire visitors would feel that they were standing on their own ground, sanctified by their part in the common sacrifice, and embodying something that is finest and best in the spirit of the Commonwealth of Nations".—*Mr. E. T. Williams, in "Lasting Peace and a Better World."*

RECENT ADDITIONS TO THE LIBRARY.

FRIEND OF FRIEND: *by Sir Colin Garbett.*—This is a book which asks to be read from cover to cover. It has charm, and is topical, which means a deal. But a sly wit, and above all a sense of perspective, coupled with a genuine affection for the India past and present which is its subject matter, puts it in a very select class. It suggests itself as the human sequel to what is to many the best and most knowledgeable book on India written in the last two decades, namely, "The Lost Dominion" by Al Carthill.

The interest being personal, and therefore essentially human, it never flags, but is sustained by an honesty which seeks not to disguise mistakes, especially when made by the author himself. Names, well-known, little-known, and humorously disguised, flit through the pages: but if it is not invidious to distinguish between parts of a book which never lack interest, the last part is remarkable for sustaining and even increasing the reader's interest in the seemingly insoluble Indian problem: a problem which one is inclined to think might hardly have been a problem, had it been faced on both sides with more of the author's goodwill, and with a good-humoured honesty determined to defeat short-cut slogans and liberal clichés which have cost Europe so dear.

PRELUDE TO VICTORY: *by J. B. Reston.*—Mr. Reston is more than an American reporter. He may fairly claim to be a United Nations recorder. He records accurately, sympathetically and spontaneously many of the past crookeries and futilities which went to make up the selfish, uninspired democracy, which non-Axis countries were so glibly and in many cases so futilely invited to go awarring to defend. To-day there is one infallible yardstick to judge by, namely, "does it help or hinder the effort to win the war?"

Mr. Reston shows how long it took Great Britain, even aided by our historical fluke of a twenty-mile broad anti-tank ditch, to apply something like this yardstick, and how much even this tardy application was due to the bombing of civilians. He goes on to show how far America has yet to go before she applies any such yardstick to herself, and how unlikely is the attainment of his admirable "American dream," to which the book is dedicated, unless this yardstick—as yet unapplied to winning the war—is afterwards transmuted and applied to maintaining the peace.

THE BRITISH EMPIRE, 1815 TO 1939: *by Paul Knaplund.*—Professor Knaplund has supplied a painstaking and unbiassed history culled with almost German thoroughness from a bristling bibliography. It has the impartiality which might be expected from a

Scandinavian-American—and as such is interesting, if at times inhumanly impartial.

FINLAND, THE FIRST TOTAL WAR: *by John Langdon-Davies.*—The author is a first-class journalist. What is more, he is not deterred from telling the truth about as bare-faced and inexcusable a piece of aggression as Hitler and Genghiz Khan could have conceived in collaboration.

That Russia sent a horde of ill-trained, uneducated semi-savages to do the bidding of the Kremlin against an admirable inoffensive democracy is proved to the hilt. Throughout, there is the haunting regret that their savage activities could not have been transferred to the admirably-suited, mediæval "free-for-all" in Spain.

INSIDE ASIA: *by John Gunther*—(1942 Edition).—This has been revised since it was first written four years ago. "Inside Europe" was about as happy a combination of knack and knowledge as was possible in the scope of such a book. The new edition of "Inside Asia" has all the old knack, and some necessary additions and subtractions which keep it partially abreast of the changing pageant; yet the knowledge never seems quite there, and without it and the experience which should go with it, the complexity as well as the vastness of the subject prevents the presentation of a clear or consecutive picture.

FEDERATION IN CENTRAL EUROPE: *by Dr. Milan Hodza.*—Dr. Hodza was Prime Minister of Czechoslovakia from 1935 to 1938 and, therefore, saw and felt the first moves towards what the Axis is pleased to call the "New Order" in Europe. The author goes back a good many years—almost too many in these days, when it is harder than ever to harness reminiscence and its attendant speculations to practical politics and rebuilding. Federation-*cum*-democracy is the panacea preached, and the former at least may furnish a badly-needed solution in some form for small nations striving to avoid being absorbed or engulfed by their large and frequently aggressive neighbours. Enthusiast though he is, the author is realist enough to appreciate genuine doubts of democracy as the ideal cement to a federation, which in many of its constituents has had little experience of such strong meat.

