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EDITORIAL

The Coronation.

On 19th May 1911 a contingent of Indian troops left Bombay on the Royal Indian Marine steamer Dufferin to take part in the coronation ceremony of His late Majesty King George the Fifth. The contingent of over 800 men contained representatives of the Volunteer Force and of the Imperial Service Troops in addition to at least one Indian officer from every regiment and corps of the Indian Army.

The contingent which leaves India this month for the coronation of His Majesty King George the Sixth is slightly smaller, but the general lines of the 1911 arrangements are being followed. Again each regiment and corps of the Indian Army will send an Indian officer. Officers of the Auxiliary and Territorial Forces and of the Indian States Forces will also be present. There are however certain points of interest about the present contingent. In the first place it includes a representative body of police from every province in India. Then the Indian Air Force, non-existent in 1911, will be represented by two Indian officers; while a ship of the Royal Indian Navy will take part in the Naval Review at Spithead. Although Burma is now separated from India, Burman representatives are included in the contingent; and it is pleasing to note that the Nepalese Government have allowed Gurkha officers to take part.

Three hundred men of the contingent will march in the coronation procession while accommodation has been arranged from which the remainder will obtain an excellent view. The

whole will be under the command of Colonel C. O. Harvey, C.V.O., C.B.E., M.C.

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Rearmament.

The detailed estimates for the Services at home have not reached India at the time of going to Press. That Britain had allowed her defence forces to fall to a level quite inconsonant with the influence she desired to have in European affairs was well known. But the bill which tax-payers will have to face is unexpectedly large. Under these circumstances the tax-payer will be more than usually concerned to see that he gets value for money. Rapid rearmament is apt at the best of times to be uneconomical rearmament.

The Navy estimates total £105 million, an increase of £49 million over the estimates for 1934-35, the last year of normal post-war expenditure. One of the largest increases is for new construction which includes three battleships, two aircraft carriers and seven cruisers in addition to smaller craft. Battleships at eight million apiece are notoriously expensive. It was sound policy therefore for the Government to forestall criticism by issuing to the public the report of the sub-committee of the Committee of Imperial Defence on the vulnerability of capital ships to air attack.

The Navy may have to operate in narrow waters within easy range of hostile land-based aircraft and the danger from air attack under such conditions will be a real one. What is so often forgotten is that the Navy is also responsible for the protection of trade routes and for that purpose may have to operate in wider seas. In the absence of a powerful British fleet, an enemy might place himself without interference across those trade routes on which we depend for our national existence. At present our air forces cannot perform the role of capital ships by holding in check enemy capital ships. Admittedly the radius of action of aircraft will increase, but the provision all over the world of enough aircraft to deal with probable contingencies would entail something approaching a two-power standard in the air with immense provision of facilities of all sorts.

While the report has done much to clear the air as regards this vexed question, it is in no sense a conclusive one. The Committee definitely consider that further experiments are necessary. We may therefore hear more of the question as naval and air rearmament progresses.

Army estimates for the year amount to over £82 million, an increase over 1934-35 figures of £42 million. Immediate additions are two infantry battalions; but a large proportion of the increase is due to the provision of new barracks throughout England and the creation of an adequate reserve of ammunition and material. It is satisfactory to learn that recruitment for the Territorial Army is improving in spite of the fact that precedence has had to be given to Regular Army requirements to the almost total exclusion of the needs of the former. It is regrettable that there has as yet been little response to join the Regular Army.

Air rearmament is a subject in which the public are naturally becoming more and more interested. Estimates amount to £88 million which compares with the meagre figure of £17½ million spent on the Royal Air Force in 1934-35.

The gross total includes the grant for the Fleet Air Arm, which is to be increased from 217 to 278 first line aircraft. In a memorandum accompanying the estimates Lord Swinton pointed out that the present scheme provides for 124 squadrons. In addition ten special units of the Auxiliary Air Force are to be raised to operate the balloon barrage scheme for the defence of London. Acquisition of ground for aerodromes and construction of buildings, including "shadow factories," account for substantial sums.

In spite of the great cost, few objections have been raised to rearmament. The need for it is realised only too well. Criticism has been directed rather towards a supposed lack of co-ordination in the Government's plans. It was reassuring therefore to read Sir Thomas Inskip's speech in which he informed the House that many major questions had been reviewed not only by the three services but by all departments concerned. He quoted among others the questions of coast defence, anti-aircraft defence of Great Britain, accumulation of war reserves and development of industry. An essential feature of the Government's proposals is that the defence programme shall remain flexible in view of the rapidity of change due to the intensive application of scientific research. Two factors are perhaps primarily responsible for the fifteen hundred million which it is estimated may be required. The first is the need for creating what has become known as a "war potential." It is not enough to equip defence forces. Replacement in war must be ensured. The second is the extent of the many new air defence measures involved.

That the bill will mean fresh burdens is obvious. We have no doubt however that the taxpayer will willingly bear the burden provided he is convinced of the need and is kept fully informed as to the progress of rearmament. The one thing to which he will take exception is to be asked to find money, when he feels that he is not being taken fully into the confidence of those who spend it. The Services have little to fear so long as their demands are openly and reasonably expressed.

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Pan-Americanism.

The doctrine pronounced by President Monroe rather more than a hundred years ago was aimed at the time against deliberate exploitation of the New World, particularly of the South American continent, by European powers. But South American states have travelled far since then. With increasing population and wealth they have developed a strong individuality of their own. It is still too early to view the work of the Pan-American Conference recently concluded at Buenos Aires in correct perspective. To appreciate it at all, it is necessary to see world affairs with Latin-American eyes. There is for instance the influence of Washington, traditional protector of the continent, predominant in Central America, with increasing financial interests in Argentina, Brazil and Chile. Then there is Geneva and behind it, to American eyes at least, lies London. Economic ties between South America and Europe are still close.

In one way however the attraction of Washington is increasing. In the last century it was fashionable to deride the Monroe Doctrine. Who indeed could attack South America, remote as she was? But ideas in this respect are changing. As a Buenos Aires paper points out: "Distance destroyed; America has only the Monroe Doctrine to fall back on. The attractiveness of a Western neutrality block and of an American peace system are evident."

The programme of the Conference was obviously overburdened.

Economic resolutions were proposed, the implications of which had not been fully considered, and a Pan-American economic union is still far from being an accomplished fact. Three important agreements were however signed. The first two establish a system of mutual security by consultation and co-operation. These regional pacts may be a natural and evolutionary step

towards world peace. As such they are to be welcomed. Against this it must be remembered that they are opposed to some extent to League ideas of universality.

The third agreement, which was universally accepted, rules out any form of intervention, direct or indirect, in the affairs of any other country on the ground that intervention is always a threat to peace. To what extent non-interference can be carried out in emergency remains to be seen. History certainly shows that it is extremely difficult for any nation to maintain an attitude of strict neutrality during a major conflict.

It is this agreement however which Central and Southern American opinion regards as peculiarly significant; since it is held to transform the Monroe Doctrine from a United States policy into a multilateral engagement for which all American states have made themselves equally responsible. If this agreement is ratified by the legislature, Washington will indeed have surrendered its position as sole protector of the American continent. But it is hard to see how the United States can abandon her position in regard to the Panama Canal. Panama is an area in which she is vitally interested and for this reason alone the agreement will probably meet with criticism from Congress and the Senate. It may well be that the Monroe Doctrine will be replaced by a more limited but none the less definite "Isthmian Doctrine". The position will no doubt be clear when the next Pan-American Conference meets at Lima in 1938.

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The Constitution of the United States.

Based on Montesquieu's doctrine of a sharply drawn distinction between the powers of the executive, the legislature and the judiciary, the constitution of the United States of America has always been an extremely rigid one.

Laws passed by the legislature may conflict with the fundamental laws of the written constitution in which case it is the duty of the Supreme Court to pronounce them 'ultra vires.' To amend the constitution requires not only the approval of two-thirds of the Congress but subsequent ratification by three out of every four State legislatures. Amendment is at the best of times a lengthy and uncertain process.

To have his National Recovery measures pronounced illegal by the judiciary must have been peculiarly irritating to President

Roosevelt when he knew that the country was behind him in his demand for sweeping reforms. The steps which are now proposed however savour rather of packing the court to suit the will of the executive than of attempting to make the constitution itself more adaptable. If they are successful the President will be in a position to nominate sufficient judges to the Supreme Court to ensure the passage of any carefully drawn New Deal bills. If they fail, the struggle will merely be postponed. Considerable opposition is likely to be met with in the Senate and from Conservatives all over the country.

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Anglo-Italian Agreement.

In view of the Spanish situation, the most important feature of the Anglo-Italian pact signed at Rome on 2nd January was the agreement to observe the "status quo" as regards national sovereignty in the Mediterranean area. From this point of view alone it has already done much to create an atmosphere favourable to a policy of non-intervention in the civil war. On general grounds the agreement is to be welcomed since it relaxes the tension which has unfortunately existed between Great Britain and Italy during the last eighteen months. There can be no doubt that freedom of entry into, exit from, and transit through the Mediterranean are of vital interest to both countries, and there is no reason why these interests should conflict.

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The Sanjak of Alexandretta.

Another Mediterranean problem has been settled at Geneva by the agreement between France and Turkey as to the future of the Sanjak of Alexandretta. Constitutionally the province will form a separate entity with full control of its internal affairs. Syria will however be responsible for its external relations and the consent of the League is to be obtained in advance before any international agreement affecting the Sanjak is concluded by Syria. The Sanjak is not to raise military forces or to construct military works, a local police force only being maintained.

Although small in area, the Sanjak is of great potential importance. Alexandretta is the natural outlet to the vast hinterland of Aleppo and the Upper Euphrates Valley. Port works have not yet been developed, but the harbour is one of the best in the Levant. With the opening up of mineral resources in Armenia, Kurdistan, Transcaucasia and Northern Iraq its commercial

importance would increase. Railway communications in this part of the world are already well advanced.

Spain.

A substantial measure of success has at last attended the work of the Non-Intervention Committee and there is now less likelihood of the war in Spain leading to international complications. On the 20th February a decree, akin to our own Foreign Enlistment Act, was issued by Baron Von Neurath forbidding Germans to travel in Spain for the purpose of joining in the civil war. Twenty-seven nations have agreed to take similar action. Still more important is an embargo on the supply of munitions which came into force on the 6th March. For purposes of control the Non-Intervention Committee has divided the Spanish land frontiers and coast line into zones and apportioned them to various European nations. Provided this control is carried out whole-heartedly, the war may be appreciably shortened. There remains only the thorny question of foreign volunteers now serving in Spain. On this no decision has yet been reached.

Meanwhile the struggle goes on. The insurgents gained their first important success for some months when they took Malaga. At Oviedo and Toledo Government forces have assumed the offensive. But the centre of interest is still Madrid, where General Franco's advance came to a halt in November. Even if he takes the capital, General Franco will still have half the country to conquer. Having conquered it, he would be faced with Galician, Basque and Catalan demands for autonomy. On the other hand the Government party has yet to show itself capable of keeping order in those parts of Spain which it occupies. The fact is that the opposing forces are in no sense homogeneous. Insurgent troops include Carlists and Monarchists, who support Franco from a common dislike of anarchy and not from a love of fascism. Government forces contain moderate socialists and liberals, who are united with communists through a mutual dislike for fascism. Spain itself is hopelessly divided into a variety of factions.

In the field the morale of Government troops has been improved by the successful defence of Madrid and the opposing armies now appear fairly well matched. The war is already one of attrition and it can only be hoped that the embargo on the supply of war material will help to shorten it.

Under the circumstances it would be idle to prophesy what

the future holds for Spain. Two things seem fairly certain however. Democracy, as we understand it, cannot result. A dictatorship of some sort, fascist, communist or otherwise, is inevitable if the numerous factions are to be coerced as they must be. And Spain itself will be bitterly impoverished for many years to come.

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China.

Events in China are difficult enough to follow at any time. But the news that Marshal Chiang Kai Shek had emerged from captivity and was bringing with him his former jailer was simply astounding. General Chang Hsueh Liang may have hoped himself to step into the President's position; he may have come to some agreement with the communists in Shensi. It is more likely that he was a mere figurehead urged to take the step he did by Chinese soldiery, who felt that the President should be forced to adopt a firmer policy against Japanese aggression. Certainly the episode has done nothing to lessen Marshal Chiang Kai Shek's popularity. Indeed it has stressed his importance to China.

It is interesting then to review the position which now faces the Marshal. It is less than a year since he moved south to quell a revolt in Kwangsi and Kwantung. Although the rebellious tendencies of the South may not be dead, yet it may be said that the rule of the Nanking Government is now fairly established in the Yangtse and Southern Provinces. Nor is it likely that Japan wishes to embarrass Nanking in central China, for to do so could only result in throwing the country once more into turmoil with a correspondingly adverse effect on Japanese trade.

The position in the north is, however, much more difficult. Here the Nanking Government has to face Japanese militarism, the communism of the Soviet and the unruliness of Mongolia. The last few years have seen a steady progress of Japanese influence in the five northern provinces. Chahar and Hopei are already governed by an autonomous council aided by Japanese advisers. Shantung, Shansi and Suiyuan are only nominally under the control of Nanking. Certainly the full revenues of these provinces no longer reach Nanking and revenue is essential if the authority of government is to be upheld.

Added to this is the fact that communist influence in Shensi is certainly strong and the question is complicated by nationalist aspirations of the Mongols.

It will be remembered that Marshal Chiang Kai Shek has declared that he will fight no more civil wars except against communists. If provinces wish to follow separatist tendencies, he will try persuasion but not force.

The extent to which he will be able to continue his policy is questionable. That the centre of interest in China has shifted to the North seems evident.

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Japan.

A year ago the news of a military revolt in Tokyo surprised and alarmed the world. Although the leaders of that revolt have been punished, the struggle between the army and parliament still goes on. The budget for the year is considerably larger than for last year and nearly half the expenditure is for defence. Money will have to be raised both by increased taxation and by borrowing. There are army schemes for reforming the administration and for reducing the legislature to a mouthpiece by which the army's demands are made known. It is a feature of the Japanese Constitution that Ministers for Naval and Military affairs must be officers on the active list. By refusing to allow an officer to assume the portfolio, until they have approved the composition of the cabinet, army leaders can bring a refractory prime minister to heel.

It is evident that Japanese public opinion is growing uneasy at this military control and particularly at the policy of continental expansion persistently urged by the army. It is possible that the Navy, which has never been too enthusiastic about Japanese penetration of Manchuria, may be a strong factor of compromise. Meanwhile it is likely that Japanese foreign policy will be much influenced by internal conditions.

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North-West Frontier.

In our last issue we inadvertently remarked that the Afridis had agreed to withdraw their piquets near Shagai. A correspondent has drawn our attention to the inaccuracy of this statement. The settlement with the Afridis, although at the time it appeared likely, had not actually taken place. They continued to be excluded from administered territory throughout December and January and their allowances remained in suspension. It is true that the piquets were never held very strongly and did not constitute a direct threat to British defences in the Khyber. At the

same time the building of them was a breach of the 1898 agreement and had its psychological effect in Tirah. The blockade and suspension of allowances were intended to induce the evacuation of the piquets and not in any sense to force the Afridis to agree to the construction of a road through Tirah. In February the Afridis reduced the piquet garrisons to a handful of unarmed men. The blockade was thereupon lifted and tribal allowances partially restored. It is to be hoped therefore that our relations with the Afridis have entered on a better phase.

Meanwhile a wave of unrest has been evident in Waziristan. The Khaisora operations reported in our last number had barely ended when two young officers were murdered. As yet their murderers have not been surrendered. Several other outrages have occurred. Two Hindus were kidnapped from a village near Bannu. A raid was made on a *serai* near Datta Khel. Telephone lines have been cut more than once.

During the course of normal training in February the Wana column was attacked both in camp and on the march by Sulaiman Khel Ghilzais and sustained a few casualties. In view of the unsettled conditions the movement of officers in Waziristan and the Zhob has been restricted; and a portion of the 1st Division has been moved to the Bannu area as a precautionary measure.

If any lesson can be drawn from recent events it is that we can never afford to relax vigilance on the frontier.

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The Indian Elections.

The first elections under the new constitution have been held. In Bombay, Madras, the United Provinces, the Central Provinces, Bihar and Orissa the Congress party secured an absolute majority. In Madras their victory was quite remarkable. While Congress is actually the strongest individual party in Bengal, Assam and the North-West Frontier Province, it is more than likely that a coalition government of one sort or another will result in these provinces.

In the Punjab the Unionists, a party representing a variety of communities, obtained an absolute majority; and in Sind a similar party, the Sind United, obtained more seats than any other single party although the victory in this case was by no means substantial. The first notable feature of the elections was the success achieved by Congress. The second was the absence of any

serious disturbances. For this no small measure of credit is due to both the electorate and to the police.

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Von Seeckt.

General Von Seeckt was seventy years of age and on the retired list when he died. The son of a soldier, he proved himself an able staff officer during the war. But his real reputation was built in post-war years. In 1920 he was appointed to command the Reichswehr. His hand created an army of 100,000 potential officers under the eyes of the Allied Control Commission. When he resigned in 1926 as the result of a political quarrel, his most effective service for Germany was complete. From that date German military expansion was a relatively simple matter. Whether Von Seeckt's work was of service to the world is a more debatable matter. A monarchist by upbringing, he was faithful to the Republic in its time of need and Germany was always foremost in his mind.

THE 1ST OF APRIL, 1937: AN EPOCH IN INDIAN CONSTITUTIONAL HISTORY

Introduction

The 1st of April, 1937, marks a further stage in India's political history—a stage which introduces what are probably the most spectacular changes in India's constitution since the day when she was unified under British rule and became an Empire.

It is proposed in this article to give a very brief survey of the history of the reforms and to describe in outline the changes that will be effected by the Government of India Act of 1935.

Politically India has travelled far since the days of the East India Company, and a brief retrospect of the road she has travelled may make it easier to appreciate the position she has now reached.

The idea of associating Indians in the higher administration of the country occurred to India's British rulers as long ago as 1833, when a Government of India Act, forerunner of many more of the same name, laid it down that no native of the country should, by reason of his religion, place of birth, descent, or colour, be disabled from holding any place, office or employment under the East India Company.

When control was transferred from the Company to the Crown, this pledge was included in Queen Victoria's proclamation.

Under the terms of the pledge a number of individual Indians have risen to high offices in the service of the Crown, but except as individual servants of the Government they were not, until a much later period, given any hand in framing the laws under which they lived, and until comparatively recent times the idea of an Indian Government, responsible to the people of India, had occurred to few except the most extreme nationalists. Even the right of collective criticism of the Government was not officially admitted until in 1892, under the Indian Councils Act, Indian Councils were given the right to discuss the financial proposals of Government and to ask questions on the subject of Government's policy and its administration of the country.

The Morley-Minto Reforms

The Indian Councils Act of 1909 introduced a non-official majority in the Provincial Councils, but not in the Imperial

Legislative Council at the centre, and gave members of the Councils the right to move resolutions and to demand a division. In these Councils, government officials could now be out-voted by a combination of elected members and nominated non-official members. The Councils, central and provincial, were still however merely advisory and their function was not to control the policy of the Governments, but merely to keep them abreast of popular opinion in India.

Lord Minto and Lord Morley, the joint authors of the Act of 1909, were no believers in democratic government for India. Lord Morley declared that if he had believed that the Morley-Minto reforms would lead to the establishment of a parliamentary system in India, he would have had nothing to do with them. Lord Minto was even more outspoken. When opening the new Imperial Legislative Council in 1910, he said:

"We have distinctly maintained that representative government in its western sense is totally inapplicable to the Indian Empire and would be uncongenial to the traditions of eastern peoples. . . . We have aimed at the enlargement of our Councils and not at the creation of Parliaments."

What had been achieved by 1909, then, was not any measure of democratic government in India but merely the association of Indians in the administration of India and the creation of central and provincial bodies of elected critics representing the small proportion of Indians then entitled to vote. The form and much of the procedure of these bodies were modelled on those of the British Parliament, but they were in truth little more than debating societies and in practice they spent a large proportion of their time in purely destructive criticism.

The Vision of Home Rule: The Declaration of August, 1917

India's first real prospect of responsible government appeared in August 1917. The Great War was responsible for this remarkable phenomenon—remarkable, because it followed so soon on Lord Minto's declaration of 1910.

The magnitude of India's war effort evoked a generous response from Britain and the Dominions and, with the acknowledgment by the Allies of the principles of national liberty and self-determination, people both in Britain and India began to ask what was to be the final goal of British rule in India. The answer was the declartaion of August, 1917, in which the Secretary of State

for India declared that "the policy of His Majesty's Government, with which the Government of India are in complete accord, is that of the increasing association of Indians in every branch of the administration and the gradual development of self-governing institutions with a view to the progressive realisation of responsible government in India as an integral part of the British Empire."

This declaration was followed by the appointment of Indian representatives, on an equality with those of the self-governing Dominions, to the Imperial War Conference and to the Peace Conference. India, not unnaturally, now believed that she was well on the way to Dominion Status.

The Montagu-Chelmsford Report

In 1918 came the Montagu-Chelmsford Report, which proposed that responsible self-government within the Empire should be conferred on India by progressive stages. The report saw India as "a sisterhood of States, self-governing in all matters of purely local or provincial interest. . . . Over this congeries of States would preside a Central Government, increasingly representative of and responsible to the people of all of them; dealing with matters, both internal and external, of common interest to the whole of India; acting as arbiter in inter-state relations, and representing the interests of all India on equal terms with the self-governing units of the British Empire. In this picture there is a place also for the Native States."

All subsequent reforms have been based on this report, and the New Constitution is merely another step towards the fulfilment of the Montagu-Chelmsford vision.

The Government of India Act of 1919: *Dyarchy*

The Government of India Act of 1919 gave India her first instalment of responsible government—an instalment which in the opinion of most Indian politicians was far too small. Indian ministers chosen from the Provincial Legislatures were made responsible to them for certain "transferred subjects," while the more vital "reserved subjects" were kept in the hands of the Governors and their Executive Councils. These provisions were not made applicable to the centre, where all subjects remained in official hands.

But though the instalment was a small one, the change of principle was fundamental. As a part of a scheme of gradual advance, Provincial Governments in India became partially responsible to elected representative bodies in India, instead of

being as before responsible only to the British Parliament. It is true that these Governments were only responsible to the Legislatures for certain named subjects, but the principle had been admitted, the first step had been taken, and there could be no turning back.

The magnitude of the change in principle was not realised at the time by Indians owing to the fact that Dyarchy, for so the system of dual control introduced by the 1919 Act was called, failed to work as it was intended to work. The reason for this failure was threefold. In the first place, it was found impossible to run the administration of a Province in water-tight compartments, some of them controlled by elected ministers and some by civil servants nominated by the Governor. Secondly, some of the Provincial Legislatures have found it difficult to rid themselves of the idea that their chief function is criticism; though others have moved with the times and produced excellent results. And finally, the Provincial Legislatures have always had the Governor in the background, with his powers of veto and certification, ready to appear like a *deus ex machina* and put things right whenever a piece of wild legislation or senseless obstruction has threatened to interfere with the proper administration of the Province. Senseless obstruction has, therefore, been more in evidence than it might otherwise have been.

This situation was a natural result of the fact that the Indian Councils, in their debating society stage, were given little encouragement to be constructive and had, therefore, confined their activities largely to destructive criticism.

The Simon Commission

But it was never the intention that responsible government in India should stop short at Dyarchy, as introduced by the 1919 Act. In addition to introducing the first instalment of responsible government, this Act made provision for the appointment of a Statutory Commission in ten years' time to examine the working of the Act and the possibilities of a further advance. The Statutory Commission was actually appointed two years before its time.

The Simon Commission paid two visits to India, collected and examined a mass of evidence, and produced a report recommending a form of constitution similar in many respects to the New Constitution which comes into force under the Government of India Act of 1935.

There was however one important difference. While the Simon Commission recommended Provincial Autonomy, it did not contemplate responsibility at the centre for many years to come.

The recommendations of the Commission were considered by three successive Round Table Conferences and a Select Committee of both Houses of the Imperial Parliament and were finally laid before Parliament in the form of the bill which has since become the Government of India Act of 1935. It is the provisions of this Act, or rather the bulk of these provisions, which come into force on the 1st of April, 1937.

