

MEMORANDUM

RM-3651-PR

JULY 1963

SYMPOSIUM ON THE ROLE OF
AIRPOWER IN COUNTERINSURGENCY
AND UNCONVENTIONAL WARFARE:
THE MALAYAN EMERGENCY

Edited by A. H. Peterson, G. C. Reinhardt and E. E. Conger

PREPARED FOR:

UNITED STATES AIR FORCE PROJECT RAND

The **RAND** *Corporation*
SANTA MONICA • CALIFORNIA

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PREFACE

This Memorandum is a condensation of the discussion of the Malayan Emergency, a part of a RAND symposium on "The Role of Airpower in Counterinsurgency and Unconventional Warfare," January 14-18, 1963, A. H. Peterson, Monitor.

Because the material consists of personal recollections and discussions by men who were active in the campaigns, each Memorandum in the series covering the symposium was done in a purely reportorial style, with care exercised to retain the flavor and connotations of the discussants. For the same reason, no attempt was made to resolve any implicit or explicit differences among the participants' views or between them and available published works on the same subjects.

The symposium was organized to collect relevant detailed information of these types of warfare in the hope that such information, examined with the original environments firmly in mind, would suggest lessons for current air operations. In addition, the material, when considered within the context of advanced technology, should provide some guidance for future planning and hardware development.

The symposium Memoranda are as follows:

Symposium on the Role of Airpower in Counterinsurgency and Unconventional Warfare:

The Malayan Emergency, RM-3651-PR

The Philippine Huk Campaign, RM-3652-PR

The Algerian War, RM-3653-PR

Chindit Operations in Burma, RM-3654-PR

Allied Resistance to the Japanese on Luzon, World War II, RM-3655-PR

Unconventional Warfare in the Mediterranean Theater, RM-3656-PR

The discussion leader for the subject of the present Memorandum was Air Commodore P. E. Warcup, C.B.E., RAF.

The photographs on pages 20, 27, 36, 37, 38, 45, and 50 are furnished by courtesy of the Royal Air Force.

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FOREWORD

To be of value in actual application, battle studies should be based upon intimate experience in modern combat, not upon historical records of general operations of troops. The individual action of the soldier remains enveloped in a cloud of dust, in narratives as in reality. Yet his battle experiences must be studied, for the conditions they reveal should be the basis of all fighting methods, past, present and future.

Where can data on these questions be found? Stories in great detail, for the smallest detail has its importance, secured from participants and witnesses who knew how to remember, are necessary in a study of the battle of today.

The number killed, the kind and character of the wounds, often tell more than the longest accounts. Sometimes they contradict them. We want to know how man fought yesterday. Under the pressure of danger, impelled by the instinct for self-preservation, did he follow, make light of, or forget the methods prescribed or recommended?

Battle Studies, Col. Ardant du Picq,
(translated from the 8th edition),
Military Service Pub. Co.
Harrisburg, Pa., 1958

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I. INTRODUCTION

COMMODORE WARCUP: I am honored to lead off this symposium by talking about Malaya. The war in Malaya lasted some 12 years and was a vicious attempt by the Communists to take over the country. Large forces were involved in fighting them. Serious casualties were suffered by the civilian population. The British had to give strong military and economic support to Malaya while the war was going on.

Regarding my credentials in this large canvas, I recall that a famous judge once said there were three types of liars: plain liars, damned liars, and expert witnesses. It would be absurd for me to say that I am an expert witness; I hope, however, you will not put me in either of the other two classes.

I suppose the Communists would call me a running dog of British imperialism. So be it. I had the honor to command the Royal Air Force in Malaya from January 1957 to May 1959. Although I was only immediately concerned with RAF work, one becomes aware of the whole situation, both political and military. It is true to say that during my time out there we were winning, but I do not think any serviceman would grumble about that.

I propose in this talk to lead up to the Malayan operations by taking you through a short description of Malaya itself, its political development, and the growth of the Communist Party in Malaya. Against this background the ways and means of fighting the Communists will, I hope, make sense. I shall also refer to the weapons wielded by the Malayan Government, and right here and now I stick my neck out. I am quite sure in my own mind that we, the military, won because the political background was right and because the political and military aims were convergent.

GEOGRAPHIC BACKGROUND

COMMODORE WARCUP: Malaya is about the size of England, but there the resemblance ends. Four-fifths of the country is covered with dense tropical jungle. Running north and south is a central

spine of mountains that reaches 7000 feet in places. Where the jungle covers the plain it is often swampy. The average rainfall-- it varies a good deal--is some 100 inches a year. Malaya is always hot and humid. There are practically no seasons.

The only fully cleared areas are on the west side where the main communications are, running north and south. Communications east and west are very poor. In Malaya, at the moment, there are just over 6 million people, slightly more than half of whom are Malays, just under half are Chinese; the balance are from the Indian Subcontinent, plus a handful of British.

COLONEL SUTCLIFFE: I would like to add that Malaya contained practically no Chinese and practically no Indians when the British first went there in the late 18th century. The Indians came as traders with the East India Company. The Chinese came in because they were commercially advanced.

The Malays, themselves, are very simple folk. For example, there were scarcely a dozen Malay doctors in the whole country in 1945. To this day there are very few highly trained Malays. They could administer, but they were not technically minded nor were they ambitious people who would acquire capital. The Chinese came in large numbers and soon owned the banks and the industries. They would be the people who seized any jobs requiring intelligence. They were really the danger. The number of Malays amongst the bandits was less than five per cent, I would say. So, if there was any question of recognition, it was the Chinese you had to watch. When the Japanese invaded there were two Malayan battalions. Their personnel were not locked up but sent back home to live. Most of the Malays were docile; they are not fighting people.

POLITICAL BACKGROUND

COMMODORE WARCUP: Now for the political development of Malaya; until the Japanese occupation, the several Malay states were governed by their own rulers with British advisers. Do not get a picture of autocracy because this would not be right; political advancement was continuous. On the whole, the Malays were content. However, the

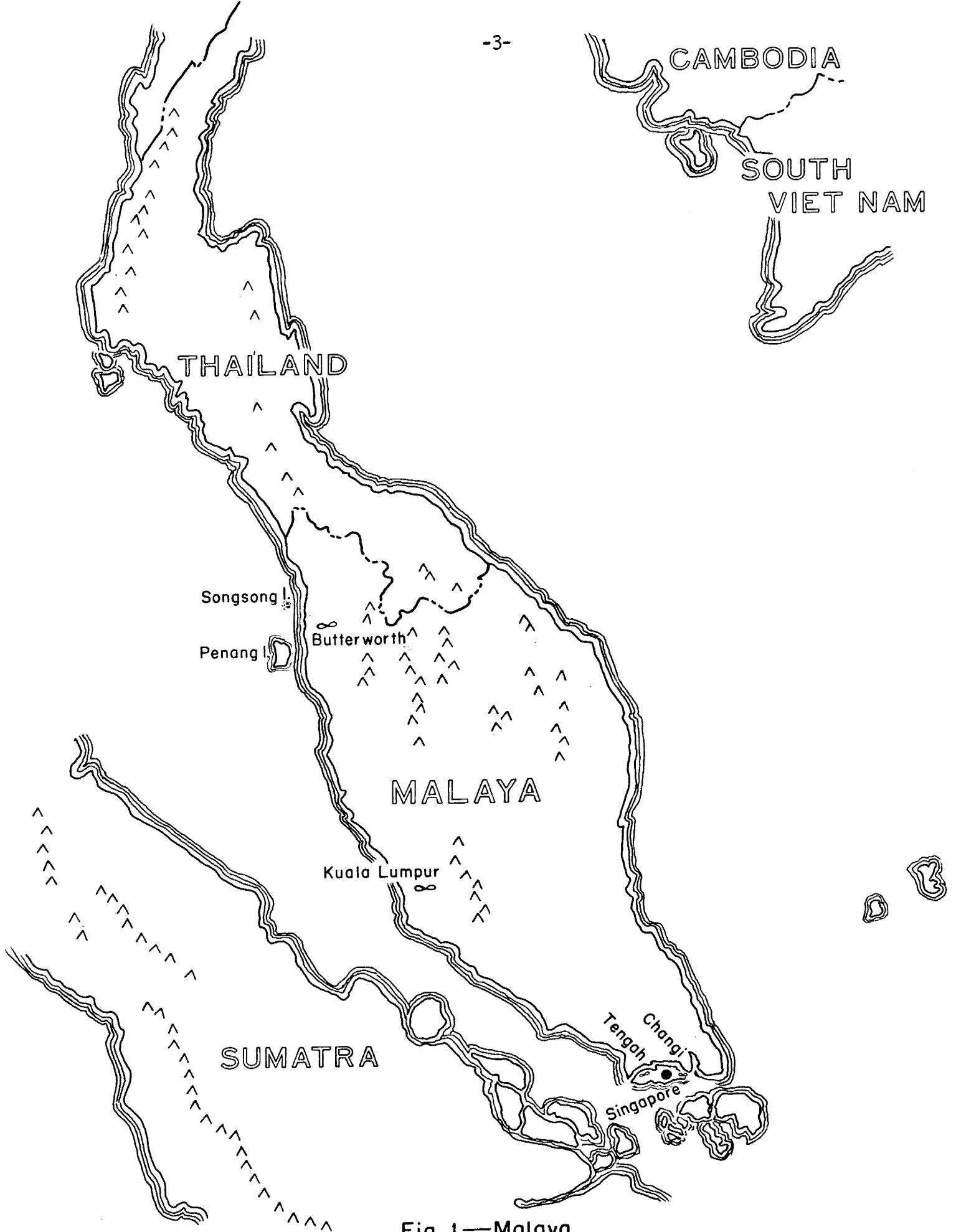


Fig. 1—Malaya

Chinese and Indian immigrants were regarded as temporary dwellers, happy to be allowed to make their fortunes under a stable rule and eventually return to their homelands. Japanese occupation shattered this picture. The end of the war left the country in ruin and chaos. The old political harmony was also broken. As elsewhere in the world, the old values, the old political ideas changed.

After a false start, agreement between the interested parties was reached from which the Federation of Malaya emerged in 1948, the same year the Emergency was declared. In 1957, Malaya became an independent country within the Commonwealth. This continuous political development, with a definite promise of independence, was a powerful weapon in the hands of the British and Malayan authorities. It was the foundation stone, I suggest, for winning over the Malayan people.

Communism came to Malaya as early as 1924. Police action severely restricted its growth in those pre-war years, but more important, perhaps, the Malays were reasonably content and resistant to this foreign creed. However, the Communists did make some inroads among the Chinese.