SEALED AND DELIVERED: *by G. L. Steer.*—One of the most interesting recent publications. Deals with the Abyssinian campaign about which far too little is known. The book is in one sense both a record of and a plea for, propaganda. The whole campaign was so fantastic that no easy generalisation is open to even the rashest reader. But successful propaganda probably made possible the impossible in this amazing triumph for British arms. Outstandingly interesting characters, such as Brigadier Wingate and the Emperor, are exceedingly well drawn.

IS INDIA IMPREGNABLE?: *by V. Bayley.*—There can, of course, be only one answer, since India never has been and never will be impregnable. Mahmud of Ghazni incidentally proved this sixteen times in thirty-three years. One doubts whether the author, in spite of his experience, has adequately appreciated the enormous possibilities of aerial invasion, and the changed defensive strategy which would be necessary to meet it. The same may be said of the dangers to defenders of India from Fifth Columnists, which here might assuredly surpass anything hitherto experienced in Europe or Asia.

THE JAPANESE ENEMY: *by H. Byas.*—Nearly two decades of journalistic experience in Japan have enabled Mr. Byas to assist us to "know your enemy." Since Japan in some ways is naturally not unlike Germany, and in other ways, has modelled itself on Germany, there may be an interesting similarity between both countries' reactions to the original biters being bit. Mr. Byas looks almost exclusively to America to defeat Japan.

WEAPONS & TACTICS: *by T. Wintringham.*—From the siege of Troy to the siege of Stalingrad is a long cry. Mr. Wintringham traces the rise and fall of the armoured foot soldier, and then the armoured cavalryman up to the present ascendancy of the armoured fighting vehicle. No adequate substitute for the long bow and the musket, which ended the ascendancy of armoured foot and horse, has as yet been discovered. For all that, the ascendancy of the tank may well be on the wane, and with it some of the advantage that goes to the side possessing the initiative. A big subject for a small book.

INDIAN PAGEANT: *by F. Yeats-Brown—better known as the author of "Bengal Lancer."*—The author has succeeded in writing a really readable short history. The fact that the publishers have seen fit to convert sterling figures quoted into dollars should not in fairness make the book suspect as propaganda. Propaganda is inevitably ephemeral, and this book will stand the test of time. Apart from succeeding in producing a genuine pageant, Major Yeats-Brown has contributed a really valuable chapter at the end entitled "Looking Forward." This both for a sense of reality, and as an intelligent attempt at constructive statesmanship, could hardly be bettered. The history of the British connection with India is kept in due proportion to the vast ancient and modern drama which is India.

THE GREEN CURVE OMNIBUS: *by Major-General Sir Ernest Swinton, better known as "Ole-Luk-Oie."*—Contains 14 more stories than the edition of "The Green Curve," published by William Blackwood & Sons in 1919. But the eleven old friends are all there. and have not lost their freshness or their barbed points.

General Swinton does not go out of his way to be kind to politicians, civilians, or high-placed incompetents in the military hierarchy. The history of this, or indeed any war, is a warning to any such

gentle handling. The stories abound in intelligence forecasts, amounting almost to prophecies which have been justified by events. The sole exception to this being the last story, "D2," which deals with microbe warfare, which as far as is known has not yet been used by Germany or Japan—not, one feels sure, on account of any moral scruples.

FROM MANY ANGLES, AN AUTOBIOGRAPHY: *by The Rt. Hon. Sir Frederick Sykes.*—There is material in this kaleidescopic volume for three or four books at the very least. The whole scene changes so quickly and so rapidly that it is quite impossible to review it in detail in the space available. Suffice it, then, that in South Africa, in India, at home and on the continent, Sir Frederick Sykes has been at the centre of things when great events were stirring. As planter, trooper, officer, airman, Governor and politician, the author has led a full and interesting life. He is a hard-headed Yorkshireman who has made good, and is proud of it. He would be the first to admit that he owes much to his wife, Lady Sykes, a daughter of Andrew Bonar Law—sometime Prime Minister.