The Government of India Act of 1935

In an article of this nature it is not possible to examine fully the reasons which led up to the various provisions of the Act, nor is it even possible to describe those provisions themselves in more than the barest outline. The Act with its various schedules consists of some four hundred and fifty pages. What follows does not claim to be more than a brief outline of the main features of the Act.

The object of the Act is to put India a stage further on the road to responsible government within the British Empire.

The factors affecting the attainment of this object are numerous and complicated. The defence of India is vital to the Empire, and we can afford to take no unnecessary risks; India is a country nearly as large as Europe, and contains more races, languages and religions than does Europe itself; she consists of three distinct types of territories, the Governors' Provinces of British India, which already enjoy a large measure of independence in internal affairs, the Chief Commissioners' Provinces, which are administered under the Government of India direct, and the Indian States, each of which is ruled by an Indian Prince who is in direct treaty relations with the Crown; one of the Governors' Provinces (Burma) is not Indian at all, the Chief Commissioners' Provinces are all in different stages of development and each has its own individual reason for being under central control, while the Indian States vary from units the size of a European country to feudal estates consisting of one or two villages. These are only a few of the main factors.

The underlying idea of the plan is that India shall become a Federation of States within the British Empire, rather on the

lines of the Commonwealth of Australia. Unlike Australia, however, the Indian Federation will contain two different types of member states—the Governors' Provinces of British India and the Indian States. It will also contain certain territories (the Chief Commissioners' Provinces) which will be administered under the Federal Government direct.

Subject to certain limitations, each Governor's Province will be practically autonomous as far as its own internal affairs are concerned. Federated Indian States will retain, outside the field accepted as federal, the measure of sovereignty which they now possess. The Governors' Provinces will have Provincial Legislatures elected by the people of the Provinces, while the Indian States will remain, as now, under the rule of their own Princes. Provinces and States will both be represented in the Central Legislature, and Central and Provincial Legislatures in India will, like all legislatures in the British Empire, be to a great extent modelled on the British Parliament.

To guard against a breakdown of the constitution certain safeguards are included in the Act. In the Federal Government, the control of defence and of foreign and ecclesiastical affairs will not be handed over to elected ministers, but will be retained in the hands of the Governor-General, while he and the Governors of Provinces have been given discretionary powers of intervention. should they consider such intervention necessary in the public interest. In both the federal and provincial spheres provision is made against the possibility of an irresponsible majority in the legislatures attempting to damage the credit of the country or to prevent the working of the constitution by cutting off supplies, and to this end certain heads of the estimates, federal and provincial, are made not subject to the vote of the legislatures.

The three main principles of the Act, then, are All-India Federation, Provincial Autonomy and Responsibility with Safeguards.

The Act is to be put into effect in two stages, and it is the first of these stages, Provincial Autonomy, which will be reached on the 1st of April this year. On the introduction of this stage, Burma, the non-Indian Governor's Province, will be separated from India; there will be a transfer of real power to the elected representatives of the people of the remaining Governors' Provinces; and negotiations with the Indian States will proceed.

The Central Government will remain in the transitional stage, as it is now, responsible to and deriving its power from the British Parliament.

The second stage, Federation, will follow when the Rulers of States representing not less than half the aggregate population of Indian States and entitled to not less than half the seats allotted to the States in the Federal Upper Chamber have executed instruments of accession signifying their willingness to join the Federation.

THE FIRST STAGE: PROVINCIAL AUTONOMY

Provincial Executives

The executive authority of a Province is to be exercised by the Governor, who is appointed by His Majesty and will exercise his powers either directly or through officers subordinate to him. The Governor will be aided and advised by a Council of Ministers who will be entitled to tender advice on all matters within the provincial sphere, other than on the use of powers described by the Constitution Act as exercisable by the Governor in his discretion, e.g., the use of his power of veto over legislation and administration of excluded areas. He is also entitled to differ from the advice tendered to him by his ministers in respect of certain purposes, such as the prevention of a grave menace to the peace and tranquillity of the Province and the protection of the interests of minorities, in which he is declared to have a "special responsibility."

Provincial Legislatures

The Legislature in each Province consists of His Majesty, represented by the Governor, and either one or two Chambers. In Madras, Bombay, Bengal, the United Provinces, Bihar and Assam, there are two chambers and in the remaining Provinces one chamber. Where there are two chambers, the Upper Chamber is known as the Legislative Council and the Lower Chamber is known as the Legislative Assembly. Where there is only one chamber, it is known as the Legislative Assembly.

Representation in the Legislative Assemblies is based on a system of election through communal electorates. Special provision is made for the representation of women and of certain interests such as commerce, labour, landholders and universities. Generally speaking, representation in the Legislative Councils is on the same lines, though in Bengal and Bihar nearly half the

seats are filled by a system of indirect election by the Legislative Assemblies, and in all Provinces a number of seats are reserved to be filled by nominees of the Governor.

The life of the Legislative Assemblies, unless sooner dissolved, is five years and no longer, while the Legislative Councils are permanent bodies not subject to dissolution, of which approximately one-third of the members will retire every three years.

Where there are two chambers, bills other than financial bills may be introduced in either, but require to be passed by both before being presented to the Governor for his assent. If a bill has passed one chamber and fails to pass the other, the Governor can summon a joint session of both chambers to consider the bill. If the bill passes at this session it is considered to have passed both chambers.

When bills have passed both chambers (or, in Provinces where there is only one chamber, the Legislative Assembly) they are presented to the Governor for his assent. The Governor can either assent or withhold assent to the bill. or reserve it for the consideration of the Governor-General, or return the bill to the legislature, with his recommendations, for further consideration. When a bill is reserved for the Governor-General, the latter may either assent in the name of His Majesty, or withhold assent, or reserve the bill for the signification of His Majesty's pleasure. Bills which have received the assent of the Governor or the Governor-General may be disallowed by His Majesty within twelve months of the date of such assent.

Though the Governor will cause a statement of the estimated revenues and expenditure of the Province, together with the statement of proposals for the appropriation of revenues, to be laid in respect of every financial year before the Provincial Legislature, a portion of the annual proposals for appropriation will not be submitted to the vote of the Legislature. This portion, generally speaking, includes all sums required to meet the Province's external obligations and the salaries and allowances of the Governor, the Ministers, the Advocate-General and the High Court Judges. All other heads of the provincial estimates are subjected to the vote of the Provincial Legislature, though the Governor can authorise the expenditure of money required for the discharge of his special responsibilities, even though this has been refused by the Legislature.

The Provincial Franchise

Under the Act of 1919, about 7,500,000 persons, or roughly 3 per cent of the population, were entitled to vote in elections to the Provincial Legislatures. Under the new Act, about 34,500,000 persons, or 14 per cent of the population, have votes. The qualifications vary in the different Provinces, but in all the voter is required to have either a stake in the country in the form of property or income on which he pays revenue, or a minimum educational qualification (varying from a literacy test in Madras to matriculation standard in Bengal and Bombay) or a satisfactory record of service in the police forces or in the armed forces of the Crown.

The Working of Provincial Autonomy

That is the skeleton of the portion of the Act which will come into force on the 1st of April. It remains for the Provinces themselves to put the flesh on the bones and bring the Act to life.

The general elections which have just taken place all over India provide us with at least three distinct provincial situations, namely, Provinces whose legislatures apparently contain either (*i*) a majority willing to work the new constitution, or (*ii*) a majority pledged to wreck the constitution, or (*iii*) approximately equal numbers of co-operators and non-co-operators.

Case (*i*) requires no remark, for a majority willing to work the constitution will almost certainly carry out its duties in much the same way as a reasonable constitutional government in any other country.

In Case (*ii*), where the majority in the legislature sticks to its intention of attempting to wreck the constitution by non-co-operation, a time may come when the Governor will be compelled to exercise his special powers, in the interests of peace and tranquillity.

In either of these cases, a Province is assured of reasonably good government. Even in Case (*iii*), where there can be no stable majority in the legislature, there will still, owing to the reserve powers of the Governor, be no great danger to good administration or public security. It is probable, however, that instability in the legislature will be reflected in the administration of the Province and that the settling down process will be protracted. There may consequently be a considerable period of confusion and political tension.

The Second Stage: Federation

After the inauguration of Provincial Autonomy, the Act provides for the establishment of a Federation under the Crown, to be brought into being by Royal Proclamation after an address has been presented to His Majesty by each of the Houses of Parliament praying him to take this step. The Federation will consist of the autonomous Provinces ("Governors' Provinces") of British India, the Chief Commissioners' Provinces, and those Indian States which agree to join the Federation. The Governors' Provinces and the Indian States will be members of the Federation, while the Chief Commissioners' Provinces will be "federal territories" under the direct control of the Federal Government.

The Federal Executive

The Federal Executive will consist of the Governor-General, representing His Majesty, advised by a cabinet called the Council of Ministers. As in the case of the Governors of Provinces, the Governor-General will have certain special responsibilities and powers, and will be directly responsible for the control of defence, foreign relations and ecclesiastical affairs.

The Federal Legislature

The Federal Legislature will be composed of His Majesty, represented by the Governor-General, and two chambers, to be known as the Council of State and the House of Assembly. The Council of State will be a permanent body, one-third of whose members will retire in every third year, while the House of Assembly will have a life of five years from its first meeting, unless dissolved before that time.

British Indian members of the Council of State will in the main be chosen by direct election from communal electorates. Members from Indian States will be nominated by the Rulers of the States concerned.

British Indian members of the House of Assembly will for the most part be elected by the Provincial Assemblies, while seats allocated to Indian States or groups of States will be filled by nomination by the Ruler or Rulers concerned.

As in the case of the two-chamber Provincial Legislatures, bills other than financial bills may be introduced in either chamber, and to become law require to pass both chambers and receive the assent of the Governor-General. The provisions for joint sessions of the two chambers are identical with those for the two-chamber Provinces.

After being passed by both chambers, bills will be presented to the Governor-General for his assent. The courses open to him are similar to those open to a Provincial Governor under Provincial Autonomy. He can assent, withhold assent, reserve the bill for the signification of His Majesty's pleasure, or send the bill back to the Legislature for reconsideration. Even if the Governor-General assents, His Majesty can still disallow the bill provided this is done within twelve months.

The Federal Estimates

The provisions relating to the Federal Estimates are similar to those described above for the Provincial Estimates, with this difference that demands for grants will be submitted to both Houses of the Federal Legislature, whereas in the case of Provinces with two chambers such demands will be submitted only to the Lower House.

Conclusion

It will be seen that the Act introduces into India that type of Western democratic government which has now fallen into such disfavour in a number of western countries. It also makes provision for the possible failure of this form of government by arranging for individual Provinces or the Federation as a whole to become "constitutional dictatorships" at the discretion of the Governors or the Governor-General, who will possess powers vested in them by the Act for use in case of a failure of the constitutional machinery.

I should like to conclude with what Mr. A. P. Herbert might describe as a piece of Ship of State Work. In the first stage of the new constitution, the Provincial Ships of State, each fitted with the dual control mechanism more usually associated with aircraft, will be directed in accordance with the Act towards a "Federal Fleet Rendezvous." As long as the ships continue to move in the right direction, each vessel will be managed by a committee chosen by the crew. Should this committee attempt to navigate the ship elsewhere than to the rendezvous ordered, the Governor can keep her on the right course by means of the dual control mechanism.

In the meanwhile the Ships of State of the Indian States will be invited to present themselves at the rendezvous and join the Federal Fleet. They are at perfect liberty to refuse the invitation, and should at least half of them not accept, there will be no Federal Fleet.

On the arrival of the Provincial and State Vessels at the federal rendezvous, modified command of the whole fleet will be assumed by a committee of representatives from the individual ships. The Federal Fleet, however, like the individual Provincial Ships, will be kept on the right course by a judicious use of the dual control machinery with which the Governor-General is also supplied, and the Governor-General alone will be responsible for the armament carried, the use made of that armament, and the way in which the fleet behaves towards foreign shipping.

"THE ARMY UNDER CHANGE"—A CRITICISM

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

"When all the conditions are carefully weighed, the balance seems to swing heavily against the hope that a British field force on the Continent might have a military effect commensurate with the expense and risk. I cannot see an adequate prospect, even when the present programme (of re-equipment) is complete, of its possessing the power of attack necessary to wrest from an invader any ground he may have gained before it could arrive. . . . I do not see that a larger force would have a better effect, nor that subsequent reinforcement might make a great difference, for the limiting conditions have little to do with numbers of men. They are essentially qualitative and technical. Moreover, beyond all the difficulties which face the attacker on land lies the danger of his approach being dislocated by hostile attack from the air. And the larger the force the greater the danger."—The Military Correspondent of "The Times."*

This statement coming from so well-informed a source cannot lightly be disregarded. The author doubts the wisdom of Great Britain attempting to maintain a field force for intervention on the Continent. He bases his arguments on our failure to provide the means—technical and tactical—to overcome the power of modern defence, our policy of sacrificing quality for quantity during the years of financial restrictions, and the conservative outlook of our tactical doctrine which has resulted in a theory of "safety first"—an attitude which "can only be described as 'reckless caution.' " It is not for us to question the policy of the Government in maintaining a field force; but we may with profit examine the "qualitative and technical" limitations of that force in the light of the following statement:

"Because of their small size, our forces need to excel in technical and tactical skill. At present they do not. Hampered by the poor type of recruits, by depressingly slow promotion among the officers, by the peace-time tendency to give staff work preference over leadership, by lack of men and new means with which to develop the art of command, and by years of an atmosphere in

* *The Times*, 30th October and 2nd November 1936. Leading article entitled "The Army under Change."

which boldness of thought and freedom of expression were discouraged, the Army as a whole is not up to the standard of skill demanded by the more exacting conditions of modern warfare. It may be no worse than other armies, but it does not stand out like the Army of 1914."*

In 1914 the standard of the Army was physically and morally high. Intellectually it was low compared with the standard of to-day. It excelled in musketry, and leadership—based on the camaraderie existing between leaders and led—was good. In short, its salient features were beef, brawn, musketry and *esprit de corps*. It is probably fair to state that tactically and technically (musketry apart) it was no better and no worse than other armies. To-day the Army attracts a different type. It demands a high physical and educational standard. The former may be lower than in 1914, but it is nevertheless high compared with the physical standard of the nation.† Whatever it may lack in the physical is compensated for in the intellectual; and under modern conditions the latter is of no less importance than the former. Technically it is hampered by lack of modern equipment; but the skill is there, and given the right weapons it will certainly handle them with ability. Anyone who has seen the personnel of the Royal Tank Corps handle their 14-year-old tanks on manœuvres need hold no doubts as to the technical skill of the British Army. More serious is the shortage of recruits. For this there are many reasons. The least of them is the pay of the rank and file. The greatest, probably, that of the prospects—or lack of prospects—of employment on return to civil life. Beyond these are the uncomfortable conditions of living in ancient and dilapidated barracks still prevailing in the majority of stations, the petty restrictions and annoyances of fatigues and other regimental duties, the long periods of service overseas without home leave, and a national tendency to decry the Army and extol pacifism. So long as soldiers are expected to inhabit quarters in which the degree of comfort is quite out of keeping with modern standards of living; so long as the Government and the Trades Unions are unable to guarantee employment to ex-soldiers; so long as men are forced to spend their time peeling potatoes, washing dishes and pacing a restricted beat in "a smart

* *Ibid.*

† "In general terms the situation is that if three men come forward to enlist one is rejected at sight, the second is rejected for physical, medical or educational reasons, and the third is finally approved."—General Annual Report on the British Army for the year ending 30th September 1935, p. 7.

and soldierly-like manner" guarding Government property (which could much more effectively and more cheaply be guarded by a civilian watchman), instead of learning their trades; so long as soldiers have to travel overseas in obsolete troop-ships, and on arrival remain five and six years in a bad climate without home leave; so long as these conditions prevail the shortage of recruits will remain. At the root of most of these evils lies money. Modern armies are expensive, and unless the nation is prepared to foot the bill it cannot expect the best. It is no good blaming the military authorities. Fortunately signs of improvement are already manifest, and it is to be hoped that out of the vast sums now being allotted to armaments a substantial sum will be set aside to continue the building of new barracks and troop-ships, and to provide labour-saving devices.*

In citing "the depressingly slow promotion among the officers" *The Times'* Military Correspondent is on surer ground, but here again the trouble lies largely with finance. Recently steps have been taken to remedy the manifestly unfair inequalities in the promotion of infantry subalterns. Certainly this is merely nibbling at the problem, and the only satisfactory solution is a time-scale of promotion, as already exists in certain corps, or a general list for promotion on the lines of the Royal Navy. Either of these steps would, however, entail additional cost, at any rate initially. With regard to "the peace-time tendency to give staff work preference over leadership" we agree, if the writer is referring to the small proportion of non-P.S.C. officers who attain general's rank. A good staff officer does not necessarily make a good commander, and conversely a good commander is not necessarily a good staff officer. The psychological factors which go to make either are fundamentally different, and all too rarely combined in one personality. This fact needs greater recognition, and the average P.S.C. officer is probably the first to admit it.

"The lack of men and new means with which to develop the art of command" is a melancholy fact, but without money one can have neither the men nor the means. With the increase of mobility the demand for larger and less restricted training grounds has become a matter of urgency. The notices marked "out of bounds for troops," so common a feature of our manœuvre areas,

* Anent labour-saving devices see article entitled "Base Installations and Labour-saving," by Major Shaw, R.A.O.C., R.U.S.I. Journal, November 1936.

are no less responsible for the artificial nature of our exercises than the waving of green flags and the whirling of rattles. The art of command can only be acquired by practice. During the last eighteen years the opportunities provided for divisional commanders to exercise their commands have been all too rare; and in the case of potential corps commanders rarer still. The latter can be counted on the fingers of one hand. The writer well remembers one of these occasions. The fortunate corps commander was a distinguished General who, during the Great War, had daily handled divisions as does a divisional commander his battalions. He was now entrusted, for a few brief hours, with one division at peace strength and the dry skeleton of a second, barely draped with commanders, staff and signals. Army councillors, generals by the dozen and staff officers by the score flocked from afar to witness this rare and refreshing spectacle. It would have been inspiring, had it not been pathetic.

As regards the "years of an atmosphere in which boldness of thought and freedom of expression were discouraged," we will tread delicately and offer up a brief prayer—Heaven help us from a relaxation of that paragraph in King's Regulations which would lead to complete freedom of the military pen. It might result in open criticism of our superiors, or even in politics! Heaven help us equally from a complete muzzling of constructive criticism and progressive thought! Under such circumstances our military journals and discussions would become as dry as dust, the vehicles of potted history and mutual admiration societies. Between these extremes lies a happy medium. Are we so far from it? The majority will probably answer "No."

At the root, therefore, of most of our delinquencies lies money. *The Times'* Military Correspondent appears to agree, but lays the blame at the feet of the military authorities for sacrificing quality to quantity during the years of financial stringency. He states that "if money for modern equipment could be obtained only by cutting down the numbers of men, this was sounder economy, and a lesser risk than allowing the Army to become technically unfit to cope with modern conditions." Assuming we had pursued such a policy after the last war, and reduced the strength of our field force and the Territorial Army by, say, 40 per cent, we should now have an army equipped on modern lines. Whether the equipment would be any better than that which we are in the process of

providing is open to question. We might have gained more experience tactically and technically. On the other hand we should now be faced with the problem of re-expansion. The problem of finding the larger numbers of recruits required to complete new or resuscitated units would be very considerable, and there would be a heavy deficiency of reservists, which time alone could remedy. During the period of contraction we should have been hard-pressed to find sufficient reinforcements in the event of a colonial war or serious disturbance within the Empire. We should certainly have had to abandon the Cardwell system; not that the Cardwell system is in itself "sacrosanct," but any substitute for it ever propounded—and there have been many—would inevitably have entailed a large capital outlay. It is, therefore, doubtful whether by, in the past, adopting a policy of sacrificing quantity to quality we should to-day find ourselves in any better position. We should certainly still be confronted with the problem of reconciling "the wide and increasing divergence between what is required for Continental warfare and what is best suited to colonial warfare and Imperial policing." This is surely the basis of all our other problems.

Should another Continental war arise, no one can foretell its nature or the course it will take. It is certain that it will differ from the Great War and all previous wars. It is, however, fairly safe to predict certain features of it. At the outset aircraft and mobile forces will play the predominant roles, the former striving to delay the deployment of the enemy's main army, the latter striving to gain ground to cover the deployment of its own main army. It will only be possible to employ the vast masses of conscript armies in proportion to the security attained for their communications against hostile air action. To overcome the power of the defence infantry will require the assistance of tanks and artillery in large numbers. Alternatively, as stated by *The Times'* Correspondent, they may call to their aid darkness, smoke and fog, but these are likely to be as much a hindrance as an aid to the attacker once he has penetrated the enemy's forward positions. They are not, therefore, likely to lead to decisive results. The army which possesses large numbers and reserves of tanks will stand at a great advantage, but the anti-tank gun already threatens the power of the tank. Unless, therefore, one side or the other can gain an early and decisive victory, a period of stalemate will

ensue until attrition or some new weapon or method brings victory. The army which has thought out and prepared new weapons and new methods in advance will be thrice-armed.

The essential problem of land warfare may be stated in a few words. It is to overcome the manpower of the defence, either by destroying it, or by so undermining its morale that it is forced to surrender. It is a problem as old as warfare itself, and capable of no lasting solution, because sooner or later the defence finds the means of countering whatever new weapons or methods the attack may produce. The simplest method of undermining the morale of an army is to strike at its rear. If at the same time one strikes at its front the results are doubly effective. Two men are fighting, a third comes to the aid of one of them. He attacks the assailant in the rear whilst his companion continues to engage him in front. The result is decisive. It may not be sporting; but war is not fought under Queensberry rules.

The air has already given us a means of attacking the enemy's lines of communication; but it has yet to be proved that it is capable thereby of producing decisive results. The aeroplane is essentially a means of transporting weapons swiftly and enabling them to be used at long ranges. The attack is rapidly delivered, after which the aeroplane is ineffective until it has returned to its base and reloaded. The Russian Army has pointed the way to make the aeroplane's attack, not transitory, but lasting by using it as a vehicle to plant weapons, ammunition and the men to use them in rear of the enemy. In this way the enemy's nerve centres, his command and communications, may be destroyed and his front forced to turn about, leaderless and in confusion. Herein lies one possibility of overcoming the power of the defence. In the first place the enemy's lines of communication and his direct lines of retreat are destroyed by air attack directed against bridges, railway centres and other defiles. The attack is delivered, not by the "hit and miss" methods of bombing, but by the more scientific method of controlled torpedo attack. That is to say, an aeroplane flying above the target directs by wireless an aeroplane of the "Queen Bee" type filled with high explosives direct on to the target. In the second phase load-carrying aeroplanes plant, by means of parachute or helicopter, a small force of light tanks and light machine-gunners and engineers behind the enemy's lines, whilst the enemy's front is engaged with artillery and machine-gun fire.

It is the task of this air-borne force to attack the enemy's headquarters and destroy his means of communication. In the third phase infantry, supported by tanks and artillery, attack his front, and open a gap for mobile forces to pass through and complete the work of the air-borne force. This is one possibility. There are others. For instance, the close co-operation between infantry and tanks has by no means reached the limit of exploration. It may be that the answer to the anti-tank gun will be found in the provision of a large number of light tanks rather than in a comparatively small number of medium tanks.

Whatever the possibilities, are we in a worse position than other nations? Our aircraft and pilots are second to none. Some may criticise our intention to provide comparatively large and slow-moving "infantry" tanks, but our modern light tanks are without equal, and *The Times'* Correspondent himself states that in tank development "we are still ahead of others in methods and the standard of tactical training." Others may criticise the retention of horsed divisional cavalry regiments, but, until we have acquired experience of motorised cavalry and have the machines to replace horses, such criticism is surely premature. Moreover, we possess one priceless advantage compared with Continental nations. Our Army is small; but our industrial resources are large, and their quality is excellent. They are now being organised for a swift turnover to military production. When this process is complete, we shall be in a position to supply ourselves with whatever arms the rapid development of military technique may demand in a shorter space of time than those nations whose armies are on a vast scale, and whose financial resources are already strained by the weight of colossal military budgets.