After the Japanese occupied the country, the British authorities rather reluctantly accepted the Communist Party's offer to act as a resistance group behind the Japanese lines. Some of their leaders were trained by the British, and before the final Japanese collapse we dropped considerable quantities of arms and ammunition to the Communists and actively assisted in their training.

Even in those days the Communists stored away arms and ammunition for future use. They had adopted an organization which fitted the terrain and the circumstances. The Japanese controlled the towns and the communications; the Malayan Peoples' Anti-Japanese Army, as it was then called, took to the jungle. Each Malay state had its own forces and political organization, with a central executive committee coordinating the whole.

An early, important development at that time was the growth of a civil organization called the Min Yuen, a Communist supply organization, submerged among the Chinese people. It is sufficient to say that we had given birth to a force that became an efficient and

flexible rod for our own backs.

After the war the Communists emerged from the jungle triumphant, confident that their never-forgotten aim of throwing out the British would soon be accomplished. It is symptomatic of the times that Chin Peng, the Malayan Communists' general secretary, was invited to London to participate in the victory parades. The grateful British gave him the O.B.E. Chin Peng, then only in his twenties, already a brilliant administrator, was to be a thorn in our side for some years.

In February 1948, the Russians sponsored a meeting of Asian and Australian Communists in Calcutta to disclose their plans for South-east Asia. This conference may be considered the starting point of what the British call the Emergency in Malaya. An Emergency was declared by the Malay Government in June of 1948, after a very serious wave of murders against rubber planters, both Asian and European.

I had better now say something about the aims, methods, and organization of the Communists, as they existed in post-war Malaya. The political-military organization was known as the Malayan Races Liberation Army (MRLA). Its total strength varied, but as a yardstick it numbered about 8000 in 1951. The British called them "Communist Terrorists," or "CTs."

The CT organization was quite similar to the one they found best when fighting the Japanese. Again, each Malay state had its regiment, or regiments, with very strong political control right down to their smallest unit. In support of the CTs was the already mentioned Min Yuen. This was a civilian organization of considerable strength, organized on conventional Communist lines. Its roles were to collect supplies, particularly food; pass messages; distribute propaganda; collect recruits and supply information. Particularly important was the role of the ordinary civilians, notably rubber tappers, who were forced to act as sentries for the CTs. Some of the Min Yuen, when armed, were indistinguishable from the terrorists.

The important point to remember is that the Min Yuen battered themselves on to the Malayan villages and particularly on to the half million or so Chinese squatters who eked out a living on the edge of the jungle. The aim of the Communists was, quite simply, to form a

"people's republic." They issued a comprehensive manifesto covering all aspects of Malayan political life.

The Communists' methods were to create terror amongst the populace and to disrupt normal political, economic, and social life to such an extent that the Government of Malaya would collapse. Their tactics were normal to guerrillas: murdering individuals, ambushing road travelers, disrupting the railways, attacking isolated police posts and villages, destroying tin mines, and spoiling rubber trees. Always, they would emerge from the jungle, make their attacks and disappear. The strength of the attacks varied but, in the early days, bands numbered up to 300 men.

As I said, the Communists had stored arms during the war against the Japanese. At the beginning of the emergency the Communists had sufficient for their needs, but, as the years passed, so did their armories dwindle. At no time did the Communists have any air support or significant resupply sources from outside. They were, however, able to recruit new members.

Before I talk about the problems of the anti-terrorist forces, security forces, we called them, let me sum up the situation. The guerrillas were well-organized, well-led, and ruthless in operation. They were well-armed, and had a support organization that supplied them with the necessities of life. Familiar with the jungle, they could live and operate in it for long periods.

Although, in the long run, the political situation acted against them, initially many Malayan Chinese were hesitant about coming out against the Communist Party. Both the Malays and the Malayan Chinese had to be convinced that the British were going to protect them and to win. Therefore, we had to win the hearts and the minds of the Malayan people.

II. REVIEW OF EMERGENCY IN MALAYA

OBJECTIVES, CONCEPTS, ROLES, AND METHODS OF DIRECTION

COMMODORE WARCUP: By March, 1949, the British Government was sufficiently worried about, and by, the course of events in Malaya to make a special appointment of General Sir Harold Briggs as Director of Operations. His directive was to plan, coordinate, and direct the anti-bandit operations of the police and the fighting services. He worked directly under the British High Commissioner.

For those of you not familiar with our system, the British High Commissioner is, of course, in that sort of political development, the supreme authority in the country. It did not take Briggs very long to work out what was required. His idea, known as the Briggs Plan, set out four aims which I believe very important:

- (a) to dominate the populated areas and to build up a feeling of complete security which would, in time, result in a steady and increasing flow of information coming from all sources
- (b) to break up the Communist organization within the populated areas
- (c) to isolate the bandits from their food and supply organizations in the populated areas
- (d) to destroy the bandits by forcing them to attack the security forces on the latter's own grounds.

This plan was modified as the years progressed, but basically it remained the same during the Emergency. One important change was in the over-all control arrangement. By 1951, the situation deteriorated to such an extent that the posts of High Commissioner and Director of Operations were amalgamated into one person, General Sir Gerald Templer. The organization of command and control under Templer is worthy of note.

It is a typical piece of British ad hoc administration, but it worked. In short, it was war by committee. At the top was a Director of Operations Committee. This consisted of the Director of Operations, the heads of the three services, the Commissioner of Police, and some lesser mortals, but including the Director of Intelligence.

Under this Committee were similar ones in each Malay state, representation being broadly the same, responsible for implementing the

decisions of the Director of Operations Committee. Below the State Committees were the District Committees under the chairmanship of the District Officer. The District Officer was a member of the Malayan Civil Service. He could be Malay, Chinese, or English. It was at the district level that local information was culled, movement of CTs recorded, and operations planned in detail. It was this Committee which was so useful in explaining to the local civilian representatives what was going on, why restrictions were imposed, and so on.

War by committee sounds bedlam, but I again remind you that war against Communist subversive forces cannot be fought by military means alone. These committees did insure that all resources of the country were bent to winning the war, that all sections of the community were represented. Military operations were carried out in isolation neither from political reality nor from the daily life of the community.

In Malaya, the terrorists were killed or captured by ground forces, either the army or the police. There were exceptions to that statement but not sufficient to alter the main basis. In 1951, for example, 1100 CTs were killed.

Before I get into air operations, I should make some broad comments about the ground forces' difficulties. At times there were some 22,000 British soldiers in addition to the Malay Army, Malay Police field force, and Malay Home Guards--all were involved.

The CTs were familiar with, and efficient in, the jungle. To begin with, our forces were neither. Successful operations in the jungle require an extremely high state of training, and this took many months to achieve. Conventional tactics are valueless. Our forces had to learn to be better in the jungle than the CTs themselves. Mistakes are inadmissible. An Army or Police patrol might spend thousands of man-hours of patient patrol work to get one shot at one bandit. In these circumstances you cannot afford to miss.

Movement through the jungle is laborious and slow. In places a patrol might only cover a thousand yards in a day. Small parties of men, if they are to operate successfully in the jungle, must have a very high state of operational discipline. Jungle and mountain hinder an army's mobility. There are no roads. Vehicles are useless. There are no normal methods of supply; for example, a lightly wounded man could die through lack of medical attention.

Therefore, the ground forces could operate and move only when they were assured of sustenance and help when required. The Air Force gave them the necessities of life and enabled them to carry out their task in the jungle. If then, the ground forces were the killing instrument, the role of the RAF was one of complete--and I say complete--support to them.

I cannot stress too strongly that the Emergency in Malaya was an extension of the Cold War. The main killing weapons were the ground forces, supported by the air, with both always acting in concert with the political objective. The Malayan Government had to introduce stern measures. These had the combined objective of showing the people a determination to win and gaining their confidence. Thus all policies had to be intelligible, and they had to be properly explained. I am thinking of such things as food control, registration of every man, woman and child over 12, and resettlement of 500,000 Chinese squatters into new villages.

As the confidence of the people grew, it was possible to lift security regulations in certain areas, which became known as White Areas. Here, the villages were allowed to guard themselves, releasing police for more active missions. Flowing from this increase of confidence comes an increase in intelligence, and so you produce a favorable cycle. A war like this is a lengthy business. I do not believe there are any shortcuts. Certainly, quick military victories cannot be expected. Patience and careful joint planning between the civil and military authorities are essential. Air support has to adapt itself to the over-all requirement.

I repeat, perhaps to the point of boredom, that we won because the political aim was right, because the Malayan people were won over.

COLONEL CLUTTERBUCK: The Director of Operations ran this war, directing the Army, the Air Force, the Police, the civil agencies, food control, the registration--everything, with a total staff of seven. The staff was never allowed to mushroom. It consisted of a brigadier, his principal staff officer, who stayed put; then a group of four, an Army lieutenant colonel, an Air Force wing commander, a superintendent of police, and a Malayan civil servant. Those four

travelled most of the time, sometimes as a team and sometimes individually, seeing what was going on, finding out what was working and what was not working. The other two, a major and a captain, did the routine staff work, the maps and that kind of thing. The general, he was a four-star general, had two aides, so that is nine, including the aides.

There was very little written work such as reports, briefs, etc. When the general wanted something to be looked into or orders issued on the Army side, he told the lieutenant colonel. When the lieutenant colonel came back, he told the general personally what he had seen and what he recommended, as opposed to writing about it. I was the lieutenant colonel for a time. It was the easiest staff job I ever had. No writing, plenty of traveling, terrific.

When Malaya became fully independent in 1957, the general became a servant of the Malayan Government, paid by Malayan taxpayers. He had no allegiance to London, no instructions from London, apart from general ones. He had no channel to London. He was in every respect a Malayan, employed by them. His boss was the Malayan Minister of Defense. The result was the general was in no sense a foreigner responsible to a foreign government. He was merely a first-class soldier placed unreservedly at their disposal.

Had he been asked to do something repugnant to him or which he thought would be repugnant to the British Government, his answer simply would have been to resign, not to request instructions from the British Government, because there were no instructions from the British Government. He was at Malayan Government's disposal.

COLONEL WOOTEN: Did he involve himself in any degree in the daily operation, or did he enter into any decision-making on the tactical level?

COLONEL CLUTTERBUCK: Involved, yes indeed. He spent a great deal of his time out on the ground talking to the men who fought this low level war. Tactical decision-making, no, because tactical decision-making was done by lieutenants.