MAKERS OF DESTRUCTION: *by Hermann Rauschning.*—Here the author of "Hitler Speaks" crosses a good many of the "T's" and dots a number of "I's" which he and many others have already published about Germany under its Nazi gangster government. The book considers it is still necessary to explode wishful thinking in the U. K. and U.S.A., but there can be few with any lingering thought that Germany did not plot the war, plan for a long war, or who now imagine she can be disinfected or civilised after the war by getting rid of a number of party politicians and bosses.

THE TOOLS OF WAR: *by James R. Newman.*—This is an elaborately-produced record in print, with numerous illustrations of weapons and their evolution and use by land and sea and air. The book forms a convenient reference volume, but is scarcely one to pick up, read and digest from cover to cover.

R.A.F.: THE SECOND YEAR.—The Air Ministry has collaborated in the production of this written and pictorial diary of the R.A.F.'s activities during the second year of war. A royalty is paid to the Royal Air Force Benevolent Fund on every copy sold.

THE AMERICAN ARMY: *by Harvey S. Ford.*—A sister publication to "The American Navy." It sets out to tell the layman something of the organisation of the U.S. army, and how the machine works in peace and war. There is little or nothing startling or novel. The fact is that the American Army is very much what is to be expected in a democracy building up a citizen force on a small, regular and largely inexperienced nucleus.

NEPAL—LAND OF MYSTERY: *by Hassoldt Davis.*—The title is rather misleading, since the book deals with much besides Nepal, as it was seen by a travelling American expedition intent on making films. The expedition was evidently treated with courtesy and, on occasions, forbearance. The pictures are the best part of the book, which does not add a great deal to the sum of knowledge about the kingdom of the Gurkhas.

THE NAVY AND DEFENCE: *The autobiography of Admiral of the Fleet Lord Chatfield.*—This is the first of two volumes to be produced. The second volume, which should tell of Lord Chatfield taking over the Co-ordination of Defence from one who was as little suited to the appointment as can possibly be imagined, should make more interesting and impersonal reading than the first volume.

The most interesting and revealing part of Volume I covers the period of the last war from 1916-17, during which time it was known to a few senior naval officers that the shells in the big guns of the Grand Fleet were quite unfit to do their job.

ASSIGNMENT TO BERLIN: *by H. W. Flannery.*—Flannery succeeded Shirer at the end of 1940, and left in November, 1941. He has written an interesting diary of a year of German successes by land. He was privileged to visit occupied France, and see interesting "showpieces", such as P. G. Wodehouse, who apparently regards himself as an American citizen whose sole interest in Britain is confined to his royalties. Flannery evidently regards Wodehouse as himself, the model for his own Bertie Wooster.

MUNICH PLAYGROUND: *by E. R. Pope.*—The author here throws considerable light on the leaders of the Nazi Party at play. One can understand their relief at quitting "the grim, brutal, business-like Berlin," and indulging their sordid weaknesses in a pleasant Bavarian atmosphere, which also provided opportunities for graft on a scale befitting the spiritual home of the Nazi Party. This, together with the whole-hearted anxiety of the Nazi propaganda machine to disguise itself and hoodwink the world, gives sauce and background to an interesting inside narrative.

THE BOMBED BUILDINGS OF BRITAIN, produced by the Architectural Press, is full of excellent photographs telling their own sad tale. The notes suffer by the unfortunately detached and over-critical attitude adopted towards the buildings themselves. Nevertheless, this may be preferable to an over-sentimental attitude.

GLOBAL WAR (AN ATLAS OF WORLD STRATEGY): *by E. A. Mowrer and M. Rajchman.*—It is described as "An ambitious atlas," and in fact it deals with such things as gold reserves and national incomes, rice and wheat production, not usually found in atlases. It may fairly

be hoped that the section devoted to the natural route for the invasion of the United States will not require consultation, at least during the present conflict.