Finally, let us turn to the "reckless caution" of our tactical doctrine. Let us admit straight away that the element of "caution" is present. The reasons are not hard to seek; they are psychological. By nature we are a cautious race, cool, calculating, lacking *l'audace* of the more excitable Latin temperament. We are masters of the compromise, conservative in thought and lovers of the conventional. When we decide on a course of action we do so after carefully weighing the consequences, and our movements are marked by dogged determination. Where others thrust with a rapier we hack our way with a broad sword. Our character is

reflected in our political, industrial and military history. It is quite true to state that "since Marlborough the British Army has rarely shone in the offensive," but it would be fairer to add that since Marlborough the British Army has rarely been defeated. The British Army may not shine, but it does not easily accept defeat. If, and when, it is called upon to intervene on the Continent, it will, as in the past, be acting in conjunction with allies. Numerically, at the outset, it will be "but a drop in the Continental bucket." In 1914 the instructions issued by the Government to Sir John French implied a strategy of caution; next time it will be the same. The expeditionary force is but an advance guard, and when the main body is six months in rear an advance guard cannot afford to take risks. The border-line between strategy and tactics is ill-defined. Little wonder then that our tactical outlook should err on the side of caution; but to describe that caution as "reckless" is to neglect the factors which dictate it.

To sum up. The handicaps under which the Army has been labouring in recent years are, in the main, attributable to financial stringency. This has resulted in delay in modernising the Army both as regards its technical and domestic equipment, and curtailed facilities for training and developing the art of command. Indirectly it has discouraged recruiting, though the main stumbling-block here lies in the difficulty experienced by soldiers in finding employment on completion of their colour service. The modern soldier is no whit inferior to his predecessor of 1914, and given the means he "will produce the goods." The slow and unequal promotion of officers calls for further remedial measures, whilst non-P.S.C. officers might with advantage be afforded more opportunities to attain command.

It is extremely doubtful whether a policy of sacrificing quantity to quality during the years of financial stringency, as advocated by *The Times'* Military Correspondent, would have led to much better results. It would have entailed considerable risk in view of our Imperial commitments, and we should now be faced with the problem of re-expansion with inadequate reserves.

Our basic problem is to reconcile "the wide and increasing divergence" between what is best suited to meet the various tasks of the Army. So far as Continental warfare is concerned, we, in common with other armies, are faced with the difficulty of overcoming the increasing power of the defence. The solution lies in

new weapons or new methods. To find these research and experiment must be energetically pursued. When found, the experience which we have gained in the past, coupled with an organised industry, will enable us to put them into effect more rapidly than those nations whose resources are already strained by the burden of vast conscript armies.

Our tactical outlook may be cautious, but it is a "caution" in keeping with our national temperament and the circumstances under which we may have to fight. To describe it as "reckless" is to neglect the factors which dictate it and the results achieved in the past.

SMALL TATTOOS IN INDIA

BY *Euroclydon*

Two years ago the Jubilee; last year the funeral of His Majesty King George the Fifth; this year the Coronation; next year we hope the Durbar. A procession of pageantry indeed and it is for this reason that these very inadequate notes on the organization of a small tattoo are written.

No doubt many have experience of the organization of the large-scale tattoos at Aldershot and Tidworth. These, however, are commercial going concerns with continuity of experience and organization to support them and with a publicity system which needs little impetus to sustain a perennial appeal. Many officers are capable of staging less ambitious affairs and require no assistance in doing so. And this brief account is intended merely to provide an *aide-memoir* for those who, having no previous experience, are given the task of organizing a tattoo at short notice.

The great factor in any organization is time. Those responsible for initiating celebrations must consider the form they will take and collect the nucleus of their organization and the framework of their programme in good time. To stage a display hastily conceived at the last moment is to court failure.

General Considerations.—A tattoo like other more professional variety entertainments should combine considerations of light, music, movement and colour and must in fact provide an æsthetic, patriotic, historical or emotional appeal.

These sensations have all to be harmonized on a stage of large proportions, while the usual technical aspects of stagecraft, entrance and exit, variety and sequence, visibility and time must be as carefully observed as they are in Mr. Cochran's successful productions.

First and foremost of all considerations is the selection of the site.

The principal factors that require investigation are:

1. Accessibility to Performers.
2. Accessibility to the Public.
3. Suitability as a stage and auditorium.
4. Accessibility of electrical supply.

There is no golden rule as to the order in which these should be considered.

Their relative importance will depend upon a large number of other factors, some within, some outside, the control of the management and their backers.

In England or where there is a dense population of European inhabitants locomotion will be by car, and mere distance from the main centres of population, as the *Tidworth Tattoo* has shown, is a question of publicity and traffic control and is no bar to success.

In India where it is hard to reach the public even through the vernacular press, where walking is the normal method of locomotion, and where the financial margin available for amusement is small, proximity to the public will probably be the decisive factor in the choice of site.

The usual situation of the Cantonment at some distance from the native centres of population will then call for careful budgeting as regards the transport of directors and performers to stage rehearsals.

The accessibility of the electrical supply usually varies with the nearness of the site to the population centre.

But the suitability of the site as a stage and auditorium is probably the most difficult of all considerations to appraise correctly. And it is a consideration which must be disentangled from a host of other issues which will inevitably be put forward by the members of the Committee, be it Jubilee, Durbar or Tattoo celebration.

It is here that certain aspects of the choice of the officer who will run the show become important. He must be a good mixer, who knows and is known personally by every member of the Committee. He must be tactful and firm. It goes without saying that he must have the complete confidence and support of the military authority under whom he is working and to whom he can appeal as the *ex officio* chairman of the undertaking. But the direct and early intervention of the Garrison or other Commander in discussions is to be deprecated, for against his decisions there is no argument, and it is best that such decisions should be on appeal, rather than that overriding opinion should be given too early and so put a closure to experiment and discussion.

In India the producer should be *persona grata* with the Indian Public and have a broad acquaintance among the Indian gentry

and intelligentsia. One guarantee the producer and his officers must be given and that is their freedom from responsibility for any financial loss arising out of *bona fide* efforts to stage the tattoo. Available funds may be sufficient to dispose of the difficulty, but the limits of the guarantee must invariably be laid down in advance.

The Site.—In choosing the site within the narrow limits which general considerations as already outlined will dictate (unless money is no object and ample funds for building frontages and screens have been placed at the producer's disposal) the chief requisites are:

(*a*) An auditorium giving some command of the stage and adequate to seat the volume of public which the Committee expects.

(*b*) A stage backed by trees or buildings which will reflect light and limit the setting.

To this stage there must be at least four widely spaced entrances and exits.

(*c*) Ample access to the auditorium for the public, with space for car parks and sufficient exits to enable rapid dispersal of the traffic after conclusion of the tattoo.

(*d*) Separate routes for the arrival and departure of ceremonial visitors and for performers; the latter being a vital necessity.

The size of the site will depend on the number of performers but too large a stage or too few performers will deprive the display of all dignity. Mass effects are relative to their surroundings.

Finance.—The question of the amount of public support which may be expected is really a matter for the general committee to lay down. They are the local notables. They should know the response which their fellow-citizens will give to the show which is being staged.

Nevertheless it is a point on which the most widely divergent views and estimates will obtain.

Estimates, apart from the estimate of the public likely to fill the more expensive seating, often vary from four thousand to forty thousand a night.

It will be appreciated that standing accommodation, police control, ticket barriers, refreshment contract rebate, and many

other details require a far closer estimation than these divergent figures permit.

On a close estimate of the probable attendances moreover will depend the degree of expenditure which can be permitted and questions of dressings and costumes, lighting effects, extra duty pay, free suppers, etc., will all be vitally affected.

Questions of price of entry will be dealt with later, but where the police feel that the attendance will be greater than they can control, the ticket prices at the lower end of the scale will require adjustment, with the aid of expert advice, not only to attract spectators but to deter the congregation of unmanageable masses.

It is impossible, of course, to give definite figures as regards expenses. The main factors are the cost of electrical installation and supply, the cost of performers' transport, advertising charges, costumes, performers' meals and construction charges. These costs will vary with the degree of official assistance and the amount of voluntary help afforded.

Huge savings can be effected by ready and generous help given by film studios and railways with lighting equipment, by the use, if allowed, of Army transport, by private gentlemen with donations for troops' suppers, firework displays, etc., and by the general suitability of the arena for the purpose. Without these advantages a sum of £4,000 can easily be expended on two full-dress performances, and two dress rehearsals, a large sum to guarantee if no previous tattoo has been run in the particular locality.

Technical Considerations.—Technical considerations involve the supply of electricity and other forms of lighting; the use of background for lighting effect; lay-out of assembly areas, entrances and exits; installation of a telephone system; the preliminary large-scale survey of the site and its photogravure in elevation as a panorama from the auditorium. Plans and elevations so produced serve not only for early rehearsals on the parade ground but also as a basis for later and detailed arrangements.

Unless assistance is available locally from Engineer Field Units the installation of electrical power is best carried out by the commercial suppliers under the supervision of a R. E. officer, who is charged with the whole question of lights for the display. The latter will detail the location of controls, points and circuits

in accordance with the requirements of each item of the programme. In this connection it may be remarked that the detail of lighting for a tattoo is a far more controversial subject than is any general question of electrical supply.

All lighting need not be electric and much money on cable installation can be saved by acetylene or oil flare lights and bonfires for the lighting of courtyards, the illumination of distant architectural elevations, outlines and the like. Some Indian railways have large supplies of torches with asbestos holder tops which are filled with tow and dipped in paraffin immediately prior to ignition. When electricity is used as it normally will be, controls should be grouped together. If, however, economy in cable is a first necessity, controls may have to be dispersed in which case a small telephone system, peculiar to the lighting, should be introduced. Tank Corps and Royal Air Force personnel are eminently suited to help R. E. personnel in the control of searchlights, in the installation of circuits and the preparation of lighting controls.

Stage and Auditorium.—The stage, in addition to a minimum of four equally spaced entrances and exits, demands in rear of it assembly areas and rest areas; routes from those areas to entrances and exits; restaurant accommodation; water points; stables; latrines; office and store rooms and medical aid posts. As regards the auditorium, the staging of seats requires very careful siting to avoid trees and other obstructions, which may be present. Ample entrances and exits for each separately priced area, wide alleys between blocks of seats and good lighting of the whole area are essential.

Outside the barriers the traffic situation is best left to the police but co-operation is essential and an officer should be appointed for traffic duties.

Control.—Control must be exercised by telephone and where elaborate light signals are impossible, many telephone points are necessary. Lines should be duplicated and buried or poled. Some forty miles of cable can easily be expended and the entire personnel of an Artillery Brigade are none too many for the job. The exchange should be close to the control tower and posts established at every entrance and exit to the stage and auditorium, at forming up places and assembly areas. In practice this may mean upwards of twenty-five telephones though the

number can be reduced with experience. Generally the handling of unexpected crowds is always much simplified if there are plenty of telephones. The control tower needs to be carefully organized. In it are grouped—

(*i*) The Director of the Tattoo.
(*ii*) The Director of Communications who synchronises all watches.
(*iii*) The Director of Lighting and his Operator.
(*iv*) An officer conversant with every detail of the item in progress.
(*v*) A time-keeper calling the time.
(*vi*) A clerk calling the action.
(*vii*) A telephonist receiving reports from assembly areas, ready to give the ENTER and COMMENCE, which the Director himself will actually order.

Mapping and photography can be carried out by military personnel; and the former should be to such a scale that any tree or obstruction on or about the stage can be plotted. Reconstruction on unit parade grounds can then be faithfully carried out. Panorama photographs should be large enough for lighting effects to be clearly indicated on them for various stages of the performance.

The Director of Lighting can then decide on his method of lighting and considerable economy will result both in the number of visits paid to the arena and the material used to achieve the required results.

Positions of assembly and readiness, entrances and exits should be lettered, telephone points numbered and blocks of lights given place names to simplify control.

The Committee.—We have already dealt with those considerations which should be present in the mind of the Director, when he accepts charge of the undertaking. His next step will be to sketch out a draft programme for discussion and to nominate his principal assistants and committee. The worst way to do this is to detail one officer from each unit or department to become a member of the committee and to offer a turn. The best way is for the director—

(*a*) to choose a technical executive committee;
(*b*) after discussion with garrison and unit commanders, to choose officers each to take charge of one particular item;

(*c*) to appoint other officers as required for general executive duties;

(*d*) to appoint an officer to the Garrison Staff, with the authority of a staff officer to the garrison commander, to act as secretary; and

(*e*) to "Co-opt" civilian members to act as publicity, press and liaison officers and possibly for treasury and box-office duties as well.

A suitable committee may be composed as follows:

Executive Committee ...	Chairman. Vice-Chairman and Director of the Tattoo. Director of Communications. Director of Lighting. Treasurer and Box Office (may need two officers). Secretary.
Summoned as and when required ...	Director of Music. Director of Stores. Director of Messing and Supplies. Director of Publicity and Press Liaison. Members of the Celebration Committee, if any, for liaison with the public. Director of Traffic and Police Liaison. Officer i/c Printing. Officer i/c Displays. Legal Adviser.

The full committee should meet at regular stated intervals and the executive committee with such others as are required can be summoned daily if necessary.

Additional officials will be—

Working under the Director—

Medical Officer i/c Troops.

Veterinary Officer.

Medical Officer i/c Auditorium.

Stage Manager and Guides.

Working under the Director of Communications—

Telephone Staff, Linesmen.

Switchboard control men.

Telephone Staff, linesmen and switchboard control men for electric lighting and telephone control circuits.

Working under the Box-Office Manager—

Box-Office Staff, Gate Staff,* Seating Block Guides.†

Programme Accountant and Programme Sellers.†

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* 3 Per Gate. † 4 Per Block.

Working under Medical Officer i/c Auditorium—

First-Aid Detachment and Assistant Medical Officers in Auditorium.

Working under Director of Traffic Control—

First-Aid Detachment and Assistant Medical Officers on Traffic Approaches.

Internal police arrangements under an Inspector.

In India the awakening of a large public and the artificial creation of a demand are as yet little practised. Organized publicity of the type to which Europe is accustomed is almost non-existent outside the presidency towns. Where a bank manager can be persuaded to act and where large shops exist, box-office and publicity duties can perhaps be undertaken by them. The box-office attracts customers to the shops and their advertising arrangements can be used to supply the framework for the necessary publicity arrangements.

An officer in charge of printing is very necessary. He will pick up sufficient technical knowledge in a short time, whereas a number of different individuals visiting the printer only result in delay and chaos. The officer in charge of printing should also canvass for and arrange advertisements in programmes and other tattoo literature.

Programmes.—The Chairman and Director will probably produce a cock-shy at a programme from their own knowledge of the resources of the garrison and will, as already explained, discuss it with the commanding officers of units. To write round for ideas in the first place often produces little response, at any rate until discussion takes place.

Here a word of warning is necessary. History is still closely interwoven with religion and politics in India and discretion is required as regards the production of historical tableaux.

The individual contributions determined, the arrangement and timing of the programme, the allocation of assembly areas, routes, positions of readiness, entrances and exits require co-ordination.

It is not always understood that contrast is essential in the arrangement of the succession of the items; that the performance of massed bands is a suitable item to insert at points in the programme when the correct timing of events may have to be restored; and that successive displays should enter from divergent

entrances, using more than one entrance and more than one exit, so as to fill the stage.

Items should follow one another continuously without any interval unless such interval is in itself desirable for purposes of effect.

The duration of the item is a matter of difficulty in which tact and brutality will both be required.

As a general guide fourteen minutes is long enough for any one display. Three minutes is the shortest period in which one can hope to achieve adequate effect while ten minutes of massed bands will generally suffice.

Oriental audiences, however, will tolerate and enjoy displays of more than fourteen minutes and it may be necessary both for the pleasure of the audience and the *amour-propre* of the performers to exceed these timings. Often an oriental display such as dancing does not get going in less than a quarter of an hour but against this the Director must be ruthless if he is to stage an affair which is not to pall.

The following are the timings of one year's *Tidworth Tattoo** and the timings of a less pretentious affair† organized in India.

A total programme of 2 hours 15 minutes exclusive of an interval is the absolute maximum whch can normally be carried through.

There are innumerable difficulties, of course, which training and leave impose both on the programme and on the dates of a tattoo, while the weather and such purely oriental complications as migration to the hills, will need consideration, the one at home, the other abroad.

Rehearsals and Timings.—The question of rehearsals is a matter on which local conditions exercise much influence.

Where the distance from barracks to the arena makes transport costs prohibitive, rehearsals will be limited very largely to parade grounds and only officers and group column leaders of large massed effects and stage officials can be taken to the arena for skeleton rehearsals.

Minutes. *2, 5, 5, 15. 10, 6, 14, 15, 3, 15, 10, 10, 14. 10.
Minutes. †2; 3, 13, 14, 16, 10, 10, 16, 10, 9, 20[1], 11. 5, 4.
[1]Khattack Dancing.
Includes 10 minutes interval.

In any case the Director should abstain from attending item rehearsals until the evolution of the movement is nearing perfection and the time required for performance has been learnt by experience.

He should then attend to cut the item, if necessary, and to offer general advice.

For instance, a musical ride should properly commence with some trotting but experience will show that for display, the less the better.

Where pipe bands are being co-ordinated, many difficulties arise, for the scores of many of even the better known tunes have several interpretations and the question of grace notes will cause dusky McCrumlins to come to blows and C.O.s to cut one another for years after the performance.

Wild tribesmen who travel two hundred miles to dance in public are loath to leave the arena after fourteen minutes when a normal dance lasts from two to five hours and Directors of Music require very careful handling before they will "cut out" a movement to enable lost time to be regained. Once, however, the individual items have been compressed within the requisite limits of the programme, rehearsals can be called on a skeleton arena laid out near barracks, and each display put through its paces. Here the stage manager functions for the first time. It is his duty to get performers along their routes and officers in charge of gangs reporting at each stage of their progress. For this purpose the final time-table will include at least five timings:

(*a*) position of assembly;
(*b*) position of readiness;
(*c*) entry;
(*d*) commence; and
(*e*) exit:

(*c*) and (*d*) may be simultaneous, but where more than one body of performers are concerned and distances to the central point of performance are unequal they will differ.

Lighting has to fit in with the time-table and the Director of Lighting should have a series of marked panoramas, compiled on experience gained at unit rehearsals. He will then illuminate or black out groups of lights or areas, working to the call of the time-keeper and using his own knowledge of the item in the event of a time lag. An officer connected with the immediate display in progress should be seated at his side.

Miscellaneous Considerations.—There remain many points which require attention. Among these are legal liability to the public who have paid for admission. If, for instance, standing room is allotted on an elevated platform, tickets for the area should bear a clearly printed notice of disclaimer in the event of damage due to a fall. There is legal liability for entertainment tax and for accidents to performers.

Programmes for sale must be carefully checked and issued only on the signature of the seller. Seat inspectors should move round the auditorium while it is filling up and check occupants' right to their seats.

Boy Scouts can be useful to the authorities in the auditorium in a multitude of ways.

Complimentary tickets are always a problem. To many the fact that the show must pay its way is often entirely obscured by the fact that they have contributed in some way to its success. All these persons will expect and only too often receive free tickets. The allocation of complimentary tickets is best put in the hands of a small independent committee with authority to issue up to a certain value determined by the treasurer. A military representative will not forget the military hospital, Q.A. Staffs, Old Comrades Association, District Soldiers Board and the badly paid priesthood of India; while each committee member should be asked to submit a list of persons who have given him assistance without pecuniary reward.

The sale of tickets requires some imagination. If a selling agency exists it is best to make use of it. If none exists an agency must be created. The worst place to sell tickets is in barracks. The best place is from an office in the ordinary shopping centre of the town. If the community is divided in its habits and mode of living, more than one ticket office will be wanted. Telephones must then be installed to allow the central office to co-ordinate booking. Some preference can be given to military and civil officials by opening the booking plan privately two or three days in advance, but any attempt to supply a number of seats in response to a bulk demand from a government office will be fraught with failure. Recipients quarrel over the sub-allocation of the bulk allotment and the box-office unfairly gets the blame. Individuals must book their own seats; that is the only solution.

How seats are priced will vary with the locality and the

season. A little thought will disclose that the early cold weather is a lean period after leave, the end of the cold weather a lean period after Christmas festivities. Except in large towns, where mercantile interests predominate, the prices which the public will pay will not much exceed those ruling for the best cinema accommodation. Again, since attendance is a matter of duty as well as pleasure the official world does not welcome an exaggerated price.

At the other end of the scale is the crowd. At Home, prices are well understood. In India prices will be a compromise designed to attract sufficient to fill the auditorium while keeping the squares outside in order. Up country eight annas is too much in all probability. Down country in the very large centres such a price might be charged.

The compilation of the Souvenir Programme is a heavy task for the Director. It should contain—

(*a*) a programme and time-table of displays;

(*b*) band and pipe band programmes with notes on the music;

(*c*) historical notes on units taking part in their order of precedence, not forgetting Naval, Air and Police Forces if they also participate;

(*d*) a short note on each display and its meaning; notes in the vernacular should be added;

(*e*) list of patrons, committee members and officials with an expression of thanks to those who have assisted;

(*f*) historical information about the arena where the tattoo is staged;

(*g*) the words of any song or hymn in which the public are expected to join; and

(*h*) advertisements.

In India a broadsheet with the outlines of the programme printed in vernacular and decorated with some device or photograph of Royalty for sale in the cheaper seats at about one anna will be of value.

A lost property office is a minor activity of the box-office officials.

Finally a proper audit should follow closure of the books, and it is sound policy to have this done by a firm of accountants if their charge is not excessive.

It only remains for the Chairman or the Director to express his thanks in a series of personal letters which he should have ready in his own handwriting for despatch the morning after the conclusion of the show; and to tie up the file and diary of the tattoo for some fortunate successor.

Such is a brief and no doubt very inadequate outline of the organization and production of an *ad hoc* tattoo. It is no more than the framework of a successful production in the past where there were no precedents, no money, no equipment, no costumes, no previous experience and for some time no available arena.

That such a show was carried through without financial loss or friction and scrupulously to time has emboldened the author to set down these notes for the help of producers who may be faced with similar problems in the future.

INDIAN CAVALRY REORGANIZATION, 1937

By Major B. H. Chappel, 2nd Punjab Regiment

It is perhaps a truism to say that administration is the servant of tactics and strategy, but it is such an important servant that it can not afford to be ignored. The large problems of maintenance, whether they be of personnel or of material, must be solved in peace; for to make a major administrative change once war has broken out always proves difficult and sometimes impossible.

The organization of Indian Cavalry is of course a subject that touches many officers personally, but it is also a subject of interest to the army as a whole. To appreciate the changes now being made it is necessary to review briefly the history of Indian Cavalry since 1914.

At that time there were in the Indian Army 39 regiments of cavalry, of which only three were maintained, as the British Cavalry was maintained, directly by Government. The remaining thirty-six were silladar units.

In origin this was a yeomanry system under which the soldier supplied and maintained his horse, his clothing and practically all his equipment except his rifle. He also provided for the upkeep of the lines in which he lived. In return he received a higher rate of pay than the non-silladar soldier, whose needs were furnished by the Government. Rich and influential silladars were allowed to enlist fellow countrymen and to provide the horse and equipment which their poor relations were unable to afford.

In course of time the increasing efficiency of the army called for horse and equipment of better quality than that obtainable by most silladars, so their purchase was undertaken by the regiment, while the recruit was required to pay, on enlistment, such *assami* as he could. The remainder he borrowed from regimental funds and paid back during the course of his service. The demand for an improved standard was naturally enough followed by rising prices. In spite of help from Government in the form of grants of land for horse farms, regiments were faced with the prospect of having to make further cuts from the

pay of the soldier. Since the margin of pay remaining to the man was barely sufficient for the support of himself and his family, it was in 1914 already becoming clear that an increase in pay would have to take place sooner or later.

Such then was the silladar system. It had very definite advantages: It was extremely cheap to Government; it was popular with officers and men and attracted an unusually fine stamp of recruit; moreover it had proved itself in small campaigns in Egypt, on the Indian frontier and elsewhere.

With the outbreak of war the maintenance of silladar regiments, but not of the depots they left behind, was taken over by the State. It was not long before difficulty was experienced in maintaining silladar regiments, although at the time few of them had been heavily engaged. In fairness it must be admitted that some of these difficulties were due to the defects of the Indian Army recruiting and reserve organization as a whole rather than to inherent weaknesses in the silladar system.