After independence there were two Army headquarters. One was the British or the Overseas Commonwealth Land Forces; quite separately,

there was the Malayan Army. One was directly responsible to the Malayan taxpayer, and the other to the British, Australian, and so on, taxpayers. So they had separate commands. The two major generals commanding those two divisions were both subordinates of the Director of Operations.

FORCES

COMMODORE WARCUP: First let us take a quick look at the air organization. The Air Officer Commanding (AOC) Malaya was stationed at Kuala Lumpur, the capital. He was a member of the Director of Operations Committee and had a Joint Operations Center (JOC), staffed by Army and Air Force officers under his command for the conduct of day-to-day operations.

I don't know how familiar you are with a normal RAF organization. AOC at the top, then it divides into three: air staff, headed by a Senior Air Staff Officer (SASO); technical staff; and organization staff. The SASO would have a wing commander directly responsible for the JOC. An Air Force squadron leader and an Army major were on a 24-hour watch at the JOC.

Under his command the AOC had Royal Air Force, Royal Australian Air Force, and Royal New Zealand Air Force units stationed at Kuala Lumpur, Butterworth, and Tengah (Singapore). The forces varied, but we need not worry about this. The air strength grew towards the early fifties, then leveled off, and then slowly went down a bit. We fought this war on a shoestring, really, especially from the air point of view. I say this as a chap trying to run the air station.

All aircraft for transport support were stationed at Kuala Lumpur. These included helicopter squadrons, a light transport squadron, and a supply dropping squadron. The light transport squadron had STOL aircraft for operating from jungle strips, and a flight of Dakotas, specifically modified, as voice aircraft.

In addition, there was a large Army Air Corps reconnaissance and liaison squadron equipped with light Auster aircraft. The nearest American equivalent I can think of is the Piper Cub. This squadron was split up in Malaya as the situation required it.

SQUADRON LEADER HARTLEY: In the attack role the RAAF had one Lincoln squadron. The rest were RAF: two squadrons of Brigands, roughly equivalent to an American B-26; one squadron each of Hornets, a single-seat, twin-engine fighter, Tempests, equivalent to your Corsairs and Mustangs, Vampires, a jet fighter of the order of an F-80 Shooting Star, and Sunderland flying boats (which were used in an offensive role).

COMMODORE WARCUP: I must stress that this was for a particular period in time. That was the maximum force available.

GROUP CAPTAIN SUTTON: By 1955 all Tempest and Hornet squadrons had been replaced, and the photo reconnaissance squadron had then jet Meteors. Eventually we got some Canberra reinforcements. There were four or five Venom squadrons, with the Lincoln and the Sunderland squadrons still there. I am speaking purely from memory.

COMMODORE WARCUP: I don't think the numbers are too important.

COMMODORE GARRISSON: I think it is the types of aircraft used that are important. Subsequently and toward the end of the campaign proper there were three Sabre (F-86) squadrons and two Canberra squadrons.

COMMODORE WARCUP: In the ground forces, at greatest build-up there were about 22,000 Commonwealth troops, eight battalions of Malayan troops (at about 700 per battalion), about 40,000 Police, plus about 200,000 Home Guards.

COLONEL SUTCLIFFE: The ratio of security forces to bandits is quite surprising.

COLONEL CLUTTERBUCK: But this can give a very misleading picture. If you include the Home Guard on our side, you might have a total of 300,000 security forces. The great majority were on static policing duty. Certainly there were never more than 10,000 infantry soldiers operating in the jungle at any one time.

There were about an equal number of guerrillas, say 10,000 at most, but they in turn were supported by about 500,000 Chinese villagers. This is the real strength of a guerrilla movement. To get these 500,000 villagers to withdraw their support was the real point, not just to kill the 10,000 guerrillas.

SQUADRON LEADER HARTLEY: A major point, when you start talking numbers, is that the initiative is always with the guerrilla. If they care to take off their uniforms--and they wore uniforms--to mingle with the population, you cannot recognize them. A Min Yuen member could have been the chap from whom you just bought fish or a watch.

COMMODORE WARCUP: The field force section of the Police were not policemen in the sort of traffic sense, you know. They were specifically organized and trained to operate in the jungle. How strong would you say they were?

COLONEL CLUTTERBUCK: I do not know about the field force, but there were about 40,000 Police in all. Of course, a large proportion of those were used to guard the villages and staff the small garrisons in the deep jungle among the aborigines.

COMMODORE GARRISSON: This Malayan campaign was run basically as a civilian operation by the civilian power. The first line of defense was the civilian Police, who received more equipment than the normal police. Any military operation had to be cleared with the civilian authority, who in effect called for military operations of a specific nature. I think this is the first thing to bear in mind. Police provided protection of the local population wherever possible. The true military forces went out to try to get the bandits.

GENERAL VOLCKMANN: To what lowest echelon did you integrate British personnel into the Police?

MAJOR WOODHOUSE: I should say to the officer level. I do not think there were any British NCO policemen, but a large majority of the Police officers were British, although there were also Chinese and Malays.

GENERAL VOLCKMANN: These police organizations were actually commanded by British personnel?

COMMODORE WARCUP: Yes. The top policeman, even after independence, was an Englishman. Officer posts were filled up by Malay, Chinese, or English. You would never see an Englishman as an NCO in the police force. When you use the expression "Malayan" here, you must imagine the Malayan could be a Malay or Chinese. There is no way

out of this confusion, I am afraid. The point is that slowly but surely, they were built up to take responsibilities.

In addition to the police there was, in fact, a specific Home Guard of about 200,000. When the new villages had shown they were capable of looking after themselves, and by that I mean not giving in to Communist demands or supplying them with food, the villages would be protected by their own Home Guard, thereby, releasing the proper police.

GENERAL VOLCKMANN: Was this Home Guard trained and armed?

MAJOR WOODHOUSE: They had rifles, or shotguns, generally. Most of the villages were fringed in with wire.

GENERAL VOLCKMANN: Was the Home Guard a good source of resupply for CT arms and ammunition?

COLONEL SUTCLIFFE: A word on this Home Guard. When it started in a small way in 1949 they were given all sorts of weapons, mostly shotguns, scat guns, as we call them, weapons that were not too dangerous if they fell into CT hands. We brought out a number of retired British officers and put one in each resettled area to organize the Home Guard. An officer would work in each village with the local police, who, incidentally, always had VHF radio link with the local police headquarters.

GENERAL MAC CLOSKEY: If they could recruit a Home Guard platoon commander, he would be a valuable agent.

COLONEL SUTCLIFFE: That was their aim. I do not think they often achieved it. Our intelligence, our special branch, was good enough to keep those chaps out.

DISCUSSION OF EMERGENCY

Intelligence

COMMODORE WARCUP: So far, I have not mentioned intelligence. It was, of course, a key requirement. I cannot emphasize this too much. Its sources were many. The air was only one way of building up the intelligence picture. All sources were coordinated by one man

who was a member, you will recall, of the Director of Operations Committee.

Long before the Emergency ended, the Special Branch of the Police knew the name and identity of every CT, his location, his history. Every killed CT was positively identified, even if it meant, as one of my helicopter pilots reported to me rather mournfully one day, bringing out a sack full of decapitated heads from the jungle.

COLONEL WOOTEN: I notice in your JOC you have a very austere manning, just a few people on duty. I assume part of their duty is intelligence.

COLONEL SUTCLIFFE: Apart from the squadron leader and major, G-3 (Operations) in your system, there was in addition a flight lieutenant, intelligence. Normally one or two other people kept account of where air supply would go and how the next day's allocation would work out on different air drops.

COLONEL WOOTEN: I gather the flight lieutenant kept a situation board?

COLONEL SUTCLIFFE: That is correct. He got a report telling the details of every strike. At the end of the day he produced an intelligence summary of the air world of that day.

COLONEL WOOTEN: Did the battalion commander, for example, have his own military intelligence as well?

MAJOR WOODHOUSE: Yes. At one time my battalion controlled the Kuala Lumpur Police Circle, which is merely an area. The battalion intelligence officer and the commander worked from the police headquarters intelligence room. The Police intelligence officer and my battalion intelligence officer, with their respective staffs, worked side by side. When a message came in from police sources they both considered it. Messages from military sources were similarly considered jointly and recommendations made to their commanders; it was very much a joint undertaking.

COLONEL WOOTEN: You stress the fact that the Police Special Branch had a very important role; yet Special Branch did not often involve the military too closely in its operations, is that correct?

COLONEL CLUTTERBUCK: I think the key to this war was the company or battalion commander and his local Special Branch inspector. The inspector is the rank of the local Special Branch policeman, who was usually Chinese. The fewer people who knew about the details of his work the better. If he had an agent, he didn't want that brought out at a brigade briefing, or a State War Executive Committee. If there was mutual confidence between the Special Branch man and the local company commander, this built up into an operation.

COLONEL WOOTEN: I thought a Special Branch man was a policeman not in the military nor associated in any way with the military; is that about it?

MAJOR WOODHOUSE: He is a policeman, plainclothes man if you like. The District Committee included a uniformed policeman and a Special Branch man but, as the Colonel says, the real planning was not done at the meeting. It could be over a glass of Scotch in his home or the commander's operations room. He certainly was in on the planning and might say, "No, don't go in that area." Possibly he would tell you why later, but he possibly might not.

COLONEL CLUTTERBUCK: I think it might help if I described a couple of examples. One involves recruitment of an agent, which, although it didn't end up in an air strike, it resulted in the destruction of a gang. In the other case, the recruited agent was used in a highly successful air strike that killed 14 CTs. These two cases may give you an idea of the very slow tempo of the intelligence picture.

The first agent's recruitment was typical. The battalion had been patrolling an area for several months when a corporal noticed somebody, a face he'd never seen before, walking along a rubber tapper's track. The corporal then went out with a Chinese Special Branch man, spotted him again and discovered he was not a rubber tapper at all, but a garage mechanic.

Without letting him realize it, they watched him and built up the evidence. Then they confronted him with it. He had four choices: to deny it and go on supplying the guerrillas--but he knew that if he did he would be caught and go to jail; to stop--but he knew that the guerrillas would guess why and kill him before he could betray them;

to try to escape and join the guerrillas in the jungle--but he had a family; this left only the fourth choice, to become a police agent.

The mechanic pointed out that the dump he was supplying was in very dense undergrowth and impossible to ambush. However, there was a marsh between the rubber and the jungle, and the troops guessed the guerrillas wouldn't want to flounder across this waist-deep during the night, or go around it. The troops discovered two old logging tracks where the loggers had thrown tree trunks, where you could get across, so they put an ambush of eight of the best shots in the battalion on each of those crossings every night. In due course, they killed the lot, four out of four, the entire CT branch which was organizing all the supply from five villages. This killed the whole setup because the octopus that was running all these suppliers lost its head.