MALAYAN POSTSCRIPT: *by Ian Morrison.*—Mr. Morrison, son of the famous "Chinese" Morrison, of *The Times,* followed in his father's footsteps as *The Times* correspondent during the siege, and up to the fall of Singapore. As might be expected, his is as balanced an account as has been written of a tragic episode for Britain's arms and annals. The account itself, perhaps because of its restrained writing, never flags but leads up to its inevitable climax like a Greek tragedy.

The most the author permits himself in two chapters entitled, respectively, "The men at the top" and "Afterthoughts," are two remarks which few will cavil at. "Singapore was crying out for leadership." "Those strata of the population of Great Britain who had been administering our Empire for the past twenty years had been found gravely wanting in the very qualities which had gained us an Empire. Not only those who had been administering our Empire, but also those who had been residing in it and making profits out of it, and those others who had been responsible for the formulation of its policies and the ensuring of its defence."

Three pamphlets by Sir Aurel Stein, called, respectively, "A Chinese Expedition Across the Pamirs and Hindukush, A.D. 747," "The site of Alexander's Passage of the Hydaspes and the Battle with Poros" and "Alexander's Campaign on the North-West Frontier." One cannot say more for each and all of these pamphlets, and their records and annals of the long ago, than to harbour the wish that they had been books instead of pamphlets.

Oxford Pamphlets Nos. 11 and 12 entitled "Languages and the Linguistic Problem" and "The Health of India."

D. R. J.

"THE TIGER STRIKES"

A new edition of "The Tiger Strikes" has now been published. Among the additional notes in the volume are the Brigade and Battalion numbers which, for security reasons, had to be omitted from the first edition. The volume has been out of print for the past few months, and it is because of the constant demand for copies that the new edition has now been produced. A sequel to the book is being prepared, and will probably be published in the autumn.

LETTERS TO THE EDITOR

JUNGLE WARFARE

To the Editor, U. S. I. "Journal"

Dear Mr. Editor,

I read with interest Captain Peacock's article on jungle craft. It was to my mind an extremely helpful article, but there are three points upon which I should like to join issue with him, and possibly present another viewpoint.

The first is on the prosaic, but very important, subject of constipation. Captain Peacock said: "With so much healthy exercise before you, you will certainly not require a laxative". Although I agree with him entirely when the weather is cool, my own experience has been—and this was also the case in two of my companions on different occasions—that as soon as one gets into an area where sweating is profuse, the moisture which comes out of the body seems to come largely from the bowels, and I have on these occasions found myself extremely constipated. My advice is therefore that whenever you go into the jungle you should take care to have your own particular brand of laxative with you.

In his paragraph on *panjis,* they are dismissed as follows: "*Panjis* are merely small lengths of split bamboos sharpened to needle points . . . and set in the ground at an angle of 45 degrees". Having just been in an area where *panjis* are largely used, and by a people who have used them for over 100 years, I do not like to see such an efficacious weapon dismissed so lightly.

Like all other obstacles, *panjis* can be used protectively and tactically; in the former case, what is wanted is an area covered with *panjis* sufficiently broad that the enemy cannot get over them by jumping. Wherever possible this type of *panji* should be concealed. Panjis when used tactically can be on two different bases. One, in the same manner as tactical barbed wire is used: to shepherd the enemy into an area where he can be dealt with by fire. The second and more common use is in conjunction with ambushes, and here the particular position of every individual *panji* must be selected with hating care.

For example, it has been decided to ambush the enemy on a certain section of a hill path. First of all, the actual position of

the enemy when fire is opened on him must be selected on the ground. It is then necessary to put oneself in his position and say; "When I arrive at this spot, fire is opened on me." and then think out your immediate action. The chances are that the enemy is likely to do the same thing, and you will therefore be able to plant your *panjis*, which on this occasion must be well concealed, to do him the maximum damage. You will probably easily select the area where he is likely to throw himself behind cover, and after having taken this cover yourself, you will probably put down a few short *panjis* to pierce his hands and then, as your imagination suggests, you will place others of different lengths to catch him on the other portions of his anatomy.

Here are a few hints on *panjis* generally:

It has been found that there are three convenient sizes of *panjis*. In each case the height given is that above ground. It will depend on the hardness or softness of it how much is underground.