The lack of an adequate reserve in peace made it impossible for depots to keep pace with the demands of their regiments. There was great diversity in the class composition of cavalry and no system of linked regiments. Reinforcements had, therefore, to be drawn from active regiments remaining in India. On the material side Ordnance Depots found it equally difficult to replace individual patterns of equipment. But the financial difficulties of the system were proving the greatest of all. Depots had remained silladar, regiments had not. The transfer of a man from a silladar depot to a regiment no longer maintained on that system involved extreme complication. The value of his estate if he were killed or invalided, was hard to assess. Moreover, the great need of recruits made it impossible to demand the *assami* in cash. If the *assami* was advanced from regimental funds, the man was usually drafted to the front long before he could refund the loan and often enough he was drafted to a regiment other than the one which the depot belonged.

In 1920 an Army in India Committee was formed to examine the system. The advantages and disadvantages were carefully weighed and it was decided to abolish the system. The decision marks the end of what may be called the first phase of cavalry organization in India. Before the next phase is described, the reduction of Indian Cavalry for reasons of economy and

readjustment to a total of 21 regiments is to be noted. For this purpose thirty-six regiments were amalgamated, each pair producing one composite non-silladar regiment. Three regiments retained their pre-war identity intact.

At the same time all regiments were organised on a basis of a Headquarter Wing and three squadrons. It had been one of the lessons of the war that if a commanding officer is to control his unit effectively in battle he must have at hand the means of doing so. The new arrangement had the advantage of concentrating specialists such as machine-gunners and signallers in a single sub-unit and was a distinct improvement on the pre-war organization of four squadrons, each of which furnished a proportion of specialists.

To avoid reinforcement difficulties in a future campaign, the 21 regiments were divided into seven groups each of three regiments. The classes of recruit taken were adjusted so that all three regiments of a group became identical in composition. In addition seven stations were chosen as likely to remain suitable permanent locations for regiments allotted to internal security duties; the intention being that one regiment of a group should be fixed at a permanent centre and that it should become the group depot in war. Actually the allocation of these centres has had for various reasons to be modified from time to time.

As a matter of interest the grouping of regiments, their class composition and the group centres, as they existed in January 1937, are shown in the table below:

	1st Group.	*2nd Group.*	*3rd Group.*
Group centre	Ferozepore	Lahore	Lucknow.
Class composition	Hindustani Musalmans.	Punjabi Musalmans	Punjabi Musalmans.
		Sikhs	Sikhs.
	Musalman Rajputs	Dogras	Jats.
	Rajputs		
	Jats		
Regiments	Skinner's Horse	Hodson's Horse	7th Light Cavalry.
	2nd Royal Lancers	Probyn's Horse	8th K.G.O. Light Cavalry.
	3rd Cavalry.	6th D.C.O. Lancers.	Royal Deccan Horse.

	4th Group.	*5th Group.*	*6th Group.*
Group centre	Jubbulpore	Rawalpindi	Jhansi.
Class composition	Dogras	Pathans	Jats.
	Sikhs	Sikhs	Kaimkhanis.
	Punjabi Musalmans	Musalman Rajputs.	Rajputana Jats.
Regiments	Guides Cavalry	13th D.C.O. Lancers.	16th Light Cavalry.
	P. A. V. O. Cavalry	Scinde Horse	Poona Horse.
	Sam Browne's Cavalry.	15th Lancers	18th King Edward VII's Own Cavalry.

	7th Group.
Group centre ..	Delhi.
Class composition ..	Sikhs. Jats. Punjabi Musalmans.
Regiments ..	19th K. G. O. Lancers. 20th Lancers. The Central India Horse.

In peace each regiment trained its own recruits and remounts. The group centre regiment undertook also the training of reservists for the whole group.

In war the group centre regiment became the depot for the group and took over both the training of recruits and the provision of reinforcements, in addition of course to its normal internal security role.

Apart from any question of the merits of the silladar system, this organization was obviously a great improvement on the arrangements which had existed before the war. But the process of time was to reveal certain other defects.

In peace, regimental commanders have had to spend an excessive amount of their time on the training of recruits to the detriment of the training of the unit for war. On mobilization recruits would have had to be transferred to the group centre and remounts and unfit horses disposed of. Regiments required to take part in operations would have had to await the arrival of trained men and trained animals before they were up to war establishment. The complicated cross-postings, which were inevitably involved, must have added appreciably to the work of the staff and the burden on the railways in the critical days of mobilization.

Until they were completed, however, regiments allotted to cavalry brigades, to divisions and to covering forces would have been below establishment, while the group centre regiment would have been ill-fitted in the early stages at least to take over its war role of group depot.

Once the drawbacks of the post-war reorganization had been realised and the main lines of a new organization decided, an Indian Cavalry Committee was assembled at Army Headquarters to consider how the necessary reorganization could be arranged with the least dislocation to regiments.

The present changes, which terminate the post-war organization of cavalry, involve the creation of three groups each consisting of six active regiments and one training regiment. The 15th Lancers, Sam Browne's Cavalry and the 20th Lancers have been selected to become training regiments. The new organization is shown below:

	1st Group.	*2nd Group.*	*3rd Group.*
Location of training regiment.	Jhansi	Ferozepore	Lucknow
Class Composition	Musalman Rajputs Hindustani Musalmans Kaimkhanis Rajputs Jats.	Musalman Rajputs Punjabi Musalmans Pathans Sikhs Dogras.	Punjabi Musalmans. Sikhs. Dogras.
Training regiment	15th Lancers	Sam Browne's Cavalry. (12th Frontier Force).	20th Lancers.
Active regiments	Skinner's Horse (1st Duke of York's Own Cavalry).	Hodson's Horse (4th Duke of Cambridge's Own Lancers).	6th Duke of Connaught's Own Lancers. (Watson's Horse).
	2nd Royal Lancers (Gardner's Horse).	Probyn's Horse (5th King Edward VII's Own Lancer's).	7th Light Cavalry.
	3rd Cavalry	The Guides Cavalry (10th Queen Victoria's Own Frontier Force).	8th King George's Own Light Cavalry.
	16th Light Cavalry	Prince Albert Victor's Own Cavalry (11th Frontier Force).	The Royal Deccan Horse. (9th Horse).
	The Poona Horse (17th Queen Victoria's Own Cavalry).	13th Duke of Connaught's Own Lancers.	19th King George's Own Lancers.
	18th King Edward VII's Own Cavalry.	The Scinde Horse (14th Prince of Wales's Own Cavalry).	The Central India Horse. (21st King George's Own Horse).

It will be seen that the eighteen active regiments are remaining on a class squadron basis. A major alteration, the substitution of one class for another, has been necessary in only one instance.

War establishments of active regiments remain unchanged except for small adjustments of personnel and the replacement

of certain horses by light cars and vans. Squadrons will consist of three sabre troops and one light machine-gun troop, as they do at present.

In peace, however, active regiments have been relieved of their recruits, although they remain responsible for the training of their remounts. To provide against the anticipated number of untrained and unfit animals on mobilization, an increase of some eighty horses in the peace establishment of each regiment has been made, so that the regiment should have its full complement of trained animals with it when mobilization is ordered.

The changes being made in the three units, which are to become training regiments, are necessarily greater. In the first place the essential role of the training regiment will be to provide at all times trained men for the active regiments of the group.

In peace the standard required will be that of a trained recruit ready to join the ranks and the peace establishment of the regiment has been designed with this end in view. For reservist training, another peace-time responsibility of the training regiment, extra instructors will be attached temporarily from active units. Reservists will belong to the group as a whole and not to any one particular regiment. While every effort will naturally be made to post a reservist in war to the regiment with which he served in peace, this may not always be possible.

After mobilization the training regiment will have to undertake the training of specialists as well as that of the ordinary sowar, and to this end arrangements have been made for active units to despatch the extra personnel required to help with this specialized training to their training regiments.

As regards organization the training regiment will consist of headquarters and three squadrons. The headquarters includes a remount training troop responsible for the provision of trained horses required within the regiment itself.

The majority of headquarters personnel are for administrative duties and their appointments, as well as appointments to the remount troop, will be permanent ones.

Each squadron will be affiliated to two regiments of the group and will consist of three class composition troops. Squadron officers and trained other ranks required for instructional duties will be seconded for limited periods from their active regiments.

Such is a brief outline of the new organization for the Indian Cavalry. It remains to sum up what are thought to be the main advantages of the change: Firstly, commanding officers of active regiments, relieved of their recruits, will be able to concentrate on the training of their units for war. Secondly, the regiment will have sufficient horses in peace to enable it to mobilize within its own establishment of animals. Thirdly, the recruit will be trained in peace at the centre which would be responsible for his training in war and those centres themselves can be expanded, with little complication, to meet a large influx of recruits on mobilization. Fourthly, a large number of difficult cross-postings, inevitable on mobilization under the previous system, have been eliminated. And, finally, the change will effect a small saving to the State.

THE SINO-BURMESE BOUNDARY

By Captain J. B. P. Angwin, r. e.

To the average soldier in India, the "Frontier" means the North-West Frontier and except for the troops in Burma, the section of the General Staff which deals with them, and those officers who choose the Burma Military Police as a means of escape from the snares or stagnation of cantonment life, the North-East Frontier is a vaguely known area presenting probably a less concrete picture even than the fastnesses of Abyssinia.

Nevertheless, bordering as it does on Tibet, China (Yunnan), French Indo-China and Siam, it has its military problems and is a constant responsibility to the Civil administration.

Throughout the length bordering on China, the boundary is defined by a treaty of 1894 (modified by an agreement of 1897) and is everywhere delimited and demarcated except for two sectors, one in the extreme North and one further South dividing Yunnan from the portion of the Northern Shan States known as the Wa States. (See map.)

In both these sectors, until recently, it has been preferable to preserve the *status quo,* although from time to time incidents have occurred which have brought the question of delimitation of each sector into prominence. In the southern sector an attempt at delimitation was made in 1899-1900.

It is with this southern sector of about 200 miles in length that this narrative is concerned.

Incidents in the Wa States, culminating with disturbances in the summer of 1934, rendered it desirable from the British point of view that the boundary should be delimited, and at the same time the Nanking Government, under pressure from Yunnan, wished to effect a settlement.

During the attempt at delimitation in 1899, negotiations broke down at an early stage, but the British representative, Sir George Scott, succeeded in moving from end to end of the region on the eastern flank of an important range described in the treaty, and the survey party, under Captain Renny Tailyour, established the position of this range for much of its length.

Renny Tailyour's map, made under conditions of great difficulty and without the assistance of the means of communication

we enjoy to-day, proved remarkably accurate as far as it went, and was of great help to us.

This map enabled Scott to give his interpretation of the treaty line, an interpretation which has ever since been known as the Scott line.

The decision to effect a settlement of the boundary at the present time resulted in the appointment of a Commission consisting of two British Commissioners, two Chinese Commissioners and a neutral Chairman, with British and Chinese survey parties attached.

The duties of the Commission were to determine the treaty line on the ground and mark it on the map, and if necessary to propose modifications based on more exact local knowledge and suitable to present conditions.

This sounds a simple task, but the following factors made it not so easy.

In the first place the treaty, made at a time when the country was little known, was vaguely phrased and, on the face of it, open to misinterpretation.

Secondly, the existing map was everywhere somewhat sketchy, in places very sketchy and in places totally blank.

The task of the survey party was, therefore, to make a map in advance of the Commission. This again sounds simple, but the following factors made this also more difficult than normal survey operations:

Firstly, the survey party was insufficient to survey the whole area, yet until the Commission had a map and had studied local evidence, the boundary could not be determined and the limits to which the survey might be restricted could not be defined.

Secondly, any form of preliminary reconnaissance was out of the question.

Thirdly, the inhabitants of the Wa States, known to be head hunters, were expected to be inimical, so that strong escorts would be necessary, and the mobility of surveyors accustomed to living on the country and moving without restriction would be much reduced.

Fourthly, there were few hours of clear light available before a morning haze developed which would delay survey work if it did not stop it altogether.

The survey plan, therefore, had to be fluid, so that a change of direction could be made at any time without delay, and the work had to be a combination of reconnaissance and accurate survey.

The Commission assembled at Hohsawn at the northern end of the sector at the beginning of December and was engaged for about two months considering the treaty and recording evidence of the local people.

During the first month, in the absence of any specific instructions, the British survey party occupied itself with survey in the Hohsawn-Lufang area, keeping clear of the localities likely to come under the consideration of the Commission.

On 4th January 1936 instructions were issued for survey to proceed along a well-defined range running east and actually forming part of the Scott line. A belt of country at least six miles wide on each side of the range was to be surveyed.

As all preliminary preparations had already been made for a move in any direction, the British survey detachments moved off in two groups, one on the north of the range and the other on the south, with the object of surveying the line up to Point "A" (the first treaty point defined by latitude and longitude) and joining up there in about a week. We had already ascertained that a peak on this range lay very close to the co-ordinates given in the treaty.

The survey party consisted of *myself* in charge, and four detachments, one Indian officer triangulating, three Indian officers plane-tabling and about 50 instrument carriers.

The escort, providing a platoon for each detachment and one in reserve, consisted of one platoon of British infantry, two platoons of Burma Rifles, two platoons of Burma Military Police, a small detachment of Madras Sappers and Miners, and the necessary services.

The survey party with escort was given the code name of Surcol. All personnel were already hard and fit as a result of work in the Hohsawn area and were all agog to break new territory.

The two groups met at Point "A" according to plan, although the southern group, which arrived first, met with a certain amount of opposition from villagers near Point "A" and recourse to force to reach this point was only just avoided. Subsequently, when the people had become accustomed to us and their mercantile

instincts had developed, they fraternised freely with the troops and brought us in fresh vegetables. They were very jungly and their sense of humour was greatly tickled by the most ordinary things, such as cigarette lighters, magnetised penknives and binoculars, while the simple act of drinking from a water bottle sufficed to send them off into hoots of laughter.

From Lufang, in the clear air of December, a magnificent view over the Wa States had been obtained; a tumbled mass of hills stretching away to the south-east to our final objective, Loi Anglawn, whose vague outline was dimly discernible nearly 100 miles away as the crow flies, near the southern end of the undemarcated sector.

The view from Lufang had enabled plans for the initial stage of the work to be made although successive barriers of high ranges, the nearest seen to be heavily wooded, prevented a programme being made very far ahead. Moreover, a reference had to be made to the Commission for approval to each forward move, touch being maintained with the Commission by wireless.

As a basis for an accurate map, triangulation is required. Without entering deeply into technical details, this involves ascertaining the exact position on the earth's surface of a large number of points so that they can be plotted on paper preparatory to survey of the detail. This triangulation necessitates not only work on the ground, but lengthy calculations before plotting can be done. Normally, therefore, triangulation is carried out at least one season before detail survey, and the calculations are done in comfort in an office, as also the plotting of the points which requires meticulous accuracy.

In the present case both triangulation and detail survey had to be done not merely in the same season but, by reason of the necessity for concentrating Surcol as far as possible, the work in the field for both purposes had to be carried out more or less on the same day. The triangulator had, therefore, to make his observations to points as far ahead as possible and to calculate most of the night. A Garhwali officer was chosen for this important work and never once did he fail in his task of providing sufficient points ahead of the detail surveyors.

For the detail survey two topographers were given the task of survey, one on each side of the main range. The remaining

topographer carried out a larger scale survey, in more detail along the ridge, keeping up with the others as best he could.

The work was a fight against time and the general idea was "march and work." That is to say, whilst the main column with the transport would make a march, the survey detachments, each with its own escort, would push off to the flanks moving light and, working *en route,* would come into the new camp in the evening.

The country is a tangle of precipitous hills and as the Wa likes to move as straight as possible and has little idea of grading tracks, the column marches themselves were a sufficient tax on troops and transport. The survey detachments and their escorts, making circuitous moves over tracks scarcely worthy of the name or across country, performed almost superhuman feats of endurance.

Guides, if obtainable, were unreliable and in country as yet unmapped it was impossible to say in the morning exactly where the new camp would be in the evening. Accordingly it was often very difficult to ensure that the wandering detachments would be able to locate the main column at night, particularly as, in order to obtain water, camp often had to be made far down in constricted valleys. As far as possible touch was maintained by helio or, if hazy, by lamp, but sometimes this was not possible and one had then to rely entirely on the topographical sense of the surveyors with the detachments bringing them in to the right place before dark.

Occasionally the main column halted for a day, or perhaps two, to enable a wider belt to be surveyed, but these halts afforded no rest to the survey detachments and whether the column was moving or at the halt, it was seldom that any survey detachment got in until just before nightfall.

Then they had to have their evening meal and work far into the night inking up their day's work and preparing the trace from which the combined running record of work was produced.

Only once did a detachment get "lost" and it was nearly midnight when the exhausted party came in guided by Vérey lights, bugles and other strange noises.

Sometimes detachments went out on their own for a few days at a time, but such "picnics" were restricted to the minimum and it was always with a sense of relief that one saw them return.

Probably each detachment climbed and descended an average of at least 3,000 feet a day for the whole period of Surcol's existence, and it was not long before all ranks were regarding 1,500 feet an hour as quite an easy rate of climb, despite mountaineering text-books.

The Wild Wa proper appear to be confined to a limited area in the centre of the Wa States. Around them is a belt of less wild Wa and encircling these are various races, Shans, Loi-La (tame Wa), La-Hu, Muhso, Shan Tayok (Chinese Shans) and a sprinkling of Kachins.

As survey progressed, it became clear that the high range of the treaty line was not only a geographical dividing line but also in the main an ethnographical barrier forming approximately the limit of the Wa. This is not absolutely the case as there are numerous instances of filtration both ways across the range. In many places the more peaceful people outside the range lay panjis* against the Wa, on all paths. We were fortunate in getting only two casualties from these devilish defences, the attached Civil officer and one surveyor receiving foot wounds. I myself narrowly escaped injury as I walked over a belt of panjis quite unconsciously, but as I was going in the same direction as they pointed—towards the Wa—and the man behind me spotted them, I took no harm.

The characteristics of the various races overlap to some extent. The main distinctions seem to be language and gradations of nudity and dirt. There are head-hunting Loi-La and non-head-hunting Wa; or so it appears.

We came across Wa villages which stated that they had not head-hunted for many years. We took this statement with a grain of salt as the head-groves appeared to contain fresh heads. There seems to be no doubt, however, that, in the outlying parts at any rate, the Wa is beginning to be a little ashamed of the practice, despite the age-old superstition that a successful head-hunting season is followed by good crops.

The head-groves, flanking an entrance to the village, resemble rows of giant mushrooms. Hollowed-out tree stumps contain the heads which are first encased in a bamboo basket. Over the stump is placed a large, flat stone, and once the head is put inside, after

* Panjis—bamboo stakes with both ends sharpened and hidden in the grass with one end stuck in the ground, the other pointing towards the enemy. Will pierce any form of foot-gear and are sometimes said to be poisoned.

its period of display on the village totem pole, woe betide any one who removes the lid. A hole in the stump and basket allow a view of the grisly contents, but it is doubtful whether even one of the detective heroes of fiction could deduce the exact age of the head from the half-revealed remnants of flesh.

The survey may be described briefly in five phases. (See map.)

The first up to the Salween-Mekong watershed at Point 2611, next the Mongkatum area, then the Hsikyen Tao—Aihsoi area, the Point "B"—Chingmaw area and lastly the Chingmaw—Panghsang area.

At an early stage we found that the existing strength could not hope to complete the whole area which we expected to have to do, so another triangulator and another planetabler were sent for from Burma to start working up from the South. These were escorted by troops from the Southern Reserve Column, and, working on their own, controlled only by wireless, completed the southern phase, Panghsang-Chingmaw. Their work was without incident of note except for constant rumours of Chinese bandits, who were undoubtedly in the neighbourhood but who fortunately failed to assert themselves.

In the North, Surcol got through the first phase with only minor annoyances, veiled hostility and distrust, which revealed itself after our passage, in the form of destruction of survey signals.

The second phase, the Mongkatum area, was more exciting.

Inter-tribal feuds between various sections of the Wa, Loi-La and Shan Tayoks resulting in head raids and innumerable burnt-out villages had left the area in a state of tension. It was only by exercise of admirable restraint by all personnel of the column that real trouble was avoided.

As it was, force had to be resorted to on one occasion to enable the survey plan to be carried out and on another occasion so that camp could be made.

To carry out survey to the best advantage it was almost imperative to penetrate right into the Wa proper, but it was known that such penetration must result in punitive measures which were undesirable, so that we were in the extremely awkward position of having to "drive as near the edge" as possible.

The tendency to go just a little bit further is as strongly marked in the surveyor as in any one else and the attraction of a lovely bald peak, just in the forbidden zone, is a magnet which takes some resisting.

In the third phase, we passed first through the territory of the Aihsoi, a people locally renowned for their fierceness and predatory habits, although they are mainly Christians, converts of the American Baptist Mission. They received us with unexpected friendliness and afforded us considerable help by supplying us with our first reliable guides to pilot us through the country to the south, hitherto a white patch on the map.

This area was found to contain a vast number of large Wa villages, often of several hundred houses. Whilst not openly hostile they regarded us with suspicion so that it was necessary to feel our way through with additional caution.

The Commission which followed us through this area some weeks later found the attitude of the people greatly improved.

Strangely enough in the middle of this wild area was one of the biggest Christian villages we encountered.

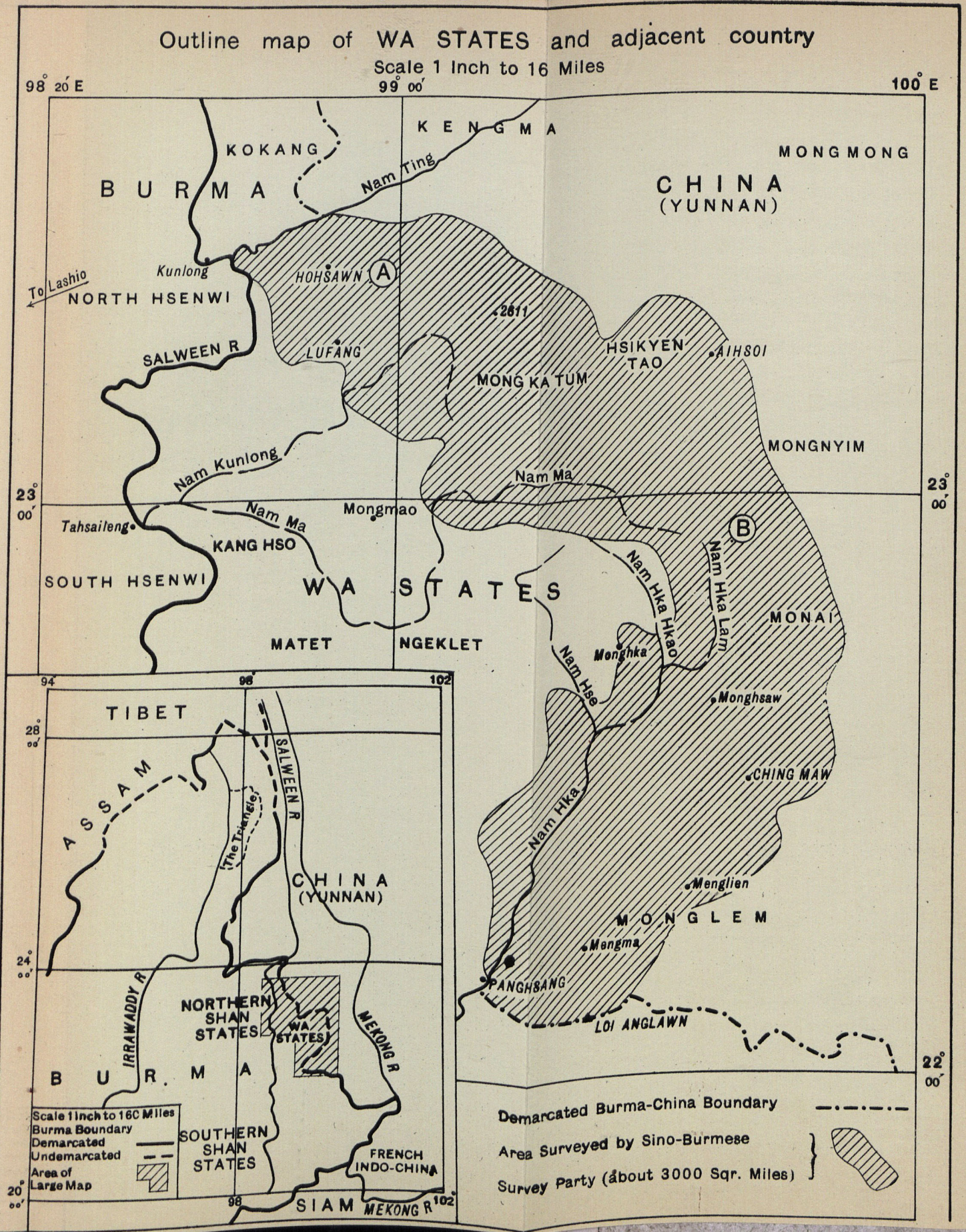
The final phase was from Point "B" to Chingmaw where, in April, we connected up with the detachment from the South and completed the survey of the treaty line. This zone was notable chiefly because of the haze which descended almost like a pall at the beginning of March and at times almost stopped work altogether. Here also the main range was found to be an intricate mass of devil's cauldrons and precipitous limestone crags which we did not appreciate at the end of a hard season.