In the other example, the gang they were after was very aggressive, 16 strong, with a dangerous leader. The CTs lived in a marsh, a horrible piece of country, virtually impossible to approach along the narrow paths. It was impossible for a ground raid, even if they had known exactly where it was.

The agent was a supplier, able to tell them where the camp was, but not accurately enough for bombing. The Special Branch man told the agent, "Find out when that gang is going on an operation."

The agent reported. A patrol fixed the vacant camp accurately, being careful to leave no traces. The gang came back into the camp, the air strike went in, and 14 out of 16, including the leader, were killed.

An important point here is the scale of rewards. That agent got 4,000 Malayan dollars for every dead CT; 8,000 if he was a branch committee member, 12,000 if he was a district committee member. I think he collected 64,000 Malayan dollars, equal to \$20,000 U.S.

Then the agent was able to disappear. Only the Special Branch man knows his name. He is, no doubt, now a very prosperous man with his own business in Hong Kong or Singapore.

COMMODORE WARCUP: That gives a good idea of the picture and the tempo they worked under.

Containment of CTs Within Malaya

GENERAL LANSDALE: I wonder if you would mind touching on the containment of the Communists to Malaya itself. I am thinking of your border problems or of "over water" supply to the CT.

COMMODORE WARCUP: There was virtually none.

GENERAL LANSDALE: Was there any sort of an air patrol along the border?

COMMODORE WARCUP: Perhaps I am wrong on this, but the Thai border was a bit of a worry. For a long time the Thai Government would not openly come out and say that there were Communist terrorists across their side of the frontier. For some time they would not let us operate in their territory. Eventually, they allowed the Malayan police to operate on their side, but it was never really satisfactory. But fortunately, there was no significant CT resupply.

COLONEL CLUTTERBUCK: The Communists could have brought in as much as they wanted across the Thai border. There was also a 2000-mile jungle coastline across which it would have been impossible to prevent smuggling of supplies, recruits, ammunition, etc., if they had wanted to do it. Nor could anyone stop some from trickling in through Singapore, which was a separate territory. But they found it better to follow the normal Mao Tse-tung doctrine of getting it from the local people.

It was much easier to get ammunition or food by raiding a police post two miles away than by land or sea from Peking. I think that is the real explanation. They never really tried. They obtained all their material internally. The same holds for recruits. Local people were far better and far more effective as guerrillas than any imported from outside.

GENERAL VOLCKMANN: Was there any significant infiltration of personnel from outside sources?

COMMODORE WARCUP: No, not significant.

GROUP CAPTAIN SUTTON: At that phase of unrest in Southeast Asia, would it not have been in Chinese interests to have pushed stuff into Malaya?

COMMODORE WARCUP: It would have been jolly difficult. They did not control the sea. The Royal Navy was patrolling the waters. Land supply could have come from Thailand, but one of the terrorists' difficulties--it became progressively worse--was communication among themselves. It was not uncommon for a message from one CT area to another to take six months. How much more difficult would have been the movement of arms and ammunition, even if they could have laid hands on them in Thailand.

SQUADRON LEADER HARTLEY: You must remember the time element. The Communists definitely had the initiative during 1950-1951, perhaps 1952; then started to fade. During that time, Red China was in no position to help anyone. They had only just beaten Chiang Kai-shek. They were involved in Korea. Communist China has developed a lot since then. Probably a recurrence today would feature a lot of trouble from Communist China.

Resettlement Program

COMMODORE GARRISSON: As Commodore Warcup mentioned, at the end of the Japanese war there were thousands of Chinese squatters. These people had been in the villages, but fled to the hills and jungles to get away from the Japanese. They lived their own existence and they were not bothered very much. They set up very crude villages, established market gardens, and eked out an existence. When the Communists started up in Malaya, they used these people as a source of supply. It was very hard to get them out. Part of the Briggs Plan, followed through very strongly by Templer, was this resettlement program. It was the civilian Police, the only authority recognized by these people, who rounded all these people up. They brought them into areas where they could be protected and built complete villages and towns that were policed and protected by the civilian police, basically. The military were in the areas they came from, but the Police still exercised control. In other words, it was a civilian operation.

COMMODORE WARCUP: What perhaps hasn't been said was that after the High Commissioner, Sir Henry Gurney, was ambushed and killed, we discovered that his death was unintended. The terrorists had apparently

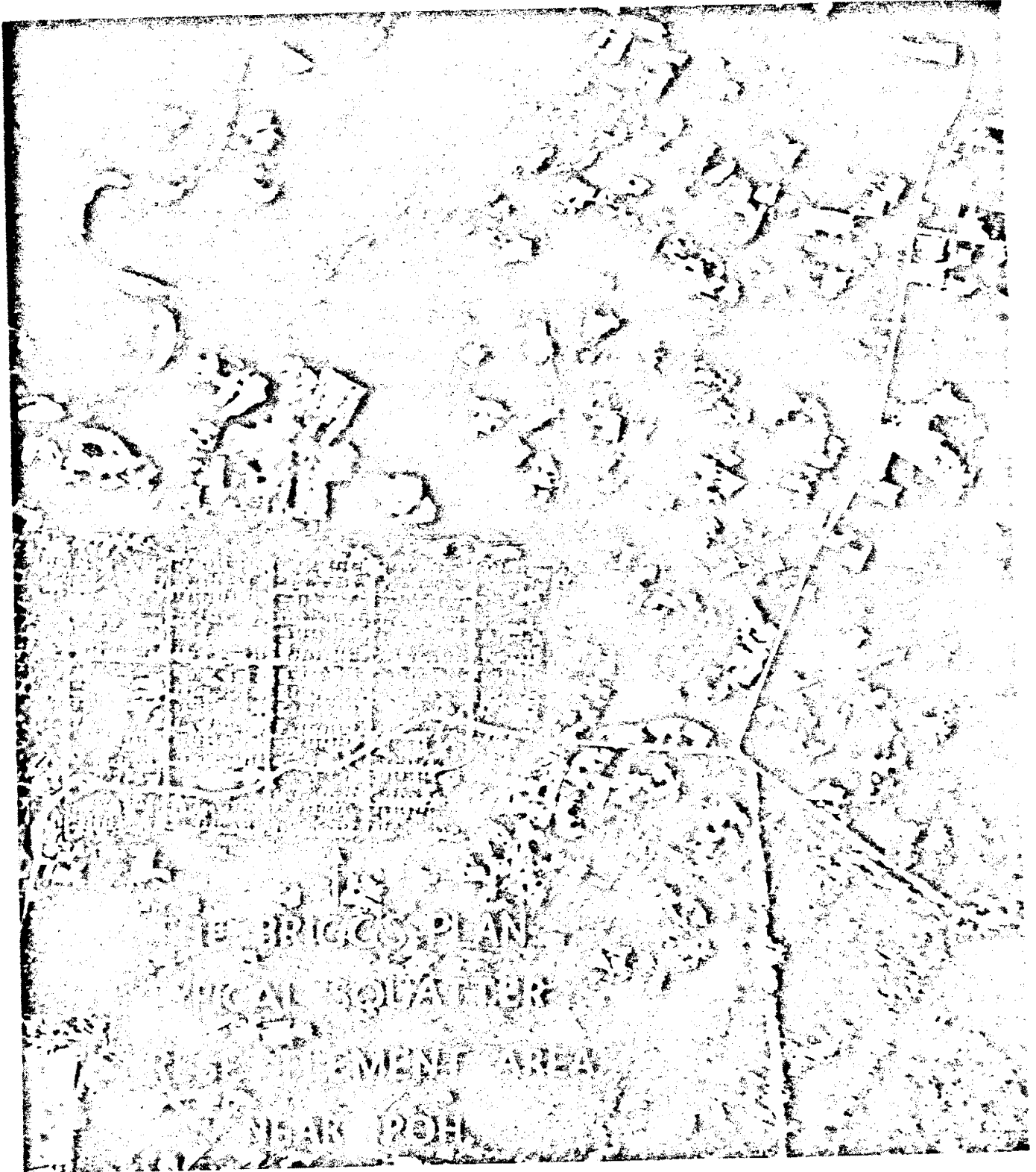


Fig.2 — This type of settlement was used to
insulate squatters from bandits

been waiting for an arms convoy or something like that. I'm told that after the murder of the High Commissioner, morale on our side took a knock. Therefore, one of Templer's big jobs was to try to drive some sort of self-respect into the Malaysans, and particularly into the Chinese population, who were playing it very cagey. They weren't too sure, at this stage, who was going to win.

Their physical resettlement, not an easy or a popular task, was of course misrepresented by Communist propaganda as a typical piece of brutal British imperialism. Nevertheless, in the long run it paid off tremendously.

COLONEL CLUTTERBUCK: One of the interesting points about the resettlement was its acceptance without a major uprising. Most of it took place after Sir Henry Gurney was assassinated. I think the Chinese expected something pretty powerful was bound to happen after the guerrillas had actually got the High Commissioner. Everyone accepted the fact that something drastic was needed if the CTs could kill the Head of State. I think the other thing at this stage of resettlement was confidence. The biggest factor in building confidence was quick reaction when the village police posts were raided. Unless the police posts can be kept intact, every man, woman, and child in the village knows that if they give information they will have their throats cut during the night by the Communists. It doesn't matter how many Army patrols pass through during the day, unless there is a police station there at night, functioning, you won't get any information from the people. I believe that was the biggest lesson in that phase.

These reaction operations against the CTs were not generally done by air, because it was possible to locate troops, mainly by companies in camps around the villages, who were able to reach the terrorists quickly. That was the first phase of the Emergency.

Food Control

SQUADRON LEADER HARTLEY: I think I would be right in saying that as the laborers from these resettlement villages left in the morning

to work in the rubber plantations they took one-meal rations out with them. This is all that was permitted out through the gate in the barbed wire. This was to stop the CTs getting amongst them while they were tapping the rubber and lifting a bit of food. There was great emphasis placed on stopping the CTs from getting food.

COLONEL SUTCLIFFE: The laborers were checked by numbers. Actually, this food control was the cornerstone of the entire operation. All other operations, as the war went on, were directed toward starving out the terrorists. The gardens they grew could be destroyed by ground troops or by helicopter spraying. The food control operation was the main cause of surrender in certain areas. I remember an area in Pahang where many of the terrorists started surrendering. They came out absolutely starving, solely because of the food control operation. This was the follow-on of the Briggs Plan, centralizing people, and keeping them controlled in resettled villages, as they were called.