The small panjis—6 inches long. They can be easily concealed, and are normally stuck in the ground at an angle of 75—90 degrees. The object of this small type is to penetrate the boot and so into the enemies foot or to pierce the hand.

Medium size—12 inches. These are usually set in the ground at an angle of between 30—45 degrees, and they are meant to catch the enemy in the shin and calf.

Large size—about 30 inches. These, too, are set to an angle of 30—45 degrees, and are intended to damage the enemy in the knee or thigh.

In order to make certain of doing damage, *panjis* of different lengths should be mixed up together, and they should never be put in the regular rows or at the same angle and direction. A kind of criss-cross effect is the most efficient. If all *panjis* are put in at the same angle it is easy for one man having reached beyond them quickly to trample a path through from the other side. Concealment is essential with tactical *panjis*.

Where the ground is hard it is sometimes difficult to fix the *panjis* sufficiently firmly into it. A useful tip is as follows: When *panji* is being cut, a protruberance shaped like the footrest of a stilt can be left at the "knot" of the bamboo. The *panji* can be fixed into the ground by hammering on this protruberance with the back of a *dah* or *kukri*. In this way a *panji* can be fixed in the very hardest of ground.

If time permits, 3 foot *panjis*, set at angles of 75—90 degrees, can be used to deny certain small areas to paratroops. It means a considerable number of *panjis* to cover even a small area of ground.

The third point at which I join issue with Captain Peacock is over this. He says: "Let's regard jungle warfare as a game; healthful, thrilling, interesting and above all regarding the jungle as a friend and not as an enemy". While I entirely agree with the last sentence in the paragraph, I think the remark that we should regard jungle warfare as a game is just about as bad as any remark can be. No warfare of any sort can be regarded as a game, as it is a question of life and death to us all. None of our enemies is sufficiently foolish to regard it as a game; to them it is a profession, and as long as we continue to regard it as a game, so long will the professional beat the amateur. It is not as though the enemy, man for man, is superior to us, but one of his reasons for success is that he understands what war is and what it means to those taking part. Therefore I consider it wrong both physically and psychologically, ever to mention the word "game" when we are talking about warfare.

Yours faithfully,
H. H. RICH,
Major-General.

WHO IS AT WAR—AND WITH WHOM

To The Editor, U.S.I. "Journal"

DEAR SIR,

In your editorial notes in your last issue you stated that Great Britain is, with Czechoslovakia, the only country at war with the entire Axis. Surely that is wrong?

Yours truly,
"AN OLD MEMBER."

[To answer the point, we append hereto the names of the United Nations and countries against whom they have declared war:

British Empire and Czechoslovakia—against the entire Axis, *i.e.*, Germany, Italy, Japan, Finland, Hungary, Rumania, Bulgaria and Siam.

U.S.A., against all, excepting Finland.

Nicaragua and Haiti, against all except Finland and Siam.

U.S.S.R., against Germany, Italy, Finland, Hungary and Rumania.

Greece, against Germany, Italy and Bulgaria.

Yugoslavia, against Germany, Italy, Japan, Hungary and Bulgaria.

China, Belgium, Netherlands, Cuba, Dominican Republic, Guamatela, Honduras, Panama, Salvador, Mexico and Ethiopia, against Germany, Italy and Japan.

Costa Rica, against Germany, Italy, Japan, Hungary and Rumania.

Poland, against Germany and Japan.

Brazil, against Germany and Italy.

Norway and Luxembourg, against Germany.—*Editor, U.S.I. Journal.*]

WELFARE IN THE ARMY

To The Editor, U.S.I. "Journal"

Dear Sir,

Letters and articles published in your journal have dealt with Welfare in the Forces. One aspect of this matter does not appear to have been mentioned, possibly because some of the present schemes are new to India. I refer to the question of saving and investing money during our service, so that when we eventually return to civil life we may have something to fall back on in case of need.

The period of reconstruction after the war, when industry is being turned over from the War to Peace production, is bound to be a time of difficulty to many, if not all, of us. Anyone who leaves the service with a sum of money put aside, must, I think, go with a far greater feeling of security and independence than those who have not troubled to look ahead.