At Chingmaw we spent a few days of comparative rest in a well-built semi-permanent camp made by the Southern Reserve Column.

The long march back to civilisation was made by the southern route, about 20 stages to railhead at Lashio.

As the Commission had been unable to complete its work south of Point "B," the British Commissioners took the opportunity to march by an indirect route and acquaint themselves with the little known country west of the Scott line, which the southern survey detachment had mapped.

So late in the season, haze was very bad and the vegetation so dry that danger from jungle fires became daily more imminent. We, therefore, wasted no time and were fortunate to get through


Outline map of WA STATES and adjacent country
Scale 1 Inch to 16 Miles
98° 20' E
99° 00'
100° E
KOKANG
KENGMA
MONGMONG
BURMA
Nam Ting
CHINA
(YUNNAN)
To Lashio
Kunlong
NORTH HSENWI
HOHSAWN
A
2611
SALWEEN R
LUFANG
HSIKYEN TAO
AIHSOI
MONG KA TUM
MONGNYIM
Nam Kunlong
Nam Ma
23° 00'
Tahsaileng
Mongmao
Nam Ma
B
KANG HSO
SOUTH HSENWI
W A STATES
Nam Hka Hkao
Nam Hka Lam
MONAI
MATET
NGEKLET
Nam Hse
Monghka
Monghsaw
CHING MAW
Nam Hka
Menglien
M O N G L E M
Mengma
PANGHSANG
LOI ANGLAWN
22° 00'
94
96
102
TIBET
28° 00'
ASSAM
SALWEEN R
(The Triangle)
CHINA
(YUNNAN)
24° 00'
IRRAWADDY R
NORTHERN SHAN STATES
WA STATES
MEKONG R
B U R M A
Scale 1 inch to 160 Miles
Burma Boundary
Demarcated
Undemarcated
Area of Large Map
SOUTHERN SHAN STATES
FRENCH INDO-CHINA
20° 00'
98
SIAM
MEKONG R
102
Demarcated Burma-China Boundary
Area Surveyed by Sino-Burmese
Survey Party (about 3000 Sqr. Miles)

with only one fire in which disaster to the single file column of men and transport, several miles long, was narrowly averted. The crossing of the Salween by ferry was accomplished in batches without incident and by the middle of May we were all back in our peace stations.

LEARNING TO FLY

By "A Dud"

A short article to assist officers who are considering learning to fly in England.

"Now, do you think you can go off on your own?" says the Instructor, getting out of his cockpit.

At last the moment has come for which you have been working, which, despite many setbacks and disappointments, has been steadily approaching and has alternately filled you with apprehension and pleasurable anticipation.

It has arrived, perhaps most unexpectedly, when all hope of going solo had temporarily gone. But the good flying instructor is an experienced psychologist, as you realize when your machine, relieved of half its load, leaves the ground quicker and much more cheerfully and, with no fears or feelings other than of happy self-confidence, you complete the same old circuit of the aerodrome, knowing somehow that it will be all right.

If you never fly again that moment, after making a safe, and usually excellent, landing at the end of your first flight, will have been worth everything you gave up to experience it. As you taxi back to receive the sincere congratulations of your instructor and other members of the club, feeling as though you were still "on air" you can truly say "alone I did it."

In England there are two main civil licenses, "A" and "B," issued by the Air Ministry and the Royal Aeronautical Club and recognized by the Fedération Aeronautique Internationale. The immediate objective for the aspiring aviator is the qualification for the "A" license. With this license you are considered a safe, useful pilot and can carry private passengers to any part of the world. Actually it is only the beginning of a flying career as the instruction includes no navigation or blind flying and you have never left the three-mile limit of the aerodrome. But you are quite ready to.

The qualifying tests for the "A" license are—

1. Three hours solo flight.
2. A forced landing test. This necessitates taking the machine up to 2,000 feet and gliding down with the engine shut off, to land within 150 yards of a selected point.

3. A level flying and landing test. This consists of making five figures of eight at a level height in a comparatively small compass and landing, with the engine if necessary, within 50 yards of a selected point.
4. An oral examination on air navigation rules, on land and water.
5. A medical test.

For tests 2 and 3 a sealed barograph is carried in the plane to record height and whether the engine has been turned on. This goes to the Air Ministry so that the tests must be accurately carried out. It is no use making up to your instructor, except as regards the distance at which you end from the mark in the landing part of the tests.

As it is still possible to put some machines into a spin, inadvertently or otherwise, you have to show your ability to get into and out of a spin prior to going solo for the first time.

As regards the medical test. This is a somewhat severe one, rightly so. But anyone who has led a normally healthy life and has good sight and hearing will be all right. (There is at least one legless aviator.) To take the test obtain a form from your club or the Air Ministry and get your local practitioner to fill it up. As the writer has not yet had an account for this, it appears that the Air Ministry pay the doctor. This test must be repeated annually, consequently it is advisable to be examined just before starting your instruction.

Finally, to maintain your license you have to fly three hours solo annually and send your certificate and log book up to the Air Ministry for renewal.

Well, we now know what we have to do and will set about doing it.

The first question for most of us is the cost. This depends so much on the aptitude of the pupil that a wide estimate is necessary, but thirty-five to fifty pounds will cover most cases if one learns at a subsidized school. There are exceptions both ways. One lady could not pass off solo after forty hours dual instruction. She bought her own machine and flew away in it and occasionally lands without breaking something.

The majority of private flying clubs are subsidized by receiving a grant from the Air Ministry for each license obtained as a result of their instruction. As the only effect of this subsidy, as

far as we are concerned, is that such clubs can afford to reduce their charges by one half, there is no need to enter into the other details of the contract between such clubs and Government. But one should look for a subsidized club for instruction.

The average cost of flying at a subsidized club is two pounds an hour dual and thirty to thirty-six shillings solo. The subscription to the club is negligible as you can pay for one month without entrance fee. The subscription varies from ten shillings to one guinea. Add to this the price of your helmet, goggles and ear-pieces and one or two books, totalling thirty shillings. Finally the cost of the license is one guinea to the R.A.C. and five shillings to the Air Ministry, plus the price of five small photographs of yourself. This totals, say, thirty shillings.

Summing up for a pupil who completes his instruction in fifteen hours—

	£.	s.	d.
Dual instruction, 12 hours ...	24	0	0
Solo flights, 3 hours ...	4	10	0
Accessories ...	1	10	0
Club subscription ...	1	0	0
Licenses and photographs ...	1	10	0
Total ...	32	10	0

Certain clubs advertise that they will teach a pupil to fly for £25. It is as well to look carefully at their contract, which will include a clause limiting the number of hours instruction which they give for this sum.

The next question is accommodation. Several clubs have accommodation on the aerodrome itself, either in hutments attached to the club house or, as in the case of Highpost—just North of Salisbury—in a specially built hotel. The inclusive charges for such accommodation vary from two to three guineas weekly. Whether it is advantageous to live on the aerodrome or not depends on the personal factor. But it is advisable to be within easy reach and on the telephone for the early part of the instruction, especially when doing "landings" so as to take advantage of good weather conditions should those be generally unfavourable.

Armed with this knowledge and having obtained a list of conveniently situated clubs from the Air Ministry or such papers as "Flight" the next and essential step is personal reconnaisance.

Less time is wasted in this than on any military scheme. If you do not like the look or manner of your instructor or the atmosphere of the club go elsewhere or you will waste your time and money. One other point in this connection. Clubs near London are crowded. This means that it is more difficult to fit in your times of flight and, near Heston for instance, there are usually several other machines in the air at a time when you do not want to be worried looking out for extra trouble.

It is generally accepted that during the early part of the instruction the pupil should fly regularly and for one to one and a half hours daily until he shows signs of getting stale. Hence a club which can do this for you is preferable. The writer having eventually got off the floor alone had to wait a week to repeat the experience and was sent home that evening with his tail between his legs, feeling he would never go solo again. He was just saved from oblivion by finding that a fellow pupil was in the same position.

To revert to the question of the length of time to allow. Although fifteen hours is a fair average it is very difficult to lay down hard and fast rules. There are several cases of pupils who have gone solo after six hours instruction. Some of our leading aviators took more than twenty hours dual. Temperament plays its part. And psychology plays a bigger part in flying than in most forms, almost it might be said in any other form, of worldly activity. Flying is so much a matter of the senses that if you have anything on your mind when learning it will impede progress considerably. Consequently, when you have decided to fly, put aside the question of cost and of time. If you start wondering how much more you can afford should progress be slow you will make it slower and you will spoil what should be a very enjoyable holiday. Paradoxically the rich young things with few cares and no financial ones learn the quickest.

There may be one further question before we start; is there any age limit? No, except that of 45 for piloting airships. The writer was 45 and by no means the oldest pupil in the country.

Well, now we are off. A satisfactory financial discussion with our parents and/or wife has been concluded; our club has been chosen after a trial flight—fifteen minutes for fifteen shillings or so—and our accommodation arranged. We then proceed to enjoy ourselves learning a little about a form of transport which

is still in its infancy and of the ultimate developments of which no man would dare foretell.

While carrying out your instruction it is emphasised, "don't let yourself be depressed if your progress is slower than you hoped." In the end the slow learner is often the best pilot. Disappointment has at one time or another been the lot of all pupils.

It is not proposed to give details of experiences during instruction. These are well told in a series of articles by Hilton Young in the *Sunday Pictorial* of 1936, and in a book entitled "England Have My Bones," by T. H. White. And you will have similar ones.

But the moment will arrive when you taxi back to the hangar to receive the final congratulations of those present on passing your tests. No budget estimate has been prepared for the adequate recognition of this occasion, it depends on so many factors, but it will be trivial in comparison with the occasion it celebrates.

But next morning you may wonder why you did it. You cannot afford your own machine. You may, therefore, well ask yourself, "What is the good of spending this money learning to fly?"

It is difficult to give a definite answer to this, but here are a few suggested ones:

1. You wanted to learn to fly.

2. Less than 11,000 civil "A" licenses have been issued in England with a population of 45,000,000.

3. This article will be read chiefly by Army Officers. To them the writer would say that even a small knowledge of flying should make it much easier for them to co-operate with the R.A.F. You will have met many airmen, civil and military, heard their "shop," perhaps gone up with some of them and been shown their point of view of the tasks given them in Army Co-operation and, by spending a fair number of hours in the air in an open plane, you become accustomed to this form of transport. Admittedly it is not necessary to know how to fly in order to work in with the R.A.F., but it helps. You get more of a fellow-feeling with the pilot and understand each other better. Air travel is developing with such rapidity and military air forces increasing to such an extent that we cannot afford to sit back and think that air work has little to do with us. We will all be actively concerned with

future developments, whether in direct co-operation or from the anti-aircraft point of view. The writer goes so far as to say that all cadets at Sandhurst and Woolwich should undergo some form of air training, including flying as observers.

4. And finally to learn to fly is a fascinating way of spending a holiday. If you hit on a good club, and they are mostly so, you will meet interesting people of all kinds. From the ex-airways pilot, who has pioneered an air service in the Arctic and made incredible forced landings in the desert or on the Nile and is about as communicative as a clam, to the retired Petty Officer, R.N.A.S., who has fallen off seaplanes through the carelessness of a pilot when he took off; has climbed about the wings of a machine in mid-air to repair an engine and whose little business has been successful enough to enable him to achieve his ambition to pilot a machine himself.

There is a great feeling of camaraderie amongst the flying folk, nationally and internationally, and it is fun to fly off to another club for a meal and swop depressions with another pupil.

Of course one wants to go on and, having qualified for the "A" license, one realizes that it is only the very beginning. But with machines becoming cheaper and safer yearly it is not beyond the dreams of most of us to be a private owner in the not-so-distant future.

This article does not deal with flying in India, of which the writer at present has no experience. There are clubs in most big centres. Their charges are somewhat higher than those of a subsidized club at Home, the average cost of taking the first license being about Rs. 600.

The Indian authorities do not accept the Home licenses. In India there are three licenses: "A" which necessitates five hours solo, "A-1" which requirs 100 flying hours solo and "B" requiring 200 hours solo, including five hours night flying. At Home at present there are only the "A" and the "B" licenses, the latter necessitating 100 hours solo with a navigation test and blind flying.

A curious situation arises in that you can fly out to India on your "A" license with private passengers, but apparently on arrival in India you cannot leave the three-mile limit without their "A" license and you cannot take a private passenger beyond the

10-mile limit without their "B" license. If this is so the situation appears to call for some revision.

Anyone wishing to learn in India can obtain full information from "The Director of Civil Aviation in India, New Delhi/Simla."

To sum up:

To obtain the English "A" license should cost a maximum of £50; with any air sense much less.

You will find that the money and time will not be wasted.

In connection with the financial side, it might interest Indian Army officers to know that the Royal Artillery and Royal Engineers have formed flying clubs in England. By so doing they obtain special rates from an instructional club while subscriptions from members help those learning to fly.

Finally, learning to fly provides an interesting and enjoyable holiday out of the ordinary run of things, even though you may be, like the writer, slow in the uptake.

INDIANIZATION OF THE ARMY—A RETROSPECT

The year 1937 sees the Indianization of the Indian Army well under way and affords an opportunity to look back and view as a whole what has been achieved. It has hardly been possible hitherto to make this broad survey, as immediate and pressing problems, some of them of major importance, many of them questions of detail, have demanded constant attention. As a result the true aspect of the wood has been concealed by the trees. Now a period of comparative quiet has been reached; immediate problems have been solved, the scheme of Indianization within the limits of present policy is in process of being implemented; the problems of the next stage have not yet arisen.

The Indian Military Academy is now firmly established and is turning out annually some sixty cadets destined eventually for all arms and branches of the service. Nearly one hundred and fifty of these cadets have already been granted commissions and are now serving, some attached to British units for their first year of service, some undergoing post-graduate technical training, and others already serving as fully fledged troop and platoon commanders with their permanent units. Some have already put their military training to practical effect and have been called upon to lead their men in action on the North-West Frontier. The experiment has left the stage of theory and has become a practical one.

The Genesis of Indianization.—Without going as far back as Queen Victoria's famous declaration of 1858, we may place the origin of our present policy in a statement made by the Secretary of State for India on the 20th August 1917:

> "The policy of His Majesty's Government is that of increasing the association of Indians in every branch of the administration and the gradual development of self-governing institutions with a view to the progressive realization of responsible government in India as an integral part of the British Empire."

Here is stated the policy and here also lies an implied promise to the peoples of India. It would, however, be misleading

if the extract were left as it stands, separated from its context. In the same statement, the Secretary of State continued:

> "I would add that progress in this policy can only be achieved by successive stages. The British Government and the Government of India, on whom the responsibility lies for the welfare and advancement of the Indian peoples, must be judges of the time and measure of each advance, and they must be guided by the co-operation received from those upon whom new opportunities of service will thus be conferred, and by the extent to which it is found that confidence can be reposed in their sense of responsibility."

In the above two quotations can be found, not only the genesis of Indianization of the Army, but also the justification for regarding it in its early stages as an experiment.

First Steps.—Arrangements were made during the war to grant commissions in His Majesty's Land Forces as a special measure to a few selected Indians who were actually serving as Viceroy's Commissioned officers, and later to a few others who were admitted to, and qualified at, a special course of training at Indore. These arrangements were however merely temporary and after the war, recognising the necessity for a course of training as thorough and as comprehensive as that undergone by the British officer in the making, the Government of India decided to allocate vacancies at the Royal Military College, Sandhurst, to Indians. These boys on passing out were granted the same form of commission as was granted to the British cadet, were governed by the same regulations as regards pay, etc., and, after carrying out the same period of attachment to a British unit in India, were then available for appointment to a cavalry or infantry unit of the Indian Army.

As early as 1921 however it became apparent that these measures did not satisfy Indian demands as expressed in the Legislative Assembly, on the platform and in the press, and as a result Lord Rawlinson, then Commander-in-Chief in India, assembled a mixed military and civilian committee. This committee expressed the opinion that "responsibility for defence is the natural corollary of self-government" and recommended a policy of gradual but speedier Indianization of the defence forces as a means of satisfying public opinion and of reorganizing Indian

nationhood. Their recommendations went further and contained the proposal that an Indian military college should be started as soon as funds should be available, and that a course at this college should be considered as the equivalent of a course at the Royal Military College, Sandhurst.

At this early point in our retrospect it is desirable to look back to the second portion of the remarks of the Secretary of State made in 1917 and consider their implication in view of the recommendations mentioned briefly above. The Secretary of State was expressing the policy of the Imperial Government and visualised Indianization being carried out by stages, the progress from stage to stage being controlled to accord with the degree of success achieved up to date. It has always been the contention of the military authorities that, as they are responsible for advising the Government upon problems affecting the military safety and security of India, they must also be the responsible advisers of the Government as to the rate of progress of Indianization. They admit that it would always be possible to hasten Indianization by a stroke of the pen—they contend that it would be impossible to produce a wholly efficient service or army by the same process. For this reason the recommendations of the committee were not immediately adopted, although they were borne in mind and although they eventually made their mark on the military history of India.

It was not found possible to accept immediately the greatly increased rate of Indianization recommended by the committee but it was recognized that some reasonable method would have to be devised whereby the new Indian officers would be enabled to prove their efficiency at the earliest possible moment. It was therefore decided, while increasing the number of vacancies at Sandhurst to be allotted to Indian boys, to post them in future to certain selected units so as to enable them to prove their capacity as administrators, as trainers and as leaders of the units and men placed under their command. Eight units were selected for early Indianization in this manner, as being a number sufficiently large to enable results to be used as a basis of future policy, and as being sufficiently small to allow the Indianization of their junior officer cadres to be completed within a reasonable period of time. It is obvious that the completion of their senior officer cadres could not be unduly hastened and that the Indian company

commander, for example, would take at least as long to train as his British counterpart (approximately fifteen years). It was considered however that the retention of a few senior British officers with these eight units would not vitiate the results of the experiment.

It might have been thought that this change of policy would have proved acceptable to all grades of Indian opinion. The reverse was the case. Instead of the "eight-unit scheme" being accepted by Indian political opinion at its true worth as being an opportunity for proving, at the earliest practicable moment, the capacity of India to find its military leaders from among its own citizens, it was looked upon with hostility and described as an attempt to retard the progress of Indianization by segregating the new Indian officers and by refusing to allow them to mingle with their British comrades. In spite of the unpopularity of the scheme however the military authorities were determined that the experiment should proceed along the lines best suited to its evolution and the second stage in the progress towards Indianization of the army had been reached.

As regards the proposal to form an Indian military college it seemed clear that nothing short of the very best would meet requirements, and that much investigation, much constructive thinking and much spade work would be necessary before any institution in any way comparable to the Royal Military College could be formed in India.

Second Stage.—This second stage saw therefore an increase in the output of Indian officers from Sandhurst, these officers being used to fill the junior ranks of the eight selected Indianizing units, and it saw also the beginning of the long work of preparation which was to culminate later in the inauguration of the establishment now known as the Indian Military Academy, Dehra Dun. The basis of this work of preparation was laid by a Committee, representative of the most highly qualified military opinion and of all branches of Indian political life. The work of this committee entailed a close examination of the organization and working of similar institutions in many parts of the world, the hearing of many expert military and civilian witnesses, the consideration of the rival claims of many localities and culminated in a world-wide tour, undertaken by a portion of the committee, which enabled them to judge by personal observation the

practical working of a long range of military educational establishments. The result, not immediate and even somewhat indirect, was the Indian Military Academy.

Before the first stone could be laid, many important decisions had to be taken and the experiment of Indianization had not been sufficiently long in progress to enable a final judgment to be passed. It was clear, however, that the establishment of an Indian military college would be unjustified unless its output were considerably greater than even the increased number of Indian cadets commissioned annually from Sandhurst. It followed that the output from an Indian college would obviously fill the junior cadres of the eight selected units at a rate greater than that originally contemplated and would complete these units before they had had time to settle down and to prove themselves in peace and in war. It was further recognised that so far Indianization had been confined to cavalry and infantry units only, and that in this limited field no finality could be achieved. No scheme yet existed for the Indianization of the services and what was an even more serious omission, the Indianization of the other combatant arms, *i.e.*, artillery, engineers and signals had not been commenced. In the case of the artillery there was an added complication in that Indianization could not take the form of transforming existing units, but the new arm would have to be built up from the beginning.

Meanwhile Indian opinion was becoming increasingly insistent upon the necessity for increasing the rate of Indianization, culminating in the opinions expressed at the first Round Table Conference in 1930 and simultaneously with this demand it was agreed that the time had come to make a fresh step. It was therefore decided to extend the "eight-unit scheme" to a new scheme embracing the eventual Indianization of the equivalent of one division and one cavalry brigade, including all arms and services, and to establish an Indian military college in India whose function it would be to provide the large numbers of officers required.

Certain Implications of the above Decisions.—Up to this point, the Indian cadet from Sandhurst* had been given a commission exactly similar to that granted to his British confrère

*Now to be entitled King's Commissioned Indian officer to distinguish him from the officer emanating from the new military college.

—a commission in His Majesty's Land Forces, emanating directly from His Majesty the King. He was employed in the Indian Army in a unit organized on exactly similar lines to that of a unit not earmarked for Indianization and started his military career, not as a platoon commander, but in the somewhat more exalted post of Company Officer—second-in-command of his company and therefore one stage removed from the closest association with his men which it is possible for an officer to attain.

The form of commission to be granted to a cadet trained at an Indian military college had, obviously, to be altered. This was clear from the analogy of the other Dominions, each of which has its own military educational establishment and each of which grants its own form of Dominion commission in its own Dominion Land Forces, which commissions still emanate from His Majesty the King, but no longer directly. It appeared obvious that any restriction of the right of the Government of India to grant its own Dominion form of commission would be looked upon as an injustice and as an attempt to prevent the India of the future having full and complete control over its own officers. The grant of a Dominion form of commission in His Majesty's Indian Land Forces might introduce certain legal difficulties in regard to status and power of command, but there did not appear any reason why these difficulties should not be overcome in our comparative peacetime leisure as successfully as they had been overcome in the case of the other Dominions during the stress of the Great War. It was therefore decided that the officers gazetted from the new Indian military college* would be granted commissions in His Majesty's Indian Land Forces, issued in the name of His Majesty the King-Emperor and signed on His Majesty's behalf by the Governor-General. These officers may exercise power of command in relation to personnel of the British Army in India under the authority conferred upon H. E. the Commander-in-Chief by King's Regulations.

The question of the future organization of Indianized units appeared equally obvious and equally capable of solution on a simple analogy. It is a truism to say that no senior officer, no commander of any rank and no staff officer can afford to be without some knowledge of the habits, the weaknesses and the virtues

*Now to be described as Indian Commissioned Officers to distinguish them from the Indian officer trained at Sandhurst.

of the rank and file with whom he has to deal. This truism can be emphasised by stating that the more distant the appointments of these officers are from actual contact with troops, the more necessary it is that the personal knowledge of these officers should be founded upon close association. In the British Service this close association has always been effected by appointing the young officer as a platoon, or equivalent, commander—in the Indian service it had hitherto been impossible to expect the young officer to achieve this close association so early in his career with men of a different race and it had been found necessary to introduce a link between the British officer and the "other rank" in the shape of the Viceroy's commissioned officer. Now however that the officer and the man in Indianizing units were to be of the same race, it was considered that the necessity for the V.C.O. link no longer existed and that it was essential to give the new Indian commissioned officer the advantage of this close association with his men and of the early basic training in the junior ranks which the junior British service officer now enjoys. It was therefore decided that Indianizing units should be organized on the British model and that the Indian Commissioned officer should start his service as a platoon or equivalent commander in the closest possible association with the men under his command.