COMMODORE GARRISON: In the villages the rule allowed only, I think, 24 or 48 hours' supply of food in a house. It was no longer worth while for the bandits to raid a house for food. There was not enough food there

COLONEL CLUTTERBUCK: I believe the real aim was not so much to starve them out, but to obtain intelligence. By watching the food supply, one could identify which Chinese villagers supplied the CTs. Then by real cunning, the authorities turned these chaps into agents. That was the key to this game, producing agents who were in touch with the CTs, but who were willing to inform on them; it was really the only way we ever found them. That was the real purpose of food control, to identify the civilian suppliers.

GENERAL VOLCKMANN: What were your most successful means of recruiting agents?

COLONEL CLUTTERBUCK: Basically, it had to do with this food supply. Maybe 10 per cent of the villagers would support the guerrillas because they themselves were dedicated Communists. Maybe another 10 per cent were positively anti-Communist. But the great majority supported the CTs because of coercion. They much preferred not to get involved with either side--they just wanted to live in peace, but were

terrorized into becoming suppliers.

The primary aim of food control was to identify and arrest the willing suppliers and force the guerrillas to rely as much as possible on the coerced ones. Then, by surveillance and accumulation of information, the Special Branch eventually could confront the villager with the evidence. Left with the choices of death, jail, or defection, an appreciable number accepted the risks of becoming agents. The Police would then offer an attractive way out, "Work with us and earn a nice fat reward." Recruiting agents was a severely practical business; nothing political about it.

COMMODORE GARRISSON: Another objective of food control was to deprive the guerrilla of the initiative. If CTs could not live off the jungle, had no food, and no base areas they could draw on by raids or coercion, and if you kept them on the move so they could not develop their own gardens, then they had to emerge into the areas containing food. There you had better control. In fact, this is exactly what happened, according to the Briggs Plan, drawing them out where we could fight them on our own ground.

CT Operations

MR! GREENE: I get an image of guerrilla bands living furtively in the jungle, trying to maintain themselves. What kind of offensive operations other than individual acts of terror did they undertake?

COMMODORE WARCUP: I think some of you who were not in this are getting some wrong impressions. Remember, this lasted 12 years; a lot happened in those years. The scale and degree of operations varied enormously. As the security forces started to win, the CTs were reduced in strength, numbers, and morale. But initially they operated in bands, attacking villages and police posts, blowing up the railway, this sort of thing.

GENERAL VOLCKMANN: In fact, they almost brought the tin and rubber industry to a halt.

COMMODORE WARCUP: Yes, they did.

COLONEL CLUTTERBUCK: Their aim, as in Indochina in the early stages, was to oust Police and Government control completely in certain

areas; expand from there. They succeeded in Indochina and they failed in Malaya.

SQUADRON LEADER HARTLEY: You could not drive along a Malayan road without fear of ambush. The rubber planters' vehicles had steel plates for protection, etc. Any movement by an individual along roads was highly dangerous. Railways were not safe.

MR. GREENE: Were there attacks on villages after they had been relocated and fenced in with wire, major attacks during the food control program?

COLONEL CLUTTERBUCK: When they attacked a village they would attack in large numbers, 200 to 300 men, but later on they found this cost them too many casualties. When they operated in large bands, they could not melt away quickly and could be trailed back to their camps and attacked. When they broke up into smaller bands, they became less and less aggressive.

MAJOR WOODHOUSE: To illustrate, in three years, 1953 to 1956, my battalion was ambushed once. It was the CTs only offensive action against my battalion. They perpetrated many acts of terrorism against the local people, but only on one occasion did they actually attack the troops.

III. AIR ACTION IN THE EMERGENCY

AIR MISSIONS

COMMODORE WARCUP: In Malaya, operations against the terrorists were continuous. Several separate operations might be going on simultaneously in different parts of the country. All requests for offensive or transport missions for these operations would come first to the JOC, who decided priorities, allotted resources, and issued skeleton operation orders. When a JOC order was received, each RAF station had its own small operational staff to allocate aircraft and pilots and to carry out any briefing that was necessary.

I am happy to report that the Army-RAF relations in Malaya were excellent. Other conditions did, however, impose certain constraints upon air action. Local weather conditions could easily frustrate air action, particularly offensive action. Identification and positioning of targets was never easy. The pilots had to be trained to the conditions. They had to get to know the country. When an operation order was given to the pilots, they were on their own. This called for considerable determination, a sense of responsibility, and the ability to act on their own initiative.

Malaya's weather was a constant hazard to the air operations. Meteorological forecasts were of little value. The only real answer was for the pilot to take off and have a look at the target area. Very quick build-up of cumulus or sheets of low stratus could prevent mission accomplishment. It was no good for either myself or the JOC to say the weather was or was not suitable. The onus had to be on the pilot. This statement is true of all air operations in Malaya, and no praise of mine can do justice to the resourcefulness and courage of the crews.

It might be advantageous at this point to mention navigation. There were no elaborate aids. Navigation was mostly by dead-reckoning and by map-reading, although later on we did have a radio transmitter homer, which was of some value to the smaller aircraft. Nonetheless, I never ceased to be astonished at the remarkable knowledge that

pilots built up about Malaya and the quite uncanny accuracy with which experienced ones could find their way about.

Transport Operations

COMMODORE WARCUP: Air Supply, one type of highly important air transport operations, was carried out by a small force of twin-engine Dakota type of aircraft, an unexciting aircraft, but ideally suited to the conditions. Supplies were prepared for dropping in packs of about 200 pounds that could be manhandled and discharged from the side door of the aircraft by the army dispatchers, whose units at the Kuala Lumpur RAF station did the packing. All loads were dropped by parachute. During the Emergency we dropped literally millions of pounds of supplies.

The importance of supply operations cannot be overstressed. A ground patrol could carry only seven days' supply on its back. Air supply made them completely independent; allowed ground forces to operate in deep jungle and stay there as long as circumstances demanded. A load of 4000 pounds could be divided among several different dropping zones (DZs). Selection of these zones was, of course, the ground patrol commander's task. Sometimes, a DZ was an open space, 100 square yards or so; sometimes all the pilot could see was a marker balloon sticking up through the jungle canopy (Fig. 3).

Supply dropping in Malaya was a difficult and sometimes dangerous task requiring the highest of flying skills. If the pilot had not been to the area before, he would carefully survey the surrounding country and work out a flight pattern. This was absolutely vital to ensure the safety of the aircraft. The drops were invariably done about 200 feet above the top of the jungle canopy, with the surrounding country often towering above the pilot. The combined skill of dispatchers and crews was remarkable and the accuracy of the drops was quite outstanding. You must remember that an error of even a hundred yards might make that pack irretrievable by the ground forces.

SQUADRON LEADER FOOKES: Possibly I can elucidate on a few of your points and add a few of my own. Firstly, you mentioned that the

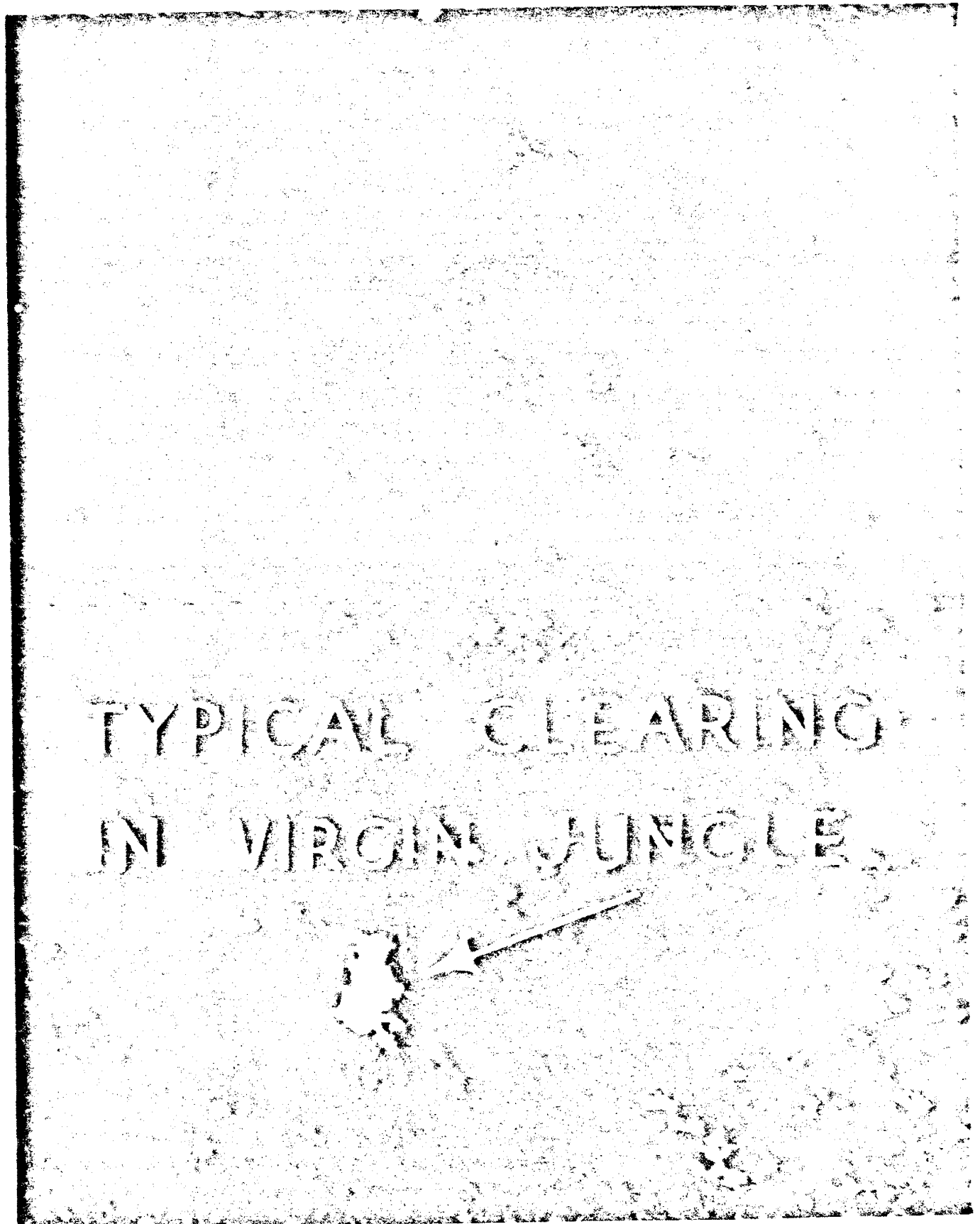


Fig. 3—A large jungle clearing; much smaller ones were also important, but were detectable from photographs only by stereoscopy

pilots always worked out an escape route before they dropped. This was very important in that terrain. The pilot first would fly over the area, probably at a couple of thousand feet, to work out exactly how he would get out from the terrain of the drop. Otherwise, as happened a couple of times, the aircraft didn't get out. We flew the C-47 or Dakota, well suited to the job and a nice easy old bird to fly, very small radius of turn, but it did have several disadvantages. The main one was its low angle of climb. You want something that can climb fairly steeply, otherwise you will have to spiral down into a valley, do a drop, and then do a climbing spiral out of it in quite a tight turn.