There are to-day various methods by which both officers and Other Ranks of the Army and R.A.F. can save. They include:

1. The "Active Service Scheme" for B.O.Rs. of the Army whose accounts are kept by the Chief Paymaster (B.T.) and for Airmen, R.A.F. (See Special I.A.O. 3/S/43 of the 7th Feb. 43, and R.A.F. (I.). Instruction 226/42.)

This is by far the best and simplest scheme from all points of view. Any C. O. who has not yet formed a branch of the Army Savings Association to operate this scheme, is advised to do so now.

It may or may not be true that only a few men wish to participate at the moment. Should the unit proceed on active operations, there may be a big increase in the number of those wishing to save, when opportunities for spending money will be far less. It is, therefore, very necessary to have everything in readiness for such a possibility.

2. The Outright-Purchase Scheme for all British Officers and other ranks of the Army and R.A.F. Under this scheme, officers and other ranks are able to buy British War Savings Certificates in India and Ceylon for themselves, or on behalf of members of their families. It is at present in operation for the Army in Ceylon and for the R.A.F. both in India and Ceylon. An I.A.O. is to be published shortly extending this scheme to the Army in India. The Scheme is not suitable for a unit on active operations.

3. For B.O.Rs. of the I.U.L.:—

(*a*) A scheme is given in Appendix "X," Financial Regulations (India), Part II, whereby B.O.Rs. of the I.U.L. can deposit money in the Post Office Savings Bank in England; and (*b*) They can contribute to the Indian Miscellaneous Military Services Provident Fund. This fund pays a good rate of interest. (*See I.A.O. 1099/42.*)

4. Officers of the Indian Army and Indian Air Force can contribute to the Defence Services Officers Provident Fund. (*See I.A.O. 1099/42.*)

The existence of this fund does not appear to be generally known to officers, and Os.C. units and Officer Training Schools should publicise it.

5. *For All Ranks.*—Anyone can contribute to the Defence Savings Provident Fund. (*See I.A.O. 1099/42 and A.I.I. 276/40.*)

6. Officers can make their own arrangements with their banks in India to remit money to their banks at home, instructing the latter as to what stocks they wish purchased.

7. *The British War Savings Movement (India).*—Anyone can purchase British War Savings Certificates or Defence Bonds through this movement. Details can be obtained from the Hon. Secretary, 7 Council House Street, P.O.Box 625, Calcutta.

Since the beginning of this year savings in the Forces in India have shown a steady increase, and if facilities are made available in every unit and explained to all ranks, I am certain that still greater amounts can be invested each month.

Field-Marshall Sir Cyril Deverell, Honorary Director-General of the Army and Air Force Savings Association, wrote in one of his pamphlets:

"I cannot be satisfied till every officer and man is saving something every day."

A high ideal indeed, but one which should be the aim of everyone responsible for men's welfare.

Yours faithfully,
F. L. CROSSMAN,
Major-General.

Simla.

THE TEACHING OF URDU

To The Editor, U.S.I. "Journal"

SIR,

I have read the article in your last issue on the teaching of Urdu with very great interest.

Urdu is definitely an easy language to learn, but it is made difficult by three causes:

1. *Munshis.*—Most of them teach by no recognised method, are trained in no school of languages, and their object seems to many to be to ensure continued employment rather than to pass their "victims" as quickly as possible through the examinations.

2. *Pronunciation*—This is more important than either grammar or vocabulary. Yet how slack we all are over the various kinds of 't', 'd', 'r', and 'k', and how rarely do we ever pronounce a double consonant properly! You will be better understood if you speak English with an Urdu accent than if you speak Urdu with an English accent. If you must speak Urdu with an English accent, use any dialect or brogue, but never the "Oxford accent."