One of the strongest recommendations made by the Indian members of the various committees and conferences assembled in connection with Indianization was that the terms of service, rates of pay, etc., of Indian Commissioned officers should be based upon an Indian standard and should take into account the fact that these officers would be serving in their own country, unlike the British officer of the Indian Army who spent his life in a country other than that of his birth and whose pay was rightly fixed at a higher rate as compensation for his exile. The strength of this argument was appreciated and all questions relating to conditions of service of Indian commissioned officers have therefore been decided as far as possible on the principle that they should be the same as the conditions laid down for a British Service officer stationed in the United Kingdom.

A further point which had to be considered was that in the United Kingdom there are two military colleges—Woolwich and Sandhurst. The Indian Military Academy, Dehra Dun, could not in itself perform the functions of these two colleges and turn out

completely trained cadets for the technical arms as well as those for cavalry and infantry. As it was undesirable to commence a second college in India for the exclusive use of the technical arms, a series of post-graduate courses were decided upon which would enable the I.M.A. Cadet from the "Woolwich Wing" to finish his technical education after being commissioned and before being posted to his permanent unit. The arms affected are artillery, engineers and signals and the courses vary between four months in the case of artillery officers and two years and three months in the case of officers destined for the Corps of Indian Engineers.

To sum up, this next stage included the establishment of an Indian military college, designed to produce annually sufficient officers to fill the cadres of the equivalent of a division and a cavalry brigade, complete with ancillary services, organized on the model of their equivalent British units, and which would obviate the necessity of an expensive course in England before the Indian boy of the future could be accepted as an officer in the army. These boys, having been trained exclusively for the Indian Army and at the expense of Indian revenues, would be granted commissions in His Majesty's Indian Land Forces, and serve on conditions of pay, etc., generally analogous to those governing the British officer serving in the United Kingdom. These decisions were made in 1931, and the first officers from the Indian Military Academy, having completed their course of two-and-a-half years, were commissioned in December 1934. The third stage in the progress of Indianization had commenced.

Present Position.—The present position is that this third stage is in active progress. The combatant units are some in process of change from non-Indianized to Indianized establishments and some are being formed as completely new units. The ancillary services are engaged in a double process, on the one hand Indianizing certain of their existing units and simultaneously increasing the Indian element in their general cadres by a process of infiltration. All arms and services are represented, with the exception of the Tank Corps, whose armament and organization in India is still in the transition stage even as regards British units. Cavalry, artillery, engineers, signals and infantry receive their officers direct from the Indian Military Academy, the R.I.A.S.C. and the I.A.O.C. will eventually receive officers from the same source but only after a period to be spent by these officers with

fighting arms; the I.M.S. and the I.A.V.C. obtain their officers by direct entry and not from Dehra Dun. In addition one squadron of the Indian Air Force is in process of formation, officered by cadets trained at Cranwell, and the first flight has already moved to Peshawar, where it is carrying out advanced training and gaining experience in frontier work.

There is one aspect of Indianization which is viewed with universal regret—the necessity which the new policy imposes of eliminating eventually from Indianized units the old type of Viceroy's Commissioned Officer. These officers have been the backbone of the Indian Army of the past, and, as previously stated, have formed the link between the enlisted man and the officer of an alien race under whom he was called upon to serve. The possibility of promotion to Viceroy's commissioned rank was a very valuable inducement to hold out to N.C.O.s and men, and promotion to that rank and status was a highly valued reward for many years of meritorious service.

Compensation has, however, been given to the enlisted classes for their loss of chances of promotion to Viceroy's commissioned rank, in two ways; first by reserving Indian Army cadetships at the Indian Military Academy for serving soldiers equal to the number of cadetships to be filled by competitive entry, and secondly by introducing the rank of Warrant Officer on the British Service analogy. Although the enlisted man who fails to obtain a nomination to the I.M.A. will eventually no longer be able to hope for promotion to V.C.O. he will still be able to hope to be promoted Warrant Officer, Class I or II, a rank of much higher status than the existing appointments of regimental or company havildar-major, etc.

We, at present, are only at the beginning of this third stage. The ground has been prepared and the seed has been planted and much depends upon how it grows. Many difficulties can be foreseen as will always happen when a new organization is put to the test; difficulties which have not been foreseen may arise as is almost inevitable when theory is translated into practice. These difficulties will be overcome, but only if all concerned play their part. The army as a whole, and particularly the Sandhurst trained Indian officer, has the task of welcoming these new Indian officers, of ensuring that the atmosphere is congenial and in that atmosphere of bringing up the young entry in the way it should go.

The new Indian officers themselves have the task of continuing to fit themselves, day by day and year by year, for the military career they have adopted and of bearing in mind, especially in the initial stages, that knowledge comes from experience and that experience is sometimes painful. The people of India have the task of ensuring that the right type of young Indian boy is forthcoming in sufficient quantities to enable this great experiment to establish itself as an accepted and proved success.

ARMAMENT AND ORGANIZATION OF THE ARMY IN BURMA

By Major T. R. Hurst, 7th Gurkha Rifles

Introduction

The Burma Defence Force consists of the army in Burma and the Burma Frontier Force. The former includes two British battalions, four battalions of Burma Rifles, an Indian mountain battery, a company of Madras Sappers and Miners, certain regular ancillary services, and the Burma Auxiliary and Territorial Forces. A fifth battalion of Burma Rifles will be raised by 1940. The latter includes six frontier and one reserve battalions of Burma Military Police.

The Governor of Burma is the supreme head of both the Army in Burma and of the Frontier Force. Subject to his control executive and administrative responsibility for the Army is vested in the General Officer Commanding, while the Frontier Force is under the immediate command of an Inspector-General directly responsible to the Governor and is a civil force entirely independent of the Army.

In an emergency requiring extensive operations beyond the powers of the Frontier Force, the latter would probably be placed under the command of the General Officer Commanding, who is the sole professional adviser of the Governor on military matters, using the latter term in its widest sense.

Burma will in future pay for British troops in the same way that India has done hitherto. As regards units of the Indian Army, Burma will pay similar charges so long as they continue to serve in that country.

The role, probable tasks and theatre of employment of the Burma Defence Force were considered in detail in this journal in January of this year. It is intended in this article to consider the armament, organization and methods of training best suited to that force.

It has been asked:

(*a*) Should the Burma Defence Force in general and the Burma Rifles in particular stick to their present armament of Lewis guns *and* Vickers guns or should a policy be adopted of replacing the Lewis gun by the Vickers-Berthier, as is being done

in the Indian Army, or by the Bren gun which has been adopted in the British Army at Home?

(*b*) Can the new light machine-gun (V.B. gun or Bren gun) perform all the roles it would be called upon to perform for the Burma Defence Force if the heavy Vickers gun was completely eliminated?

(*c*) Should the Indian Mountain Battery now in Burma be retained?

(*d*) Is anything going to be done about signal equipment and "Signals" for the Army in Burma?

(*e*) Where will instructors for the Burma Defence Force be trained? *i.e.*, at army schools in India or will Burma have its own schools of instruction?

(*f*) What will be the best location of the Burma District Headquarters? *i.e.* in Maymyo as at present, or is a move to Rangoon indicated and necessary in the interests of efficiency?

These are all problems which present themselves at this juncture. The writer will examine each of them in turn and set out his personal views and suggested solution.

As no policy demanding a vast expenditure and increased Army budget is likely to prove acceptable, the writer's proposals are limited to those which, it is thought, can be carried out on a "no-cost" basis. It is emphasised that the writer lays no claim to set out the official view, or probable future official policy.

Rearmament of the Infantry in Burma

The war showed that the Lewis gun was unreliable and too heavy to be carried far by hand. Experimental designs for new light automatics were started soon after the war. India, as is well known, has decided to manufacture the Vickers-Berthier while the War Office have adopted the Bren light machine-gun. A short study of their characteristics proves that infantry equipped with either of these weapons will suffer little loss of mobility in action. It is to be remembered that both at Home and in India these light machine-guns are replacing the Lewis gun and not the heavy Vickers machine-gun, which is being retained by both armies.

It is proposed first to examine the question of the retention of the Vickers machine-gun by Burma. Now, in eastern climates, it is impossible, without extra men, to man-handle the Vickers more than a few hundred yards. The only advantage which the Vickers has over the easily carried Bren or Vickers-Berthier is a greater capacity for sustaining rapid fire for long periods. But an enormous amount of pack transport is required for the carriage of the

heavy Vickers gun and its ammunition. In short, it is not a weapon suitable for highly mobile operations in undeveloped difficult country.

Should the Army portion of Burma's Defence Force be called upon to reinforce the Frontier battalions of the B.M.P., the Vickers gun will be of little use in the terrain in which the troops will be required to fight. The armament or tactics of the possible enemy do not call for the production of sustained Vickers gun fire and the difficulty of transporting the guns and sufficient ammunition for them is almost insuperable. Offensive action is the key to success. Then why impede the mobility of the whole force by sticking to unsuitable weapons? The Vickers gun has a direct offensive value only when installed in a tank. The indirect value it has in providing fire support can, in mobile operations, owing to the limiting factor of ammunition supply, be equally well provided by the light machine-gun.

On the frontiers of Burma, there is little necessity for troops to be strong in defence—they will seldom, if ever, be attacked in position. Even if they were attacked, the Bren gun can fire either by direct shooting or on fixed lines for as long as ammunition is likely to be available, or the enemy is likely to press the attack.

Officers who took part in the Wa operations of 1935-36 and the Sino-Burmese Frontier Commission of 1936 state emphatically that machine-guns and artillery impede the columns and their inclusion is of doubtful value in such difficult mountainous and jungle terrain. Some alternative would, therefore, appear to be essential to efficiency on the Frontier.

The second duty of the Army in Burma will be internal security. Vickers guns are entirely unsuitable for normal internal security duties in urban areas against mobs without firearms, where sustained fire is always to be avoided. As regards action in the country in the event of rebellion or against dacoits, Burma has been described at a continuous military obstacle. In the past history of Burma, operations have invariably tended to degenerate into a pursuit of the most elusive of armed rebel or dacoit bands working in country ideal for their own tactics. The outstanding lesson of the Burma Rebellion, 1930-32, was that it is imperative that troops be highly mobile and able to move across any country with little or no transport. The enemy were poorly armed and never stood to fight in any numbers. They more often fled on sight of the

troops. They never attacked the troops in position so defensive fire was not necessary.

There is no reason to suppose that in the future operations will be very different. The Bren gun or V.B. gun will provide all the S.A. fire that is required and troops will have greatly increased mobility for offensive operations if not impeded with heavy Vickers machine-guns and obsolete Lewis guns.

The adoption by Burma of one gun to perform the dual role of the Lewis and Vickers guns has the additional advantages of—

(*a*) Simplicity of training in peace and war.

(*b*) Ease of ordnance provision, especially as regards supply of spare parts.

(*c*) The possibility of eliminating the Indian platoons of British battalions in Burma. British soldiers already look after their Lewis gun mules, so that there is no reason why they should not look after their light machine-gun and mortar mules.

(*d*) The fact that Lewis guns at least will become more difficult to obtain as Great War stocks die out and manufacture ceases.

To summarise so far, no reason is seen why Burma should tie herself to Lewis guns obsolete since 1922 and to heavy Vickers guns which are ill-suited to local conditions. The heavy gun can be entirely eliminated and its role and the role of the Lewis gun performed with greater efficiency by one light machine-gun, *i.e.*, either the Bren gun or the V.B. gun.

If this conclusion is accepted, it remains for decision whether the Burma Defence Force should adopt the Bren gun or the V.B. gun.

Considerations affecting the decision are:

(*a*) The primary consideration would be the answer to the question "Which of the guns is the more efficient?" Unfortunately, tests in themselves are not sufficient, minor alterations in design are still being carried out, and neither of the guns has been sufficiently long under trial or in service for anyone to give a conclusive and decisive answer to this question.

(*b*) The next consideration is the question of availability for purchase. The V.B. gun is now in production in India, but the output for the next few years is not known to the author. On the other hand the Bren gun is in full blast production at Home, but

none are likely to be available for Burma's indigenous forces until Home rearmament is completed. It is impossible to say at what date this will be, but the availability of funds, and the speeding up of all rearmament policy at Home is a cogent factor. The Home requirements of light automatics are admittedly greater than the Indian requirements, but the resources of Home arsenals are very much greater than the resources of Indian arsenals. Burma's requirements would be a mere drop in the ocean where the output of Bren guns from Home arsenals is concerned.

(*c*) If the Vickers-Berthier were available in Indian arsenals and the Bren gun in Home arsenals, the factors of distances to Burma and time for guns to arrive undoubtedly favour reliance on India, though air communication developments have reduced the time lag of supply from Home.

(*d*) In view of the possibilities of mobilization at Home and war in Europe, can or should Burma rely on getting Bren guns from Home? It may be said that during a war in Europe India could go on producing V.B. guns. But against this, in case of a serious conflict on or beyond the Indian Frontier, can or should Burma rely on getting V.B. guns from Indian arsenals? The writer doubts India's ability to provide V.B. guns for Burma's Defence Force and is inclined to favour reliance on Home for Bren guns.

(*e*) In emergency, if troops from India are ever sent as reinforcements to Burma, they will come armed with the Vickers-Berthier. It would, therefore, appear advisable, from the point of view of supply, for the Burma Defence Force to have the same light automatic in service. On the other hand, if troops from Burma are ever sent overseas, *e.g.*, to Singapore or Malaya, they will be serving in a force whose units will be using Bren guns. The supply of Bren guns will be simple, whereas that of the Vickers-Berthier might be very difficult for units of the Burma Defence Force.

These factors balance out and there is nothing in it either way.

(*f*) As far as the British infantry battalions in Burma are concerned, the rearmament with the Bren gun will, it is thought, be more than *welcomed by the War Office.*

The Cardwell system will be helped if the British infantry battalions, now in Burma, can be relieved by rifle battalions from

Home, whose men will be trained in the use of the Bren gun and not in the use of the Vickers-Berthier or the heavy Vickers. This is a further consideration in favour of Burma adopting the Bren rather than the Vickers-Berthier gun. Balancing all the above considerations, therefore, the writer considers the rearming of all troops in Burma, including the Frontier Force, with the Bren gun to be desirable.

Mortars versus *Artillery in Burma*

In the Burma Rebellion of 1930-32 no use whatever was made of the mountain battery then in Burma. For the Wa operations of 1935-36 one detached gun formed part of the punitive column. It was only fired in anger once, although it did give demonstrations which had a pacifying effect on the tribesmen. Its inclusion meant a constant strain on supply resources and decreased the mobility of the column especially when the River Salween had to be crossed. Once again officers reported that a few bombs from a mortar would have been ideal for dealing with enemy behind stockades.

The mountain battery of four howitzers has an establishment of four British officers, 250 Indian ranks and 150 mules and ponies, and the writer can see no reason why its services should not be dispensed with. It is unnecessary to be able to fire a 20-lb. shell 6,000 yards when a man firing a mortar will be in no danger at 1,000 yards and his 10-lb. bomb will do all that is required. The need for mobility has already been stressed. Think of the rations that must be taken on column for the battery personnel and animals and remember that all four howitzers cannot be used separately on detachment owing to lack of technical equipment and unsuitability of organization.

If battalions had two mortar detachments, each self-contained with 64 bombs and carried on five Chinese mules, they would have all the fire support of that nature required. A further supply of bombs could be carried in second line transport. The writer considers, therefore, that the elimination of the Indian Mountain Battery and the substitution of mortars will increase efficiency. It will release funds for other armament, will ease the strain on Ordnance and Supply Services, and, finally, will be welcomed by public opinion since it will be a step towards Burma becoming capable of providing all units for her own self-defence.

Signals and Signal Equipment

Efficient means of inter-communication are essential to the success of military operations. In undeveloped countries, columns working on wide frontages cannot succeed unless they have information of the movements of the enemy, and of friendly columns.

The fact that there are no "Signals" in Burma for Brigade or Force Headquarters and that there is not a single wireless set in the Regular Forces speaks volumes. It is a poor country for visibility. How then can inter-communication be maintained without wireless? We had to call on the B.M.P. and Divisional Signals sent especially from India to provide wireless communication in the Rebellion, for the Wa operations, and for the escort for the recent Sino-Burmese Frontier Commission.

British and Burma Rifles battalions are equipped with six field telephones and six miles of cable. A telephone weighs 10 lbs. and two or three pack mules are required to carry the telephone equipment of a battalion. The equipment is cumbrous and heavy. Its use spells immobility, defensive action and position warfare. Of what use is it in offensive mobile operations? For Burma, the writer would scrap the lot and rely on mobile wireless and R.-T., and within the unit only add visual equipment. Less men will be required in war to operate W.-T. sets than to maintain telephonic communication within the battalion, and communication outside the battalion (*e.g.* with Force Headquarters) will for the first time become possible. Wireless telegraphic communication is not open to the same objections, of lack of secrecy and danger of jamming, in Burma as it is in European warfare.

F.S.R., 1935, states: "Within the battalion where wireless or R.-T. communication is employed by the unit, the sets are maintained, and in some units are operated, by signal personnel." The Nigeria Regiment and the Gold Coast Regiment of the R.W.A.F.F. and the King's African Rifles all have their Signal Sections.

The writer advocates the immediate raising of "Force Signals, Burma," whose equipment should be up-to-date mobile W.-T. and R.-T. sets; the sets to be distributed to units (suggesting as the first stage two sets per battalion) and to be carried on regimental mules. The sets should be operated and maintained by personnel of "Force Signals" attached to battalions and relieved in rotation by men from the Signal Company Headquarters, which would be in the nature of a signal training centre.

Force Signals could be located in vacant barracks at Meiktila or combined with the existing B.M.P. Signal Training Centre at Pyawbwe, 26 miles from Meiktila. Some degree of amalgamation

of these two centres is obviously desirable in the interests of economy and efficiency. As regards the personnel to be enlisted to form "Force Signals," there are many Anglo-Burmans and Anglo-Indians in Burma. They are intensely loyal and always anxious for Government service in any form. They rendered distinguished service overseas in such units as the Rangoon Volunteer Battery during the Great War. Sufficient men of good class and up to the necessary physical standard would, it is thought, be certain to come forward for enlistment, especially in view of the fact that unemployment is being severely felt amongst Anglo-Burmans and Anglo-Indians in Burma to-day. From all of these we could pick and choose.

The men would start off with the most important qualifications of being educated and, as a general rule, mechanically-minded. They know English and Burmese and would understand the country and the officers and men with whom they would have to deal.

Financially it is admitted that the proposal to raise Force Signals is open to objecton, but it is pointed out that the cost need not be great, because:

(*a*) The number of signallers within the battalion can be reduced to meet part of the annual cost of the Force Signals. It is suggested that it would be advantageous to sacrifice 25 per cent or more of the signallers now in battalions in order to get "Signals" organised on the above lines.

(*b*) Several regimental signallers become spare when telephones are eliminated and the cost of W.-T. sets would be partly met by the elimination of the telephone signal equipment, and no extra transport would be required.

Outline of proposed war organization of a battalion of Burma Rifles based on the foregoing proposals

Approximate war establishment, 11 officers and 720 men.

Battalion Headquarters

Headquarters Company—

No. 1 Platoon:
Regimental signallers (men of "Force Signals" attached with at least two mobile sets W.-T.).
Intelligence Section.

No. 2 Platoon:
Personnel for four Bren guns for use in heavy role.

No. 3 Platoon:
Mortar Platoon (Two 3"). Two self-contained detachments.

No. 4 Platoon:
Administrative Personnel.

Each platoon to include men to look after its own mules.

Four Rifle Companies

Each company consisting of headquarters and four platoons. Each platoon to consist of headquarters and four sections, one of which sections is armed with the Bren gun. Platoons to provide men to look after their own mules.

Notes—

(*a*) The battalion would thus have 16 Bren guns in companies, four Bren guns for use in heavy role, and two mortars.

(*b*) In peace each battalion to have a training company on similar lines to Gurkha Rifles. Each battalion to have an authorised strength of 200 reservists.

It is essential in the interests of efficiency to have continuity in the Quartermaster's department. This it is proposed to effect by having a British W. O., Class I, on the permanent establishment of each battalion. One seconded Captain to perform the duties of Adjutant and Quartermaster of the battalion and have as his staff this British W.O., the Q.M. Jemadar, the Jemadar-Adjutant and the Battalion Havildar-Major.

Proposed Regimental Transport

Load.	*No. of mules.*
16 Bren guns in Companies. (A mule will carry a gun, plus approximately 1,200 rounds S.A.A.)	16
Four Bren guns with Headquarters Company ...	4
Two mortars	2
64 bombs for each mortar at 10 lbs. each ...	8
W.-T. sets and signal lamps	6
Total mules ...	36

Notes—

(*a*) No extra mules are required as the present establishment of mules is 36 in a Burma Rifles battalion.

(*b*) Signalling equipment was previously carried by six first-line R.I.A.S.C. mules attached to the unit on mobilization. This would be unsatisfactory for W--T. owing to the training necessary in peace for men and mules. All telephone equipment has been eliminated, thus saving mules.

(*c*) Tools, water, and a further supply of ammunition and mortar bombs remain as at present to be carried on attached first-line non-regimental mules (*i.e.*, Burma Army Service Corps).

Schools of Instruction

Weapon Training School

A school will be essential for training battalion instructors in the Bren gun, mortar and rifle.

Even if there was a school of instruction for the new weapons in India, and students from Burma were acceptable on a "payment basis," they would derive little advantage from attending, because of the language difficulty. The men cannot speak or read Urdu. N.C.O.s will, therefore, derive no benefit if they attend the Urdu-speaking wing of a school in India. Their incomplete knowledge of English and their low intelligence compared with British N.C.O.s will make it impractical for them to attend the British wing. If they did attend, they would retard the instruction of British students.

On account of the language difficulty, and the fact that India is not yet equipped with the Bren gun or mortar, the writer is forced to the conclusion that Burma must, after Separation, have its own Weapon Training School.

There would be no alternative at first but to rely on Home for instructors in the Bren gun and mortar. These might, with advantage, be found from the home battalion of British units in Burma. The British wing of the new school should present no difficulty initially.

Three separate courses would appear necessary at the start for Bren gun, rifle and mortar. Students attending each course to be in proportion to requirements, remembering that existing Burma Rifles battalions are up to normal strength in rifle instructors. Rifle and Bren gun courses to be combined into one course as soon as abnormal requirements are completed.

Location and Financial Considerations

The school could be accommodated, with little expense, in the Mountain Battery barracks to be vacated in Maymyo, or in serviceable barracks lying empty at Meiktila which is centrally situated. The cost of transporting students to and from the school would thus be reduced to a minimum. Students from the Burma Military Police should attend, that force sharing the cost on a *per capita* basis.

Owing to the saving of the cost of transporting students to and from India and the avoidance of payment on "a *per capita* basis" for students' attendance at Indian schools, it is thought that

the eventual extra financial effect of the proposed new school in Burma would not be great. It would certainly mean greater efficiency.

Other Schools of Instruction

These cannot be discussed with much advantage, as so much will depend on the future Lingua Franca decision, particularly as regards the Educational School. It may, however, be remarked—

(*a*) that students from British battalions in Burma could attend schools in India;

(*b*) that the proposal to have a Signal Training Centre at the new Force Signal Company Headquarters eliminates the necessity of sending Burman students to Signal Schools in India;

(*c*) that there does not seem to be any alternative but to send students from the new Burma Sappers and Miners Company to courses in India.

Headquarters of the Burma Defence Force

The writer suggests that the Army in Burma requires a big change in the location of its Headquarters and formations, and some minor changes in their organization.

At present the Headquarters of the Rangoon Brigade Area is at Mingaladon, is immobile and not a war formation. And the same is true of District Headquarters at Maymyo. It is suggested that Brigade Headquarters should be organized as a mobile war formation and located at Maymyo, while the Headquarters of the Burma Defence Force should be moved to Rangoon and Mingaladon.

The location of the Headquarters of the Defence Force in Rangoon would have the following advantages:

(*a*) Closer liaison with civil departments, *e.g.*, between the G.O.C. and the Governor and between the Military Headquarters and the Government.

(*b*) Closer liaison with the I.-G., Frontier Force, and I.-G., Police, and with civil intelligence resources.

(*c*) Closeness to the Chief Ordnance Officer and his arsenal, and to the chief source of civil manufacturers and contractors.

(*d*) If Force Headquarters were in Rangoon it would be in closer touch with the first Army reserve, namely, the Burma Auxiliary Force (present A.F.I.) of which 80 per cent is in the Rangoon Brigade Area.