The C-47 had a couple of other disadvantages. One was the forward and downward visibility. Accuracy in supply dropping is very important. We used to drop by coming over the marker, whatever it was, count four after it disappeared under our nose, then drop. With a lot of practice you could get fairly accurate. Without that practice you were likely to "spray" packs, which makes the job very hard for the Army. Secondly, the poor rearward and downward visibility of the C-47, a side-loading aircraft, made it difficult to pinpoint just where the packs lit. They just disappeared into the trees. I think a rear loading "Goonie Bird" (C-47) with a plexiglass nose and more powerful engines would be ideal. A bombardier in front could do the actual drop and the dispatchers could see the landing point. Remember, you are dropping at probably a couple of hundred feet, and you have to get close to that target.

Another point is fatigue. Pilots used to lose an average of about three pounds on a two and one-half hour sortie that included four or five drops. You really worked hard. It was hot and humid. We always wore only a pair of shorts, though this was very much against rules.

COLONEL CLUTTERBUCK: The casualty rate amongst supply-drop aircrews was about four times that of the infantry, because of the low clouds and hills. It was a frightful casualty rate.

COMMODORE WARCUP: It was too high. One of my big worries was how to keep it down.

SQUADRON LEADER FOOKES: The first thing we did when we arrived in the country was to go out on an Army patrol for about five or six days. The main object, I am sure, was to impress upon us the necessity for accurate dropping. I suspect the aircraft crew that dropped to the patrol I went on was especially briefed. The packs hung about a hundred feet up in the trees.

MAJOR WOODHOUSE: Some of the DZs were often only the size of a tennis court.

GENERAL MAC CLOSKEY: Did you use any free falls?

COLONEL SUTCLIFFE: Army aircraft used free falls. The light aircraft did much the same when there was a requirement for small supply. Rather than putting in a demand for a Dakota, a small drop would be done by an Army aircraft, maybe just some medical supplies or fuel to get fires going. Just get a couple of sandbags and then dropped very accurately, with no parachute.

MAJOR WOODHOUSE: I would always foot it for the strongest tree in the vicinity.

GENERAL MAC CLOSKEY: How did you communicate with the forces on the ground in your resupply?

COMMODORE WARCUP: Radio between the aircraft and the ground.

GENERAL MAC CLOSKEY: Then you had no contact between the ground and the base saying it will be such and such a night?

COMMODORE WARCUP: As I understood, it was this way. An Army or Police patrol would request through its own net to headquarters what supplies were wanted. These would be sent to the Royal Army Service Corps organization sitting at Kuala Lumpur, not under my command, but right next door. They would pack the stuff and load it on the aircraft. The location of the dropping zone would be passed to the JOC. It was as simple as that, really. The whole thing became an absolutely routine matter; all daylight operations, of course.

MAJOR WOODHOUSE: On the matter of timing resupply missions, we found on many occasions that a patrol's progress was delayed waiting for the aircraft coming in. Because of bad weather, a supply mission was seldom possible before mid-morning. It certainly could not make a drop in the late afternoon. Very often the best part of the day was

wasted for the infantry because the RAF could not get in. The goal would be to resupply the patrol very early in the morning to allow collection without wasting daylight. This was seldom possible.

GENERAL MAC CLOSKEY: Having radio communication, you never dropped to the wrong people, did you?

COMMODORE WARCUP: As far as I know, we did not. The aircraft would call, and the chaps on the ground would fire a pistol, send up a smoke flare or something of that sort.

GENERAL MAC CLOSKEY: Over in Europe we found once in a while we would get into a hornet's nest going down to drop something because the ground had been overrun.*

COLONEL SUTCLIFFE: I know exactly what you mean, but the drops in Europe were very different in that they were at night; in Malaya it was day drops, with positive communication. Very rarely did you ever have communication over Europe at night. In Malaya there was always tactical FM radio.

SQUADRON LEADER HARTLEY: You must remember that in Malaya there was neither enemy air, nor flak to worry about. As for having positions overrun, the only thing that might be overrun would be a police post every now and then. You did not have a whole area completely occupied by the enemy, like in a major war. You had Communist patrols but they did not control the area. Our patrols were there as well. Neither one really owned it.

GENERAL LANSDALE: What was the smallest size of a patrol that was resupplied by air?

MAJOR WOODHOUSE: I would say about 10 to 15 men, probably. If a patrol was out, if there was a requirement, the patrol got its resupply

COLONEL CLUTTERBUCK: The Special Air Service Regiment (SAS) used to work in patrols sometimes as small as five. They would be in for three months on end, living entirely on air supply.

COLONEL SUTCLIFFE: I think one significant thing about the air supply is that aircraft, especially bigger aircraft, do tend to give

* See RM-3656-PR, ... Unconventional Warfare in the Mediterranean Theater.

your position away. When regularly spaced drops were made, maybe following a line, the CTs would know roughly the patrol's position. Even in jungles where noise is rather misleading, it is not difficult to locate a supply drop with the airplane coming around, engine throttled back. He is obviously doing the job, and then he comes around in a circle again. CTs have been known to keep well clear of patrols because every five days they were receiving supplies. The information gets around.

MR. PETERSON: Did you make any attempt to make any surreptitious drops?

COLONEL SUTCLIFFE: It is pretty hard to do with the noise of an aircraft.

SQUADRON LEADER FOOKES: I don't think it would be possible to drop surreptitiously because you wouldn't know where the CTs were. It is hard to hide a drop from them. You could never count on dropping that way.

COLONEL SUTCLIFFE: There were regiments, especially Gurkha regiments, who had very high kill records. Their success was due to not taking as many air drops. They took a bigger drop, at a supply dump, and used porters to carry their stuff in. You don't call for air resupply if you know you are in an area infested with CTs.

MR. SMITH: This sounds like it might be advantageous to have a relatively quiet airplane, which you can build by sacrificing some other characteristics. Would this make a significant difference in air drop operations?

GROUP CAPTAIN SUTTON: What does it matter if the terrorists know that you are circling over the top of them or whether an airplane is noisy? It doesn't give your position away, does it?

MAJOR WOODHOUSE: They know that you are in the area, probably not the direction.

GROUP CAPTAIN SUTTON: Does it matter?

COLONEL SUTCLIFFE: Yes, indeed. Your success is to get the enemy by surprise, to come across them or wait in ambush. If you are waiting for them and you have to have an air supply, they are not going to come near you.

COLONEL CLUTTERBUCK: I think that in this field, deception is more promising than quieter aircraft. A good example was a parachute drop of a squadron of SAS. The aircraft flew over the area regularly for a long time beforehand, so the CTs there got the idea that this was a normal, scheduled route. They then dropped their parachutists, and later supplies, but always flying on this same quasi-scheduled route.

COMMODORE WARCUP: I remember an operation near Kuantan, a very special one. We deceived the CTs by a certain pattern of flying.

MR PETERSON: How long did you have to fly those patterns to make them effective?

COMMODORE WARCUP: Several days or more, I believe.

MR. HOSMER: Did you attempt to fly phoney drops just to get the CT moving?

COMMODORE WARCUP: Not while I was there. The effort simply wasn't available.

COLONEL SUTCLIFFE: I don't think people realize that one C-47 might have several different penny packet drops to make. He might have two bundles to push out in the jungle valley, and then fly eight miles or fifteen miles, let down again and make another drop. This was the tiring aspect of it.

COMMODORE WARCUP: Sometimes there would be up to seven drops, which was extremely exhausting for the crews.

GENERAL VOLCKMANN: Did you find a requirement to have communications between the ground and the transport?

COMMODORE WARCUP: There wasn't any great difficulty about this.

MAJOR WOODHOUSE: We used our normal radio stations with the frequencies they were flying. When an Australian voice came up, we knew it was on its way.

GENERAL VOLCKMANN: What kind of radio did you use?

MAJOR WOODHOUSE: An old radio. There was tremendous trouble with communications.

GENERAL MAC CLOSKEY: Wouldn't the CTs have the same radios and know you were coming?

MAJOR WOODHOUSE: I don't think they did.

COLONEL SUTCLIFFE: Unless they captured them.

SQUADRON LEADER FOOKES: They certainly wouldn't be above putting up another drop zone a half-mile away.

COMMODORE WARCUP: Supply aircraft, I am sorry to say, crashed occasionally. Surprisingly there were survivors. I am thinking of one particular case, a Valetta, running up a valley to pass over a spine of mountains. The pilot was quite correctly running up one side of the valley--the idea being if he had to turn back for weather he had the maximum room to turn. This poor chap was on the starboard side of the valley and his starboard screw oversped. From that moment he was a dead man. The Valetta had a pilot, navigator, wireless operator, and four Army dispatchers. The Captain had the courage and reaction to say over the intercom, "Emergency stations" or "Crash stations. Go." And the four Army chaps had time to strap themselves into their seats. The crew were killed outright, the four Army chaps survived.

I might as well tell all of this because it is of some pertinence. One of the rules we made all Captains of aircraft follow was to report their location and intentions every half hour. About ten or 15 minutes prior to his crash this particular chap had made such a report. In the event of a crash, orders were to stay with the airplane for 48 hours, because we had a fairly good search organization to rescue them. When this aircraft was overdue we immediately started search procedures. There was one curious facet to this story. Looking at the map, knowing where he was when he gave his last radio signal, by simple bit of airmanship, you could say it is probably about in this area.

Then we had a telephone call from a European manager of a gold mine, on the other side of the hill who said that he had heard a Valetta crash. Immediately, we swung the entire search organization onto the eastern side of the mountains and, of course, we didn't find him because the poor chap was on the western side. Anyway, we found him the next day in deep jungle. We alerted the special rescue squadron, which consisted mostly of SAS chaps with an RAF doctor, and the rescue squad was parachuted to the wreck.