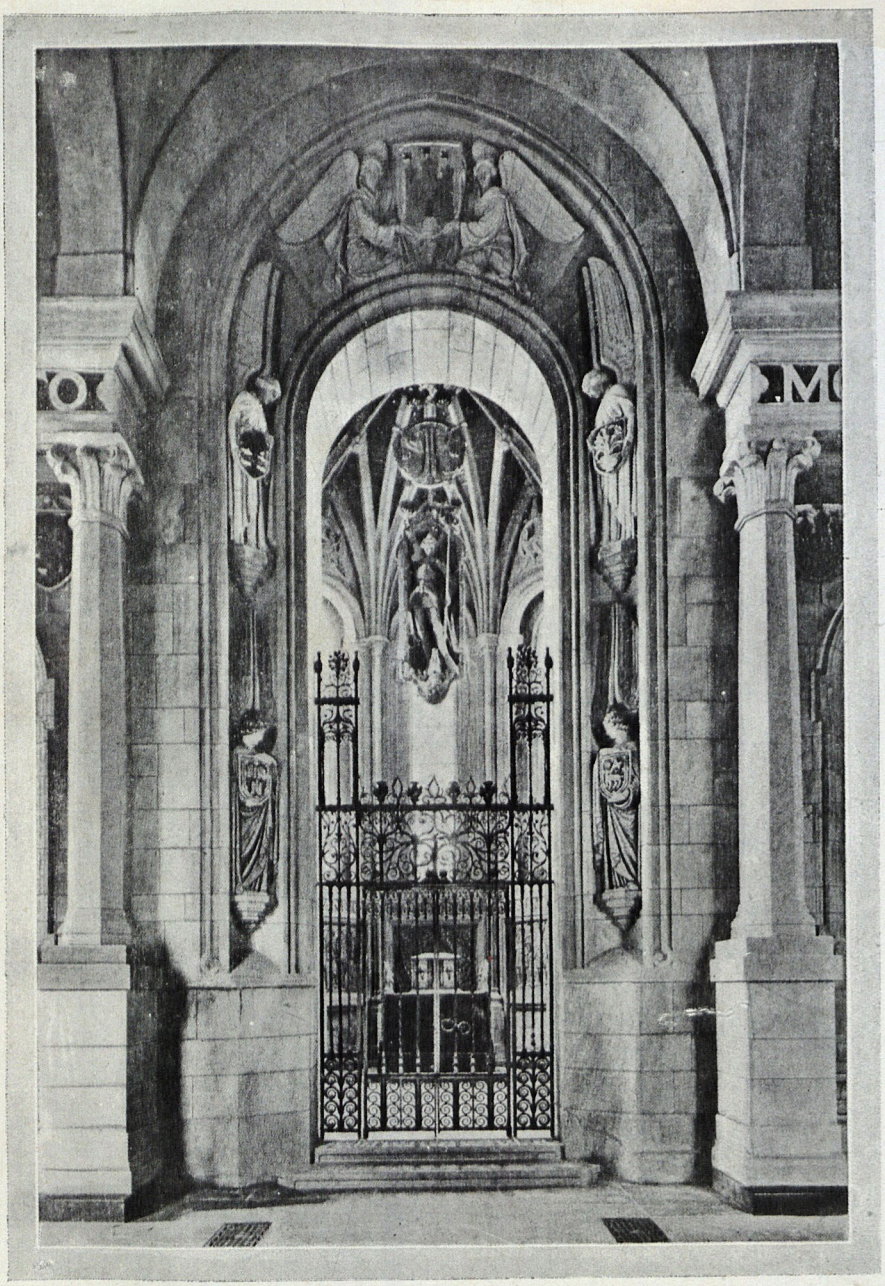
3. Modern English is "waffle," and before it will go into Urdu it must be "de-waffled." Let me give two instances:

Modern English.	*Real English.*
He expressed his pleasure.	He said: I am glad.
I am most favourably impressed with the response you are making to the demand for recruits. Well done!	The Government wants recruits, and you are giving them.

The high-water mark of the English language is that all-time classic, the Bible, and if you will put what you want to say into Bible English it will go straight into Urdu. Those who read the Bible should buy the revised translation of St. Luke, in Roman-Urdu, and read it, along with the English version.

Yours faithfully,
F. L. BRAYNE,
Colonel.

Simla.



The Unknown Warrior Fights Again

There are vast numbers, not only in this land but in every land, who will render faithful service in this war but whose names will never be known, whose deeds will never be recorded. This is a war of the unknown warrior, but let all strive without failing in faith or in duty, and the dark curse of war will be lifted from our age.