(*e*) Embarkation Staff, Rangoon, could become an integral part of Force Headquarters.

(*f*) Mingaladon air port is one of the important stepping stones on the R.A.F. route for Empire air reinforcement. It is considered important that Force Headquarters should be on that route rather than 500 miles off it.

As regards the financial aspect, there are now some blocks in Sale Barracks, Rangoon, lying idle. These could be utilised to accommodate most of the Burma Defence Force Headquarters, both for office and living accommodation. In addition there would be at Mingaladon the accommodation vacated by the Headquarters of the Rangoon Brigade Area.

Maymyo could adequately accommodate a Brigade Headquarters without extra cost, so that the only additional expenditure would be the hiring of bungalows in Rangoon for officers of the Defence Force Headquarters.

Such then are the writer's ideas as regards the arming and organisation of the future Defence Forces in Burma. That much detailed investigation remains to be done goes without saying, and the author does not claim that his views are in any way conclusive or official.

THE HANOVERIAN REGIMENTS IN INDIA, 1782 TO 1792

By Decurion

By the end of the year 1777, the necessity for extra European soldiers to reinforce their army for the wars in Southern India had become so imperative that the East India Company were compelled to take immediate measures to obtain them. This they did by increasing the numbers of their own European regiments to six in each Presidency, adding another company to each of the European artillery battalions, and applying to the Home Government for the loan of Royal infantry regiments.

Though themselves hard pressed, the Home Government responded by despatching the newly-raised 73rd Highland Regiment which arrived at Madras on the 20th of January 1780. Early in the next year this unit was followed by the 2/42nd Highland Regiment, the 78th Highland Regiment, and the 98th and 100th English Regiments.

Long before the despatch of the last contingent, the Company were warned that all they could now expect for the next few years was one regiment of Dragoons and two of Infantry, both not yet raised, and that, if necessary, they should follow the example of the Home Government and hire Swiss or German regiments. The latter not being immediately available, the Company turned to the King of England in his capacity as Elector of Hanover and obtained the promise of an Hanoverian regiment of two battalions to be raised for service in India for a specified period.

Though the agreement *in extenso* was not signed until the 7th of September 1781, recruiting was commenced on the 1st of June as soon as the main heads had been agreed upon.

The main features of the agreement were as follows:

"A regiment of 2,000 men shall be raised and added to the Hanoverian Army at the sole charges of the East India Company of London.

This regiment shall be lent to the East India Company on its formation and shall remain in their service for a full term of seven years after its arrival in the East Indies. In the event of the Company desiring to retain the services of the regiment for any longer period, due notice must be given at least two years before the expiration of the specified seven years.

It shall be placed on exactly the same terms as His Majesty's British troops in India with regard to rank, pay, duty and all else, nothing excepted in any respect.

It shall consist of two Battalions each of ten Companies, each Company having a complement of 100 *all ranks. Each Battalion shall comprise one Grenadier, one Light Infantry Company, and eight Fuzilier Companies. (A fuzil was simply a musket, shorter and lighter than the ordinary weapon. It weighed* 12 *pounds as against* 14 *and was six inches shorter.)*

The staff of each Battalion shall consist of—

1 *Lieutenant-Colonel*	1 *Major*
1 *Captain-Lieutenant*	1 *Adjutant-Major as Lieutenant*
1 *Adjutant as Ensign*	1 *Judge as Lieutenant*
1 *Chaplain*	1 *Surgeon*
2 *Cadets*	5 *Surgeons Mate as Serjeants*
1 *Drum-Major as Serjeant*	4 *Musicians as Lance-Corporals*
1 *Armourer*	1 *Provost as Private*

Each company shall consist of—

1 *Captain*	2 *Lieutenants*
1 *Ensign*	3 *Serjeants*
1 *Clerk as Corporal*	4 *Corporals*
2 *Drummers*	12 *Lance-Corporals*
	74 *Privates*
Total ...	100

It being customary with German troops to have two three or six-pounder cannon attached to each Battalion, these shall be provided in India and remain attached to each Battalion during its term of service independent of the Company's Corps of Artillery. For their service shall be provided for each Battalion: 1 *Serjeant,* 2 *Corporals,* 12 *Cannoneers.*

The pay of all the officers, non-commissioned officers and drummers of the First Battalion and of the men for the artillery of the whole regiment shall commence from the 1st *of July* 1781. *All others as they are raised or transferred.*

The standard of the private men shall be the same as for His Majesty's Marching Regiments, viz., men of good physical condition, aged 16 *to* 40 *years, and not less than* 5′ 6½″ *in height.*

All expenses of arms, uniform, accoutrements, equipment, clothing, drums and colours, etc., to be borne by the Company.

The Cadets of each Battalion will receive the same pay and allowances as those sent out by the Company.

Two women (but no children) will be allowed per Company.

Whereas the Regiment shall from the day of its arrival in the East Indies be on exactly the same footing as those of His Majesty's British troops in India, all papers relative thereto and stating the extra allowances and batta are to be annexed to these Articles.

Officers invalided by reason of wound or sickness shall have free passage home and one year's pay as gratification. If invalids for life they shall be allowed half pay for life as under the provisions of Lord Clive's Fund.

Invalids of private men shall be placed on the Invalid Establishment of the East India Company's Army during the term of the Capitulation (Agreement), at the expiry of which they shall be granted free passages to Hanover where they will receive four months' pay as gratification and if invalids for life a pension of fourpence three farthings per day paid six-monthly in their own country."

As there are certain ranks mentioned in the Hanoverian list which did not exist in the British or Company's services we will explain their position.

The Captain-Lieutenant actually commanded the Company for which the Colonel drew pay in addition to that of his command. His permanent rank was that of Lieutenant but he drew a Captain's pay and had temporary rank while so acting. The junior Adjutant was the Quartermaster, and the Judge dealt with military offenders. Cadets were the same as volunteers in British regiments, *i.e.*, young aspirants for commissioned vacancies due to death on foreign service or in action, both of which could be given without purchase by Generals Commanding-in-Chief. They were borne on the rolls and paid as supernumerary privates. Those of the Company were on a different footing, being all young men selected at home and sent out to India for further training before being commissioned.

Musicians in British regiments were the private concern of the officers. The corporal-clerk corresponded to the Pay Serjeant of British and Company units, while no provision seems to have existed for Lance-Corporals either in rank or pay.

The establishment of a Company's European regiment was

Staff of the Regiment (single battalion)—

1 Lieutenant-Colonel	1 Major
1 Adjutant as Ensign	1 Quartermaster as Lieutenant
1 Surgeon as Ensign	1 Surgeons Mate as Ensign
1 Serjeant-Major	1 Quartermaster-Serjeant
1 Drum-Major	1 Fife-Major
1 Drill Serjeant	1 Drill Corporal

Chaplains were not allotted to regiments of the British or Company's service, but to stations. Probably the Hanoverians obtained their own regimental Chaplains on the grounds that they were Lutherans and that they spoke a different language.

Serjeant-Majors, Quartermaster-Serjeants, Drum and Fife-Majors were all substantive Serjeants only, each receiving staff pay for his appointment.

The regiment consisted of eight companies each of 80 all ranks, *viz.*, two grenadier and six battalion companies.

The English pay of each rank and the allowance made by the Company to bring the total of pay up to the standard of the local European regiments was as under. The allowances are separately dealt with.

	English pay per day.	Company's addition per month.
	Sh. d.	Rs. a. p.
Lieut-Colonel	.. 13 0	33 6 2
Major	.. 11 6	*
Captain	.. 7 6	*
Lieutenant	.. 3 6	3 3 3
Ensign	.. 3 0	4 2 4
Volunteer	.. 0 6	13 6 10
Adjutant	.. 3 0	11 6 11
Quartermaster	.. 3 6	3 3 3
Surgeon	.. 3 0	72 4 3
Sergeon's Mate	.. 3 0	17 9 9
Serjeant	.. 1 0	2 13 8
Corporal	.. 0 8	2 3 9
Drummer	.. 0 8	2 3 9
Private	.. 0 6	1 13 6

* No addition, being higher than Company rate.

The exchange was calculated at two shillings and a penny per rupee. All officers were entitled to free quarters or compensation in lieu, according to rank, besides batta at rates varying with rank and where employed. Taking a captain, for example, we find that when in Cantonments he drew Rs. 2 per day (half batta), if on the march or on service in British limits, Rs. 4 per day (full batta) and when beyond the recognised frontier, whether on service or not, Rs. 8 per day (double full batta).

Other ranks do not appear in the rates for batta, being given free rations in lieu. But in half batta stations they drew full rations only on alternate days, and after a campaign were given an allowance in money called field batta. Generals, colonels and a proportion of lieutenant-colonels received a considerable addition by way of off-reckonings which was the balance of the money deducted from the pay of other ranks after their clothing had been paid for. These deductions were for European soldiers:

Serjeants (staff or otherwise)	...	Rs.	48	0	0	per annum.
Corporals and drummers	...	„	36	0	0	„ „
Privates ...	...	„	24	0	0	„ „

In order to show what were the profits from these iniquitous deductions, we give the value of the clothing supplied. This consisted of only a hat and coat and as both were supplied from the Company's civil side to the contractor for making up, that side must also have made its profit. Boots, breeches, gaiters and undergarments had to be found by the soldiers themselves from the balance of their pay which in the case of a private European was Rs. 8 per month.

Contract rates for soldiers' clothing including cost of material—Europeans—Infantry:

		Rs.	a.	p.			Rs.	a.	p.
Serjeant-Major	...	21	3	11	Serjeant	...	12	2	1
Drum-Major	...	18	5	5	Fife-Major	...	18	5	5
Corporal	...	7	6	7	Drummer	...	6	13	4
Private	...	6	13	1					

Generals received a full share amounting to Rs. 10,800 of this off-reckoning. The balance was divided between colonels and lieutenant-colonels, some of whom obtained full shares, while others obtained half shares amounting to Rs. 6,000. Generals and colonels commanding stations also received sums amounting to nearly as much from bazaar profits.

The regimental staff pay per month of the Infantry was as under—

Adjutant	...	...	...	Rs. 137
Serjeant-Major	...	...	...	„ 20
Pay Serjeant	...	...	...	„ 7
Drum-Major	...	...	...	„ 5
Drill Corporal	...	...	...	„ 5
Quartermaster	...	...	...	„ 117
Q. M. Serjeant	...	...	...	„ 14
Drill Serjeant	...	...	...	„ 5
Fife-Major	...	...	...	„ 5
European woman	...	...	...	„ 8

By reason of the allowance European women were classified as camp followers subject to military law. For instance, in September 1825, Hannah Fitchit, of the 14th Foot, was found guilty by a General Court-Martial of the murder of Alexander Laird of the same regiment with a bayonet and sentenced to two years, commuted by the Commander-in-Chief to three months' imprisonment. Another case was that of Ann Sutherland, of the 13th Light Infantry, who was acquitted of an attempt to poison her husband.

To continue with the military history of the Hanoverian regiments: The original intention of a double battalion regiment was abandoned in favour of two single battalion regiments which, being integral parts of the Hanoverian Army, were numbered the 15th and 16th (becoming later the 14th and 15th). Both were uniformed in red coats with green facings, red breeches and black gaiters and a three-cornered black hat with a green pom-pom on the turn-up in front. The 15th had green shoulder-straps, the 16th red, as distinguishing marks.

All the officers came from, and were borne on the strength of, the Hanoverian Army with the exception of Major Wangenheim, a German, already serving with the British 9th Light Dragoons, who was appointed to command the 16th. The 15th was commanded by Lieut.-Colonel Reinbold, and its formation was so far advanced by November 1781 that a half battalion was sent to England in compliance with an urgent request from the Company that it should accompany the last contingent of European troops that the Company were to receive for some years.

This contingent left England in sixteen transports on the 11th of February 1782 and arrived off Madras in September and October of the same year, and, on the 5th of June, another party of the 15th, numbering about 250 all ranks, left England in the transport "Brilliant." Their voyage was tragic throughout. Eventually only three officers and forty-four men reaching the Malabar Coast.

In September 1782 the remainder of the 15th and the whole of the 16th, the latter numbering 988 of all ranks and 26 women, left England and arrived off Madras in April 1783. After the arrival of the 16th a composite battalion was made up from both regiments and sent to take part in the Siege of Cuddalore under (now) Lieut.-Col. Wangenheim.

On the 7th of June 1783, this battalion formed part of the force detailed to drive the French out of some advanced posts they had recently occupied and strongly fortified. In this the Hanoverians, though victorious, lost heavily, five officers and 64 men being killed and 12 officers and 137 men wounded. They were next engaged on the 25th of June 1783 when the French, who had been reinforced from the sea, made a determined sortie, which failed with heavy loss.

Amongst those who were made over to the charge of the Hanoverians until they could be despatched to Madras was a young serjeant named Bernadotte, who has wrongly been identified with the future Marshal of France and King of Sweden. This mistake is inexcusable because the real Bernadotte, many years later, in a spirit of mischief identified himself with the French serjeant of the "Regiment d'Acquitaine," taken prisoner at Cuddalore. As related by Colonel Wilks in his History of Mysore written in 1816, the story runs:

"Amongst the French prisoners taken in this sortie was a young serjeant who so attracted the notice of Colonel Wangenheim of the Hanoverians that he had the young man, who was wounded, conveyed to his tent where he was treated with kindness until his recovery and release. Many years later when the French Army under Bernadotte entered Hanover, General Wangenheim attended his Levee. When he was presented Marshal Bernadotte said:

'You have served a great deal in India, have you not? I also served there and at Cuddalore. Have you any recollection of a

young French serjeant taken prisoner in a sortie whom you took under your protection?'

The circumstance being thus recalled to the memory of the General, he answerd:

'I do indeed remember the case and a very fine young man he was. I have entirely lost sight of him since, but it would please me greatly to hear of his welfare!'

'That young serjeant,' said Bernadotte, 'is the person who now addresses you and is happy to have this opportunity of acknowledging the obligation and testifying his gratitude.' "

Now, Bernadotte was most certainly never in India as his recently published history testifies. I have seen it somewhere mentioned that after this Levee one of the Marshal's staff asked him how and when he came to be in India, at which he laughed and acknowledged that he had only been taking a rise out of the old General who had asked another of the staff if the Marshal might possibly be the Bernadotte he had befriended at Cuddalore.

This question was the subject of considerable discussion in the Calcutta *Statesman,* some years ago, and was finally settled by a letter from Mr. Little, then a well-known authority on Indian military history, who said that he had seen the name of the real Serjeant Bernadotte of the "Regiment d'Acquitaine" amongst a list of prisoners of war who volunteered for the Madras European Regiment in 1783. This was often done in those days by men who could not endure the horrors of a military prison in Madras, both French and English having companies of deserters and renegades in their armies.

When peace was declared and the siege of Cuddalore raised, the Hanoverians, who were now very sickly, returned to Madras. Soon afterwards two small composite battalions were formed and despatched to several parts of Southern India. They served against the Poligars and in operations near Calicut and Mangalore on the Malabar Coast, returning to Madras late in 1784. Next year the Hanoverian army was renumbered and the two regiments in India became the 14th and 15th Hanoverians.

At the same time, owing to their continual disagreements, both commanders were recalled, Colonel Reinbold being succeeded by another Wangenheim from the Hanoverian Horse and Lieut.-Colonel Wangenheim by Major Offenry who had commanded the composite battalion engaged in the operations in

the Poligar country. From August 1785 to March 1787 the two regiments were quartered at Arcot, during which time they suffered so severely from climatic causes that they mustered with difficulty a combined weak battalion. However, in April, they were transferred to Madras where a draft of 400 men joined them, which was followed in November by another of 212 men and two officers.

They remained at Madras until September 1788 when another composite battalion was despatched to deal with some trouble in the Northern Circars. Here it may be remembered that the contract stipulated that the Company should signify their desire to retain the services of the regiments if they wished to, at least two years before the expiration of the seven years in India. This they had not done in the belief that there would be no further trouble with Tippoo Sultan.

But the war with Tippoo Sultan, which broke out in 1789, brought home their miscalculations or lack of foresight to the Company and they were anxious to retain the regiments. To this, however, the senior Colonel, Wangenheim, would not agree on his own account, although he agreed that the regiments should remain in India until the case was referred to his own Government. The curious situation now arose that the Company had to pay and maintain two regiments which they could not employ as soldiers, as the agreements of all but the new drafts were expired. Unlike the Royal Army which could retain men on foreign service the Company could not. But the delay being no fault of theirs the men had to be fed and paid.

Finally, such men as cared to serve on garrison duty were specially re-engaged at special pay for six-weekly periods at first and later for six-monthly ones. Hence the regiments, though urgently needed, did not take part in the Mysore campaign of 1791-92, for it was not until December 1790 that orders permitting a re-engagement of from one to three years were received and by then sufficient troops were in the field.

However, the Company decided to recontract for only one regiment, and that for another year only, this being the 14th made up to 850 men and the usual complement of officers. The remainder of the 15th, totalling 425 all ranks and 20 women, sailed for England and thence to Hanover in January and April 1791. The 14th remained on garrison duty at Madras until the

beginning of 1792 when one party embarked for home, the other following in March, the combined total being 614 all ranks; 177 men who had some time to complete volunteered for British regiments and a number of others took their discharge in the country, most of whom entered the well-paid services of Indian princes.

A number of German names appear in the lists of European military adventurers who served Scindhia and Holkar, the most prominent being Heinrich Pohlmann who had been a serjeant in the 14th Hanoverians. He joined General de Boigne, Commander-in-Chief of Scindhia's regular forces, as a captain in 1792. In April 1795, he commanded the Brigade at Muttra to which the celebrated adventurer, James Skinner, was posted when he too entered the Mahratta service. This Brigade saw a great deal of service in which Pohlmann did so well that General Perron, who had succeeded de Boigne, removed the Scotch Colonel Sutherland from the command of the Second Brigade with which he rewarded Pohlmann.

In May 1800 he commanded a force consisting of his own eight battalions, five more of the Chevalier Dudrenac and 5,000 cavalry at the Battle of Malpura, where he defeated the Rajput Horse for the first time in their history. After the flight of General Perron from the Mahratta service, Pohlmann assumed charge of the Mahratta Army which he commanded at the Battle of Assaye, one of the hardest fought in British Indian military history.

Some years later he entered the Company's service as Colonel of the Agra Najib Corps on a salary of Rs. 800 per month. He died at Agra in 1820.

In conclusion we may give details of the fearful toll which the climate of Madras exacted from the Hanoverians. The total of all that sailed for India was 2,612 rank and file and 170 officers. Of the latter, six were killed in action, one was cashiered, one was killed in a duel and sixty-one died. Of the rank and file, about 70 were killed in action, 177 volunteered for British regiments and 60 took their discharge in India; 1,049 returned to Hanover, leaving 1,258 dead in India or on the route thereto in the space of less than ten years.

Those officers who were not absorbed into the Hanoverian Army or the British German Legion received half pay for the remainder of their lives, an expensive item for the Company as the last did not die until 1841.

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THE USE OF HEAVY TRANSPORT AIRCRAFT IN ARMY MAINTENANCE

By Captain H. L. Wyndham

1. While the modernisation of the Army has resulted in an increase in tactical mobility it has, paradoxically enough, also resulted in a decrease in strategical mobility. The component parts of a striking force can now move much more rapidly about the battlefield than was possible fifty years ago. On the other hand that striking force can no longer cut itself adrift from its maintenance services, and live on the country, as used frequently to be possible. The rate of advance of the striking force is consequently now reduced to that possible for the maintenance services.

2. The main reasons why it is now essential for a striking force to keep in continuous contact with its maintenance services (for any period longer than two or three days) are as follows:

(*a*) Employing modern weapons, an army may expend a far greater weight of ammunition in a given time than was formerly possible.

The striking force can consequently carry with it sufficient ammunition to last for a few hours only of hard fighting.

(*b*) Humanity now demands that the sick and wounded should be evacuated with the minimum of delay. Even fifty years ago, they were frequently kept with the striking force for weeks on end.

(*c*) Now that the 1st line transport of units is being mechanised and fighting vehicles are being added an ever-increasing supply of petrol is required and supplies of petrol will generally be destroyed by a retiring enemy. In any event, they will not be obtainable in any quantity in undeveloped countries. Further, mechanical vehicles need a large supply of highly specialised spare parts, which will not be obtainable locally.

In former days when 1st line transport was completely on an animal basis, transport could frequently carry on for long periods with local supplies.

The "hard" and "light" scales occasionally used in India reduce the firepower of a force and the comfort of the troops. Admittedly these special scales have their advantages when light opposition only is expected, but at best they cannot be regarded as more than a palliative.

3. The main difficulties which militate against a suitable rate of advance being kept up by wheeled road transport are as follows:

(*a*) A smooth route, particularly over obstacles and through defiles, is essential. Obstacles and defiles exist in practically all potential theatres of war. Roads, and possibly bridges, will consequently almost always be needed.

Where roads exist in peace considerable demolitions in defiles are to be expected. Reconstruction must cause delay. Such delay will frequently be of long duration.

(*b*) With the mass of transport required to maintain a force of any size, defiles will form suitable areas for enemy attack by land or air.

Typical defiles are the Khyber Pass and the routes through the desert of Sinai.

It was hoped that cross-country transport would do away with these difficulties. While, however, it may on occasion avoid or pass over small obstacles, it is as much confined to defiles by large obstacles as is road transport. It also is consequently subject to delay, to congestion and to enemy attack at such points.

Further, the requirements of petrol and demands on maintenance of cross-country transport are uneconomically high.

Pack transport requires less road-making than does any other type. Its radius of action is so short, however, that enormous numbers of animals are required, in several echelons, for distances which can be covered by mobile troops in one day. For instance, in the final operations in Palestine 23,000 camels were allotted to the maintenance of three cavalry divisions. Congestion and vulnerability to attack are consequently greater with this form of transport than with any other.

It is felt that the difficulties outlined above can be reduced, and the strategical mobility of the striking force greatly increased by the use of heavy transport aircraft on the line of communications.

4. In dealing with military problems, commercial methods of solving similar problems have to be approached with caution. Nevertheless, much can be learnt from commercial methods, provided they are considered in the light of military conditions.

Nowhere else in the world has the transport of heavy goods by air been developed to as great an extent as in New Guinea. Further, the conditions of weather and terrain there are more difficult than in any likely theatre of war.

The most important area served is the gold mining district of Bulolo, approximately 50 miles from the coast. That proportion of the population directly dependent for all requirements, except vegetables, on supplies from the coast was, in 1931, 600 whites and 2,500 natives. Those members have since increased very considerably.

The terrain, including that of the district itself, is extremely mountainous and heavily wooded, and the rainfall is heavy (72 inches have been experienced in three months).

Air transportation of all requirements commenced in 1927.

At any rate up to 1934, no road was constructed from the coast to the district since air transportation could be more quickly established when the district was first opened up, and was considered more economical. All supplies and stores required have been carried by air to various landing grounds in the district. Transport from these landing grounds is by pack or porter.

Flying is liable to interruption for short periods through mist.

The aircraft used are mainly Junker G-31 (probably 1929 model), converted from passenger type. The conversion was simple and included the fitting of a large hatchway in the roof. These aircraft are constructed of durolumin, and are not affected by weather conditions. Their useful lift is $3\frac{1}{2}$ tons. Their main disadvantage, as compared with other types, lies in the fact that they are not fitted with slots or other devices to check speed in landing. They consequently have a high landing speed, which necessitates 1,000 yards of runway in landing grounds. They also have the centre of gravity placed so far back, to enable long girders to be carried, that ballast has to be used when cargo is not carried.

From experience gained in New Guinea since 1930 and in South America, the life of these aircraft is estimated at 10 years,

though engines would have to be changed after 3,000 hours flying, *i.e.*, after 300,000 miles.

As the aircraft themselves need practically no maintenance, the trained personnel required for two aircraft was up to 1934 limited to three pilots, two mechanics per aircraft for engine maintenance, and one mechanic for engine inspection after each flight.

One accident occurred in the main transportation company—Guinea Airways—in 5,987 trips, during which 7,000 passengers and 5,400 tons of cargo were carried. The maximum tonnage carried in one month was 581 tons, and in one day by two aircraft 19 tons, in 1931.

Loads carried are of every conceivable type and shape, from motor cars and cattle to the component parts of dredges, each dredge weighing over 1,200 tons—the heaviest unit weighed $3\frac{1}{2}$ tons.