The four young Army dispatchers stayed with the aircraft for the first night but naturally were not feeling too happy about their situation. Unfortunately two of the soldiers decided to try and walk out. When the rescue squad was dropped onto the wreck they found two chaps, and we lifted them out that day. Where were the other two? It took us a long time, and required a considerable effort to discover them. Some Army chaps had to start from the crash and work down the river, because in this particular sort of country you ought to stick to water. The police started a patrol up the river. It took us two or three days to find those chaps, all because they didn't obey orders. Our "stay with your crash" rules obviously had tremendous advantages.

The pilot's 30 minute report was our only way of really keeping tabs on him. A supply dropping pilot might have five DZs and would be briefed to go the most economical way round. But weather might make him skip one. If he got into difficulties, unless you knew he had done that, the chances are you might lose him.

Just before I got there, an Army plane crashed in the jungle quite close to Kuala Lumpur. I was told they knew within yards where he had gone in but they never found him. He'd gone straight through the canopy, which closed up on top, and that was that.

GENERAL MAC CLOSKEY: Did your crews go through any survival training?

COMMODORE WARCUP: Yes. I believe this is very important. When you fly over the jungle the first time with a single engine aircraft you tend to say with some feeling, "Heavens" or more than that. The Far Eastern Air Force had their own survival school, on top of which I had my own little three-day survival course, organized in conjunction with the Army and the Police. We would simply walk through the jungle for three days. The object of this was to show that you could survive in the jungle, provided you did certain things. This was everyday knowledge to an Army chap. It is not everyday knowledge to an airman, and they were also shown what not to do. It is absolutely imperative for the chap's morale to know if he falls down he has got a chance of survival.

SQUADRON LEADER HARTLEY: We flew with a survival pack sewn to the parachute harness. The chutes were chest type for the crew and seat type for the pilot. We flew with this survival pack physically strapped to us. We also carried a machete and a pistol.

COMMODORE WARCUP: Helicopter Operations were something else again. If the supply drops gave the ground force their sustenance, I suggest that the helicopters provided their mobility (Fig. 4). I have already mentioned that movement on the ground could be very difficult. Instead of the troops walking laboriously into the jungle, they could be flown by helicopter into the tactical area fresh, fully rationed, and ready to go. Only a small hole in the jungle is required to get a helicopter down safely (Figs. 5 and 6). By the end of the Emergency, there were literally hundreds of landing zones, either natural ones or those cut by the ground forces. The most popular cutting method was by plastic explosives. Once the ground patrol had finished, the helicopters could lift them out, or of course, move them elsewhere.

If you will bear with me, I would like to make a point about helicopter operations, which I feel strongly. I suggest that proper use is the correct application of the principle of economy of force. Those unsympathetic to helicopters--and I have met many--often complain of their expense. My answer is that helicopters enable you to carry out military operations that otherwise might be impossible.

On the other hand, the helicopter operator must resist demands that would result in misuse. A small force of helicopters can lift a large body of troops, providing sortie links are kept to an absolute minimum. The Air Commander may have no option on the landing zone, but he can control the pick-up point. Troops must be moved by lorry or other ground means to the nearest pick-up point. Much dead flying is eradicated that way.

In Malaya an SA-55 sortie of, say, 10 minutes could lift four or five men ten miles into the jungle, a journey that on foot might take them four days. The military advantage of this sort of operation hardly needs elaboration. Helicopters certainly gave the commander considerable flexibility in planning, together with the possibility of achieving surprise.

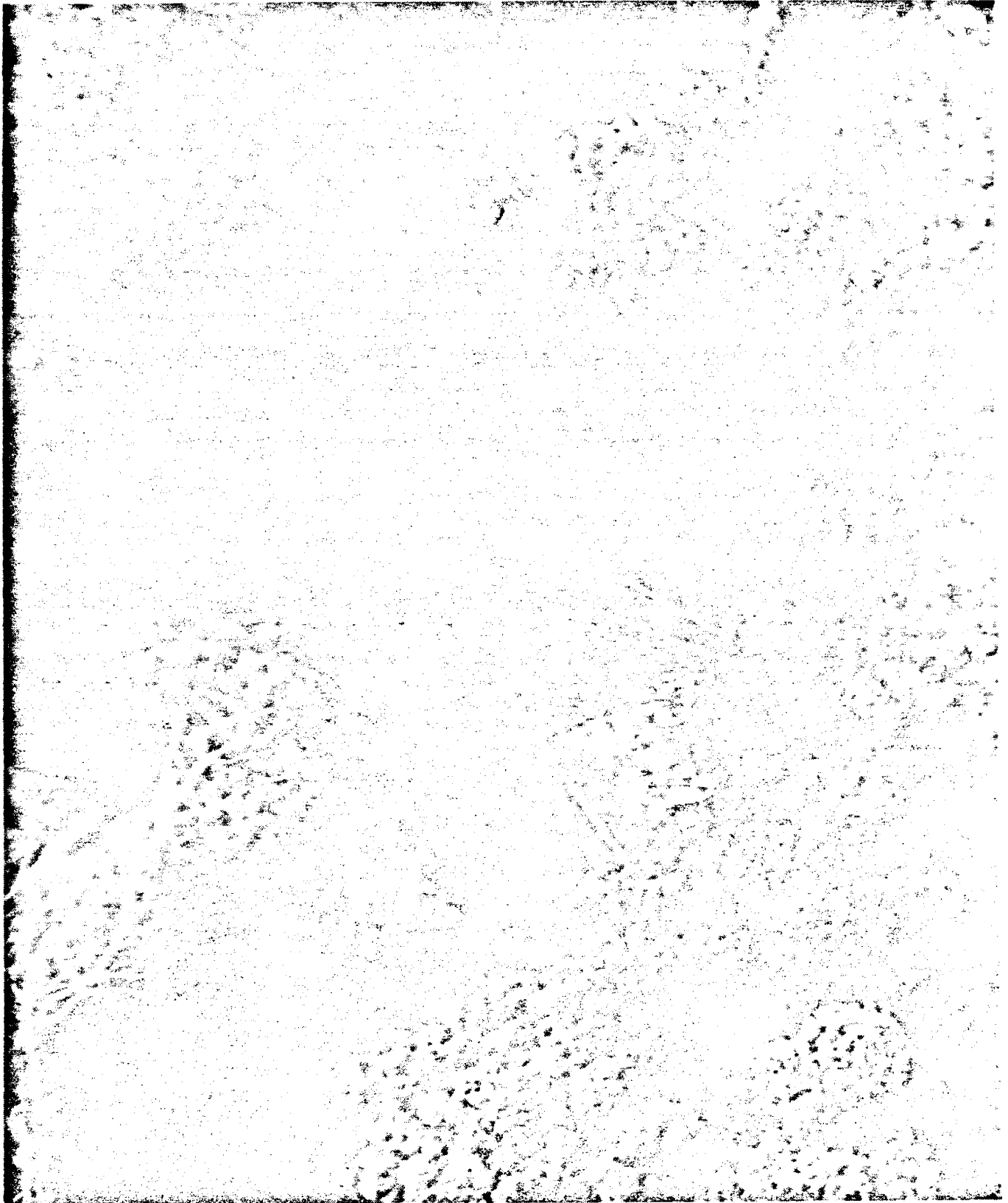


Fig.4 — A landing site cut by ground forces for helicopter evacuation of an army casualty



Fig. 5—RAF Squadron 155 Whirlwind helicopter over Malayan jungle

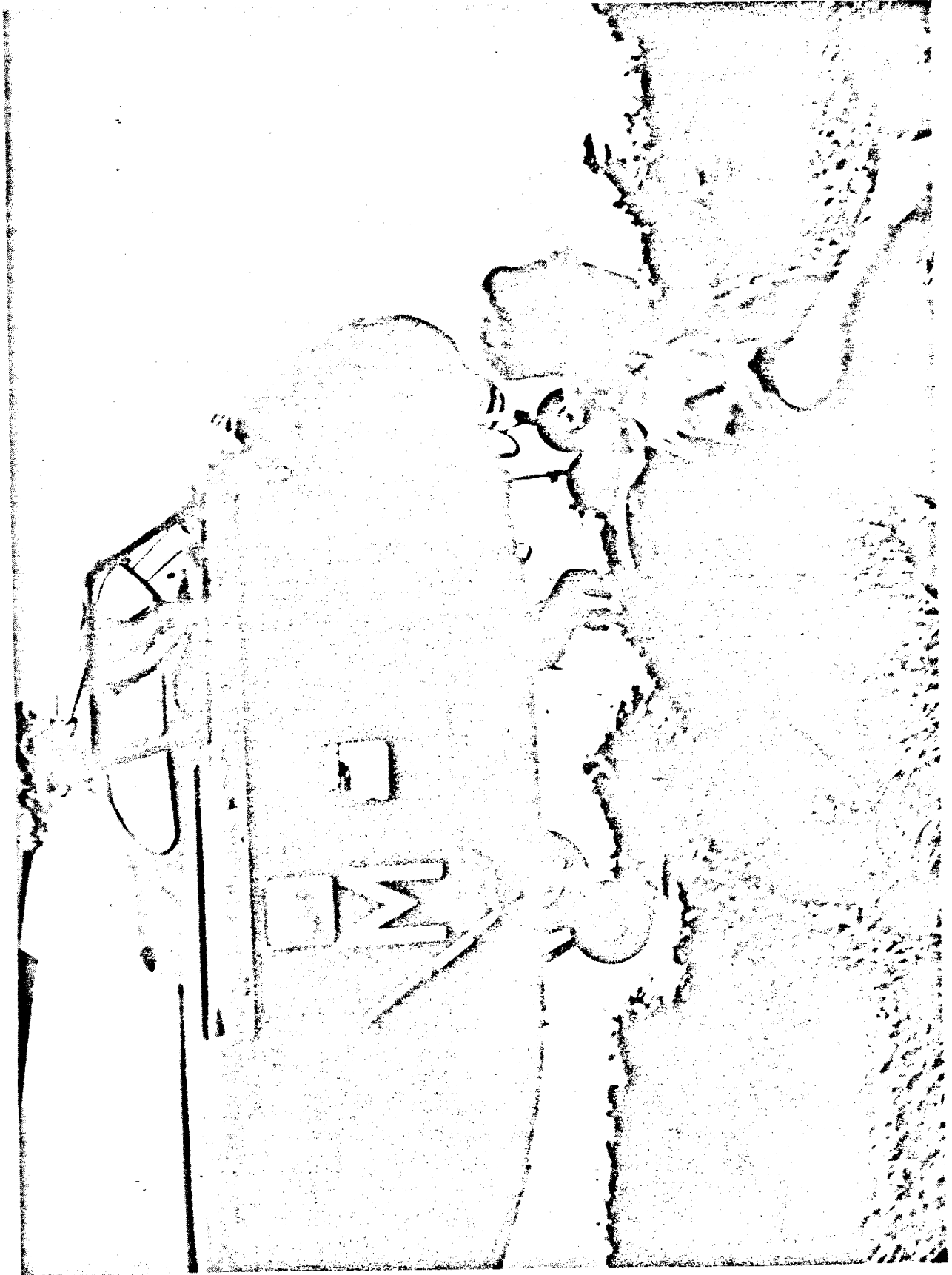


Fig. 6—RAF Squadron 155 helicopter during troop lift in Selangor

Casualty evacuation was a continuous commitment of the helicopter force in Malaya. A man on deep jungle patrol could be suffering from a broken ankle, a wound or even a snake bite. To man-handle him out might mean giving up the entire patrol without saving his life, because of the time involved. The capability of immediate casualty evacuation by helicopter had tremendous morale value to the ground forces. In addition, it eliminated disruption of operations by relatively minor events.