Owing to the mountainous and wooded nature of the country, and to the size of landing ground required, sites for the latter are scarce and need much preparation by large gangs. Still, in one area 20 miles square, five landing grounds have been made. To counteract the glare of the white soil they are planted with couch grass, which grows rapidly and prevents breaking up of the surface by heavy traffic.

Transportation costs to the customer, covering maintenance and profit to Guinea Airways, but excluding insurance and capital outlay, were in 1931 £16 per ton, based on carriage of 2,230 tons. This cost has since been considerably lowered, freight charges having been reduced by 66 per cent.

5. If equivalent results could be expected from the use of heavy transport aircraft in army services, there would be no maintenance problem. The advantages of such swift and sure transport over so great a radius of action would far outweigh adverse considerations.

In the case of military transport there is, however, a very definite problem, based mainly on the following factors:

(a) Under mobile conditions, the forward end of the airline is subject to frequent and rapid changes of location. The landing of aircraft without delay will not, therefore, always be practicable.

(*b*) Under static conditions, the requirements of large forces, particularly in ammunition and reinforcements, are likely to exceed any available resources in air transport.

(*c*) Some items required by fighting forces, such as tanks or artillery, are too heavy for any aircraft of handy size.

It is obvious then that air transport cannot possibly give a solution to every problem of maintenance or evacuation. It is not to be condemned for that reason, since no single form of transport can do so under modern conditions.

6. Experience of the large well-made aerodromes common in India leads to misconception as to the facilities actually essential. Some twelve years ago, landing grounds in Mesopotamia, which were no more than 350 yards square, were used for prolonged operations.

The necessary size of landing grounds is tending to decrease. Recent developments assisting to this end are—

The slot device, mentioned above, which can be used to reduce landing speed very considerably;

Brakes on the landing wheels, and

The variable pitch propeller.

It is not intended to discuss the use of helicopters, as their suitability for the carriage of heavy loads has not yet been proved.

All that is really necessary for heavy transport aircraft of modern types is a clear runway of from 500 to 600 yards in the direction of the prevailing winds, provided that there are no obstructions to flight in the near vicinity of the runway. Prevailing winds in mountainous country generally run up and down the valleys, in which directions runways of the length required are usually most easily obtained. Moderately stony or slightly uneven ground is not a serious disadvantage, but sharp ridges, furrows, ditches or mounds liable to make the aircraft jump have to be levelled. The larger the aircraft, the less it is affected by inequalities of the ground. Fully loaded aircraft need a longer runway in order to rise than do those lightly loaded; in maintenance the load is in practice always greater than in evacuation; landing does not need so long a runway as does rising. The runway at the forward end of the airline, the end where ample space is least likely to be obtainable, need not, therefore, be as long as that at the base.

Landing grounds used for heavy and continuous traffic would, in most types of country in the East, have to be treated to prevent excessive breaking up. Such traffic is not to be expected in mobile operations and the time required for treatment is automatically provided if operations become static.

The extent to which and the rapidity with which landing grounds can be provided must obviously depend on the type of country in which operations are being carried out. The construction of roads, it must be remembered, depends on the same factor. The worst conditions likely to be met in the defence of India are those of the North-West Frontier. Even in that area sites suitable for development into landing grounds are certainly available at intervals of, at the maximum, 20 miles in almost all the valleys. It is equally certain that such sites could usually be developed far more quickly than could a road fit for M.T. in similar terrain and over similar distances, *i.e.* the delay caused to the striking force would be much less in the case of the former.

Frontier terrain varies so much that any useful estimate of labour and cost could only be made on a given situation. The labour would in some cases be *nil;* in some that which could be provided by troops on the spot; in other cases it would entail the attachment of large gangs of labour to the striking force.

In any event, air and other reconnaisance could provide the information, prior to a move, on which arrangements for the necessary labour would be based together with the decision as to whether air transport could or could not be used.

In many cases it would, then, undoubtedly be possible to provide a new landing ground soon after the arrival of the foremost troops and without the use of special labour. Landing grounds likely to be required in our own territory can often be constructed in peace, when cost and other considerations make the construction of roads inadmissible. In such cases there will be no delay in either maintenance or evacuation.

In Palestine, during 1917 and 1918, heavy transport aircraft of types now available could almost always have landed within the radius of action of transport which accompanied formations, without any preparation of landing grounds. The only exceptions would have been in the Judean Hills and possibly sometimes during the final advance.

It is understood that aircraft landed on unprepared ground on several occasions to deliver supplies to an armoured force during the recent operations of the Italians in Abyssinia.

7. When the L. of C. depends on land transport, and that transport cannot keep up with the rate of advance of the striking force, the striking force has no alternative but to halt.

If aircraft are used, and delay occurs owing to preparation of landing grounds being necessary, the striking force can still be maintained by supply-dropping. The need to halt will not, therefore, arise until evacuation of the sick and wounded becomes essential.

Further, since supply-dropping can always be counted on when necessary, the striking force need not carry large reserves.

Supply-dropping should be regarded as a temporary expedient rather than as a normal practice. There are three reasons for this attitude:

(*a*) The weight of the unit which can be dropped is limited to two maunds by existing or likely types of parachute.

(*b*) The supply of parachutes will never be inexhaustible—once used, they must be returned quickly.

(*c*) Supply-dropping provides no solution to the problem of evacuation.

However, supply-dropping will on occasion be used (it is frequently used nowadays for the supply of besieged posts and of small forces). It would be advisable to select aircraft, therefore, for army supply, which have their centre of gravity further forward than in the case of the Junker G-31. This is merely a matter of design. Otherwise, the weight of ballast which would have to be carried to trim the aircraft, as supplies were dropped, would reduce the useful load. Heavy transport aircraft of the type visualized should also be provided with a hatchway in the bottom of the cargo cabin. When loads are intended to be dropped, they are fitted with parachutes prior to being loaded. Under these circumstances, two men in the aircraft could handle and drop up to three tons of cargo without undue labour or delay.

8. Most opponents of transportation by air fear interruption to supply through adverse weather conditions or enemy air action. It is suggested that the danger and extent of such interruption is exaggerated, and that its effect need not be of great importance.

It is unlikely for instance that operations will ever be carried out under conditions worse than those affecting the evacuation by air of personnel from Kabul in 1930. No serious interruption occurred in that case, though the aircraft used were far inferior to some now available.

Enemy air action would be unlikely to have much effect against heavy transport aircraft, owing to their great power of evasion. Evasion is, incidentally, aided by bad weather.

Air forces are much more confident of their effect against land transport than they are of their effect against enemy aircraft.

It is suggested that any danger of interruption could adequately be covered by dumping at the forward landing ground. Such dumping should be limited to the maximum amount likely to be required under the circumstances of each case. It would then not violate the principle of fluidity, which, under the present system, permits of similar dumping where danger of interruption exists in ground lines of communication.

The effect of enemy action from the ground is immeasurably greater against ground transport than against air transport. In the case of ground transport it necessitates the dissipation of military force in protection of the L. of C. In uncivilised countries, or when enemy armoured forces are to be expected in future, this dissipation of force may easily result in insufficient troops being available with the striking force. It is in any event most uneconomical.

Where aircraft alone are used on the L. of C. ground protection will be needed forward of and inclusive of the foremost landing ground only.

9. At the same time, prolonged operations will almost always result in situations which are static for long periods. When such operations are expected and in any event in the case of very large forces, the use of existing roads and the construction of others will be inevitable. In some cases, roads in their turn will have to be followed by railways. Under these circumstances, the necessity to disperse resources on road protection duties as the road gets forward must be accepted. The striking force may have to await the arrival of roadhead before undertaking deliberate operations. The use of air transport will nevertheless have enabled it to perform more during the mobile phase than would have been possible had it been tied to roadhead throughout.

Provided air transport was still employed during this static phase, the scale of M.T. could be very considerably reduced. There would also be no need for it to use the road every day. Periods of rest for M.T. and for a proportion of the road protection troops would then become automatic, and reliefs would not have to be specially provided.

10. The units of a force cannot expect direct delivery from aircraft. Some form of transport must then accompany the force in all circumstances for purely local delivery purposes.

The type of this transport will depend on the circumstances of each campaign. It is essential, however, that all vehicles taken should have as high a degree of cross-country capacity as is practicable. Otherwise, the immobility of the force itself, and not that of its rear services, will cause delay.

Subject to this proviso, the use of mechanized transport where possible will reduce the load to be delivered to the striking force except in country where ample local supplies for animals are available.

The present organization used to accompany columns moving on light or hard scales and closing the route behind them would appear to be most suitable, whatever type of transport were used. That is, transport companies providing first-line transport to units and column reserves of supplies, ammunition and baggage.

11. In most circumstances, transport by air is more expensive than is that by rail or by M.T. At the same time, it should be kept in mind that in war the only sound criterion is, within reason, whether value obtained balances with expenditure incurred.

The advantage of cheapness is not, however, heavily on the side of M.T., if all sources of expenditure are taken into consideration.

The construction of landing grounds will frequently cost less than that of roads. Aircraft constructed of durolumin, as has already, been shown, need far less maintenance than does M.T. Judging by the experience of Guinea Airways, the saving in personnel in using modern heavy transport aircraft should be considerable, compared with that required for existing types of R.A.F. aircraft, for M.T., or for animal transport.

There is no reason why 5-ton aircraft should not be used on the landing grounds already described, but 3-ton aircraft are more

likely to be readily available, at least at the outbreak of any campaign in the near future. One of the latter capacity can easily carry daily, in two trips, six tons of cargo over a distance of fifty miles, when eight 30-cwt. lorries would be required, in two echelons, for the same task. The aircraft could, if required, increase the distance to 150 miles—quite a reasonable distance for a force ahead of railhead in mobile warfare. For that task, at least twenty-four 30-cwt. lorries would be required, in six echelons.

The capital cost involved in providing the defence forces of India with heavy transport aircraft, on the scale which would be advisable for major operations, is, however, too high for it to be a practicable proposition in peace. The cost of such aircraft—apart from other sources of expenditure—is about £20,000 each.

Further, the use of such transport for military work would be uneconomical in India in peace where roads are available and do not need to be protected.

It is, however, for consideration whether heavy transport aircraft could not economically be used for the maintenance of certain outposts—for example, that in Chitral—in peace.

Under these conditions then, reliance should be placed mainly on a portion of the resources of commercial airlines in India, now in operation or projected, supplemented by factory supply. Such airlines should be subsidized to ensure, firstly, that their aircraft would conform to essential military specifications and, secondly, that they would be available on general mobilization. The aircraft used in Guinea Airways were easily converted from passenger types. Subsidies have been used in the case of commercial motor transport. In 1914, London buses were requisitioned at a time when conditions amounted to those of a major expedition only.

12. It is, however, of the first importance that, at the least, a nucleus should be maintained in peace, to allow for training and experiment, and to form a basis for expansion in war. Experiment, with a view to improving the performance of aircraft, is advisable.

The R.A.F. in India already has a bomber transport flight. These machines, however, are of small cargo capacity and of types not specially designed for heavy transport work. Their use for such work could only give a false picture of its potentialities. They would seldom be available for continuous supply work. It is for these reasons that the term "heavy transport" has been used

throughout, and that the formation of a separate branch for such work is recommended. Such aircraft might occasionally be used for work outside their normal sphere, as are other types, but not when required for their own specialist work.

In forming this branch, aircraft should be obtained which conform to the following specifications:

(*a*) Three-ton cargo capacity. Hatchway in both top and bottom of cabin.

(*b*) Landing speed not exceeding 60 m.p.h. Brakes.

(*c*) Rising performance, loaded, of 400 yards, in calm, on slightly uneven ground, at 6,000 feet altitude.

(*d*) All metal construction.

(*e*) Ability to maintain height fully loaded with one engine cut out.

(*f*) 12,000 feet ceiling. Radius of action, 200 miles.

(*g*) Centre of gravity suitably placed for flight without load.

(*h*) Large and widely spaced landing wheels.

There is no question but these specifications can be complied with now by aircraft manufacturers, and that the resulting performance can be improved in the future.

The nucleus originally organized might be expanded to the scale necessary to support a minor expedition (say, two flights of five aircraft each). Such expansion should be dependent on proof, obtained through training and experiment, that the claims outlined in this article are sound.

Provided the value in war of heavy transport aircraft is accepted, it would be no more extravagant to maintain in peace the number likely to be required at short notice than it is to maintain other types of air forces.

13. As has been indicated in preceding paragraphs, the use of heavy transport aircraft in place of other forms of transport on the L. of C. would by no means be universal. Further, the supply of aircraft would, at least for some years, be limited. The question of their use in any particular area should, therefore, be decided by the commander responsible for the whole of the operations envisaged. Their mobility enables them to be concentrated where required with the minimum of delay.

It is suggested, therefore, that the organization should be highly centralized, and that orders for its employment should be issued through the Movements Staff, as is the case with railways.

14. The main conclusions arrived at may be summarised as follows:

(*a*) In the highly mobile type of warfare, for which we are training, the striking force must not be delayed through inability of the rear services to keep up with it. Rapid movement over considerable distances is entailed.

(*b*) The use of ground transport alone must inevitably result in such delay. It also entails the dissipation of troops in road protection duties.

(*c*) The use of heavy transport aircraft, sometimes to supplement, sometimes to replace, ground transport, would reduce this delay.

It would result in a saving in road protection troops which in some cases would be considerable. Where used to supplement ground transport, it would also result in a saving in that transport, and would consequently reduce congestion on roads.

(*d*) A nucleus of such aircraft should be maintained in peace. This nucleus might advantageously be expanded to the scale necessary to support minor expeditions, but reliance should be placed on commercial resources for the extra expansion necessary in the case of major expeditions.

LETTERS TO THE EDITOR

Mesopotamia Campaign

Sir,

As Colonel Shearer's admirable lectures on the Mesopotamia Campaign, published in your issue of October 1936, are written primarily for candidates for promotion examinations, I feel I must call attention to two inaccuracies, more especially as a lesson is affected.

In para. 31 of his last lecture he says two lessons stand out in his mind above all others.

One of these: "The unfairness to the attacking troops of attempting to gain surprise by dispensing with preliminary bombardment."

In support of this he cites the attack of the 36th Sikhs and 45th Sikhs on 1st February 1917 on the main Turkish position on the west bank of the river Hai.

On this occasion there was no attempt to gain surprise by dispensing with a preliminary bombardment as the following extract from the 37th Infantry Brigade Orders for the attack will show:

"The 37th Brigade is to capture the double line of trenches between P 13m to P 13b to P 13n and N 28a.

Zero 12-10 p.m.

'From 9-30 to 9-33 a.m., there will be a dummy intense bombardment of the front P 13n to N 28a.' The Artillery on the west bank, assisted by the Artillery on the east bank, will continue wire-cutting and bombardment of enemy's position on the west bank from 7-30 a.m. to 12 noon.

From 12 noon to 12-20 p.m., intense bombardment to assist the assault.

The bombardment will lift from the front trenches to . . . at 12-14½ p.m.

From 12-20 to 12-40 p.m., general bombardment and barrage.

From 12-40 p.m. Artillery will be in readiness to deal with counter-attacks."

The only attempt to gain surprise was by means of the "dummy bombardment" at 9-30 a.m.

Heavy casualties were inflicted on the attacking troops during the advance by enfilade M.G. fire from the left flank.

These M.G.s had been located prior to the assault. The Brigadier-General Commanding the 37th Brigade had asked for this area to be included in the artillery bombardment, but his request was not acceded to by the Higher Command.

Colonel Shearer makes another mis-statement when he says that "his own brigade" (the 36th Infantry Brigade) carried out the same attack successfully the next day. The attack was carried out by the 1/4th Devonshire Regiment, the 1/2nd Gurkha Rifles (both of the 37th Brigade) and the 62nd Punjabis (36th Brigade) —all under Command of the 37th Brigade. The artillery programme for this attack was adjusted in the light of experience gained on the previous day.

Yours faithfully,

STIFFY.

BASIC ENGLISH

SIR,

I should like to express my appreciation of the interest which regimental officers have taken in the teaching of English to sepoys, and which is illustrated by the article of Lieut.-Colonel Wilkinson in your January issue. At the same time, I cannot agree that we have only the alternatives of verbiage and Basic English.

This new form of English is being recommended by a group of scientific writers, of whom Mr. Wells is the chief. It is part of their plan to make the world tidier, but they do not use it themselves. Scholars with a specialised training in languages, so far as I have been able to ascertain, do not support it.

The chief objections to Basic English, or to any similar system, are—

(1) It requires an Englishman to relearn his own language. If the sepoy learns to talk "Basic," the officer must learn to keep within the Basic vocabulary. The result, within a generation, would almost certainly be a sort of "coast English" or "pidgin."

(2) It is not sufficiently responsive to change. The originator of "Basic" English proposes an international academy

to sanction or blackball words, but the history of language shows that whenever scholars have attempted to "fix" a language, ordinary people have taken no notice of their orders. Another "dead language" has been instituted, and a living language has continued to evolve, and to reflect the changing environment of its speakers.

Verbiage is frequent in military writing because officers too often treat written English as a second language, and not as an extension of their speech. When they speak (according to Professor Wyld, no mean authority), they speak a "better" English than is found amongst any other body of Englishmen, a speech that is usually both concise and courteous. Those officers (and British N.C.O. instructors) who have deliberately simplified their own idiomatic speech, in dealing with sepoys, have been successful as teachers. This is the language in which the "Fauji Akhbar" and the "English Primer" (a General Staff publication) are written: it is almost as bald as "Basic," is far more comprehensive and flexible, and offers to the educated Indian soldier an approach to English thought, through the medium of standard English books.

Yours faithfully,

A. C. T. White,

Lieut.-Colonel,

Army Educational Corps.

REVIEWS

Survey of International Affairs

By Arnold J. Toynbee assisted by V. M. Boulter.

[(*Oxford University Press*), *Vol. I*, 18 *sh.*; *Vol. II*, 21 *sh.*]

Volume I.

As stated in the preface the main subject of Volume I is "the beginning of a competition in rearmament between Germany and the other Great European Powers, in sequence to the final collapse of the World Disarmament Conference." For the first time since 1925 the Survey has been expanded to cover two volumes. Volume II is devoted to the Italo-Abyssinian conflict. The European part of Volume I opens with the adjournment of the Disarmament Conference, consequent on the withdrawal of the German delegates, and extends to the eve of Germany's re-occupation of the Rhineland on 7th March 1936.

Students of international affairs have rightly come to look upon these Surveys as invaluable sources of reference. The present volume enhances that reputation. Moreover, the general reader need not fight shy of it. The bulk of the work is recorded in an eminently readable style. The author does not hesitate to express his point of view in a manner which is at times forcible. Thus, referring to the ill-timed publication of the British Government's White Paper on defence on 4th March 1935, three days before Sir John Simon was due to leave for Berlin to discuss with Herr Hitler matters relating to security, the author states, "The British Government had been guilty not of malicious sabotage but of slovenly incompetence. Their right hand genuinely did not know what their left hand was doing."

In a work of this nature, covering so comprehensive a subject, the arrangement of the material is all important. By devoting separate sections to North-Eastern Europe and the Far East the authors have lightened the task of the reader in exploring the complicated maze of international affairs. The path is shadowed with negotiations for disarmament rendered barren by a note of fear. The gloom is but scarcely relieved by the Anglo-German Naval Agreement, in announcing which "the British Government emitted the tones of triumph and apology in the

same breath," fearfully (and correctly) anticipating French reaction.

On the subject of the Franco-Russian Pact, Mr. Toynbee refrains from personal observation contenting himself with the statement that "it was a testimony to its value that Germany should have reacted so energetically to its signature, and still more to the prospect of its ratifications."

Of the Far East, Mr. G. E. Hubbard (who contributes this section) has a no more comforting tale to unfold. Here the dark shadow of Japanese expansionism, so recently exemplified in Manchuria and China, has crept south and created a nervousness in the Philippines, where the joys of independence are tempered by "the withdrawal of American protection at a time when it might be urgently needed."

The volume ends on a more cheerful note provided by Mr. H. V. Hodson, who, in surveying economic affairs, concludes that "recovery in spite of instability was the *mot d'ordre* of world economic history in 1935."

The volume includes an excellent map of the Far East. A map of Europe would be an addition welcomed by many readers whose geographical knowledge probably does not embrace such places as Zips, or even Teschen.

VOLUME II.

The survey of Italo-Abyssinian relations is carried as far as the annexation of Ethiopia in May 1936, and the liquidation, in June and July 1936, of the arrangements made by the Sanctionist Powers for mutual assistance in the Mediterranean.

From the military standpoint the book is valuable because it gives, in Section XI, a short, clear and readable account of the Italian operations, without, however, attempting more than a chronicle of events. The details of the negotiations for mutual assistance in the Mediterranean between Great Britain and other members of the League will also interest the student of Imperial Defence; particularly the estimate given of the losses which the Navy would have incurred in defeating the Italians. On this estimate, the Cabinet is said to have based its policy; and it is significant that Professor Toynbee states, categorically, that it was the fear of subsequent action by Germany or Japan, rather than the immediate problem of the control of the Mediterranean, which decided Mr. Baldwin's Government.

But the real interest of this volume is not the story it tells, but the point of view from which it is told. Professor Toynbee makes little attempt to be impartial. He writes as a militant pacifist, as a whole-hearted supporter of Geneva, and as one who would see our commitments under the League discharged to the full extent of our armaments. An authoritative record of international affairs should not be so coloured by the views of the historian. Nonetheless, those views deserve study, particularly by soldiers; for it is partly due to them that our rearmament programme has met with only nominal opposition at home.

Professor Toynbee blames Great Britain and France for not fulfilling their obligations under the League. He takes the view that by failing to stop Italian aggression, we abdicated our position as a nation. As a consequence, we missed an opportunity to check aggression, and to maintain peace—an opportunity which may not occur again. His arguments are well stated, the more so because the other side of the picture is fairly presented to the reader; but it is typical that those arguments are never connected with a demand that Britain should be strong enough to meet her obligations; and the crippling effect of the policy of 15 years' starvation of our Defence Forces is completely ignored.

Professor Toynbee goes farther. He is convinced that it is expedient, as well as equitable, that Britain should support the League of Nations. He thinks that the only way to ensure that other nations of our Commonwealth will always take a direct and immediate interest in the defence of Great Britain is to draw them into a collective system of security under the League. This may seem far-fetched; but it would be idle to deny that there is some force in the argument.

The views expressed in this volume will annoy many people. According to temperament, they will be regarded as mischievous pacifism or impracticable idealism.

Having made this criticism it is only fair to add that Professor Toynbee has maintained the very high standard of completeness and accuracy to which we have grown accustomed. As works of reference both volumes are of course invaluable.

D. A. L. W.
G. W. W.

OFFICIAL HISTORY OF AUSTRALIA IN THE WAR OF 1914—1918, VOLUME XI

By Ernest Scott

This volume deals not with battles but with events in Australia itself. The first half is concerned mainly with politics, while the second covers Australia's financial and economic problems, labour troubles, the Peace Conference and the repatriation of Australian forces.

Two general elections were held during the war. The first was inevitable since both houses had been dissolved in 1914. The second resulted after the labour party split on the conscription question.

The history of the conscription campaign which was waged with great bitterness is of interest. A referendum was held twice and on each occasion there was a considerable majority against conscription. One wonders what would have been the result of a similar referendum in England in 1916. That Mr. Hughes was able to survive a defeat on what had been one of the main planks of his programme is remarkable.

The chapter on the equipment of the Australian Forces contains several valuable lessons. Clothing, harness and small arms were already manufactured indigenously and production was successfully expanded. But the attempt to manufacture other munitions failed largely owing to the lack of peace time experience.

Much of the book is devoted to a eulogy of Mr. Hughes, Prime Minister from October 1915 to the end of the war; and there can be no doubt that the Empire owes a great debt to this indefatigable Welshman. At times he was inclined to place Australia's needs above those of the Allies as a whole, as when he purchased, to carry the wheat crop, ships more urgently needed for other purposes. At times he struck a hard bargain with the Home Government but he will always be remembered for the energy with which, both in Europe and in Australia, he urged the prosecution of the war.

At the Peace Conference he was less successful, being a keen protagonist of "making Germany pay" irrespective of her capacity to do so.

The volume is complete with valuable statistics and figures and forms a useful addition to the literature of the Great War.

P. R. A.

A CORONATION PORTRAIT

Their Majesties King George VI and Queen Elizabeth

After a Photograph by Dorothy Wilding

With acknowledgments to the "Illustrated London News."