Helicopters were also important in communication work, for parachuting--I will say something about that in a minute--and for crop spraying. In the early years of the Emergency, the CTs cultivated their own food crops which, on the whole, were quickly spotted by the Army air reconnaissance aircraft. We liked to deal with these by spraying the crops with poison, but in a Cold War this sort of action has its hazards. On one occasion a whole area of young rubber was sprayed by mistake. The claim for damages was so high it made this type of operation somewhat unpopular.

I must stress that in Malaya the pilot was invariably flying the helicopter to its absolute limits. The demands of load, temperature, humidity, and altitude required the greatest skill on the part of the pilot as the clearings were frequently very small. The angle of approach was steep; the entry and exit path often the same, irrespective of the wind direction. Apart from flying the aircraft, the pilot was also his own navigator. When he came out to Malaya, it was essential that he get to know the country as quickly as possible.

Turning to parachuting operations: the security forces always had trained parachute troops at their disposal, but parachuting into trees 200 feet high is not everyone's idea of a comfortable occupation. The problem was eventually solved by the invention of a thing called the abseil gear, which was a great bundle of webbing. When a chap got caught up in the trees, he let himself down. At least that was the theory, and it was done. Sizeable operations were infrequent, but the capability to drop small parties of parachutists with great accuracy from helicopters was particularly useful, frequently employed in rescue operations after aircraft crashes. These special teams

always included a doctor.

Speaking from a personal point of view, the pilots on those rescue missions accepted risks that would not be acceptable under normal flying conditions in England in peace. If an Army chap or policeman was wounded in the jungle, a casualty evacuation helicopter would go immediately to pick him out. It was accepted by authority that the casualty helicopter operation demanded higher risks than other types of operations. I don't think anyone would disagree with this principle.

MAJOR WOODHOUSE: From my point of view, there were never enough helicopters. We could rarely get them when we wanted them. It was always a major problem to prepare a strip, a pad. Often they could not land, but would come in and hover, and it really did take quite a lot of effort. We were doing a long-range plan in a swamp area employing a complete platoon of engineers to do nothing but build helicopter pads throughout this swamp. I think they put in fifteen or twenty, not connected with the work we were doing at the time. This was long-range. A later battalion cleared the CTs out of that area using our pads, which points to the need for long cycles of preparation. You don't think you are going to need pads at the moment, but when you do need you will have them. It takes a long time. Also the helicopter casualty evacuation system was without a doubt the largest factor in morale.

COLONEL SUTCLIFFE: The original helicopters, S-51s, went in in 1948. Evacuation of casualties was their main role. When the H-19s arrived in 1953, the first problem was where they should be based. People said, "Put them all in Singapore and we can maintain them." They started there. Later, half were pushed up to Kuala Lumpur and eventually all came to K. L. The JOC controlled the helicopter force. Many flying hours were lost by having all the helicopters centrally located. Every task required hours of positioning time. It would have been preferable to disperse the helicopters around the country, if you have enough helicopters to do it. There never were enough, so it wasn't possible.

All sorts of things had an effect. Terrain is the worst thing for helicopters; also there were humidity and altitude. As to the size of helicopters that could be used: the S-55, at best, could only carry four or five men for the local conditions of density altitude, so even if you had six or seven helicopters on an operation, the ferrying system was very slow. If there could have been more high-powered helicopters such as the Wessex type, S-58, which carry between ten or twelve men, this would have added tremendously to the operation. Maintenance of helicopters was difficult. For instance, they brought out some Sycamores with wooden blades, but discovered that the wood warped fairly rapidly.

An early, typical operation for a helicopter squadron would be from Kuala Lumpur in the morning to some site, say up in the Ipoh area. The squadron commander would fly up maybe the day before the operation for liaison with the commander whose troops were going to be lifted. They would already have planned where they would lift from. In the planning would be the problem of locating fuel for that lift, which obviously wouldn't be from the battalion billets, but the closest convenient spot that would not jeopardize the route into the jungle. Fuel would have to be located there. This was quite a problem where you could not drive trucks. All sorts of methods were used. Sometimes there was quite a large air supply of fuel into the forts, thence lifted out of a fort and into an area. Other times, fuel was brought up rivers by outboard motorboats and dumped. The operation then was the shortest one from a suitable launching area into the clearing.

The types of clearings often restricted the number of troops that could go in. In some clearings it was possible to bring only two or three men, whereas at others you could land up to five helicopters. The landing zones varied, and many required the maximum available operating power all the time. This is easier with turbine helicopters, which have a little more power.

GENERAL MAC CLOSKEY: Did you have many shot down?

COLONEL SUTCLIFFE: The CTs did not shoot at helicopters. The first helicopter operations were always supported by Hornets which strafed the CTs areas before the helicopters put down. There was

no occasion during the years I knew when the helicopters were fired on.

MR. PETERSON: Did you carry men with guns or mount guns on the helicopters?

COLONEL SUTCLIFFE: No armed helicopters. Occasionally the troops in the doorway did have a weapon ready to fire as they went in for a clearing. Helicopters were used mainly to lift troops, but also to move supplies, take police into jungle forts, evacuate casualties, and effect general liaison.

COLONEL WOOTEN: Was there any effort to make pads on an emergency basis with the use of explosives? If you needed a pad real quick, how did you get it?

COLONEL SUTCLIFFE: People did use explosives. I think explosives didn't really pay off, because they left stumps. Really, the best way of finding a pad was always to get the helicopter to spot a landing zone. For instance, if there was a river, it was simpler to chop down some trees at the water's edge. You always got the pilot to find one.

COMMODORE WARCUP: Can I disagree with you very slightly on this and clear up a point between the two of you? Pads such as Woodhouse mentioned were in swamps. If the chaps on the ground could find a little hole in the jungle, big enough to let the helicopter in with an angle of approach acceptable to the pilot, that was all right. But it wasn't true that they always had to make pads. The ground underneath might have been bloody rough, but was not always necessary to have pads.

COLONEL WOOTEN: That is why I asked the question. I understand that in air evacuation, for example, you wouldn't actually set down, but you would require a hole. My question was, how effective were explosives; were they used for this purpose, and did the canopy hang up?

COLONEL SUTCLIFFE: Explosives were used to a very limited degree, but not for trees 150 feet high. In fact, you didn't always have to get a helicopter down; it could just hover, providing it was not too high. Many of the helicopters had 30 to 40 foot ropes with knots tied

in them. One was always afraid of letting down and onto some sharp edge, and so the pilot would hover while people would climb down the ropes.

COMMODORE WARCUP: I would like to add one or two points. I agree that maintenance was a problem. Believe me, I am putting my feelings very mildly when I say that. I would have thought, from my experience, that helicopters ought to be serviced centrally, but I hope that with more modern helicopters you could operate them away from the main base for three or four days and know they weren't going to become unserviceable. In fact, we did this towards the end, even with the Sycamores and Whirlwinds. It didn't work too badly. It certainly got rid of dead flying. But as long as helicopters are helicopters they have got to come back, in my view anyway, to a central servicing point. Fueling wasn't a big problem. I think the Police did it for us. We would ask for so many gallons to be positioned at the pick-up point, generally in four-gallon drums. The chaps would do it themselves, taking ground crews who would help with refueling as well as servicing the aircraft.

MR. PETERSON: As a matter of interest, were there jobs you could do with helicopters located in the forward areas that you couldn't do when they were based in the rear?

COMMODORE WARCUP: I must be careful about this; I suppose I am a biased witness. When I arrived at KL, the central RAF maintenance organization was there. Aircraft for terrorist operations fanned out from there depending on the nature and location of the job, until right to the end. I believe this was the best solution

SQUADRON LEADER HARTLEY: Remember the geography of Malaya. You can include practically any point of Malaya by describing an arc of 150 miles from KL.

COLONEL SUTCLIFFE: However, there is a lot of helicopter flying because you have to go where the lines of communications are. If a chap went out alone he always followed a main artery of communication.

COMMODORE WARCUP: This is true, but the alternative was to have three or four maintenance centers.

COLONEL MC BRIDE: Did I understand you to say the helicopter squadron was a Navy squadron?

COMMODORE WARCUP: We had a Navy squadron for some time. It had just gone when I arrived there. The fact that it was a Navy squadron was incidental. The Australians were flying the Lincolns; some New Zealanders were doing some of the supply dropping. It was not only a Commonwealth effort, but a joint effort as well. I thought you might be interested in the fact that the Navy did participate in operations like this.

COMMODORE WARCUP: STOL Aircraft Operations played a unique role deep in the jungle. As the pressure of the security forces pushed the CTs deeper into the jungle, so the CTs started to rely more and more on the indigenous aborigines of Malaya. These aborigines are literally stone age people, almost unknown to white men until the middle thirties. They were being dominated by the CTs for their own purpose. Their knowledge of the jungle is unrivaled and the Communist power over them had to be broken.

This was done by building Police posts in the jungle with a small 200 yard strip for STOL aircraft. We called them jungle forts, although that is a misnomer. They were merely small points of habitation with a Policeman in charge. These jungle forts became the centers from which Malayan Government control was exercised, from which the aborigines were given food, medical attention, and help, and were eventually won over to our side.

Of course, these forts could be supplied only by air. We used a single-engine Pioneer aircraft (Fig. 7), with short landing and takeoff characteristics; ideally suited for the purpose. They could change the garrison, bring in supplies and so on, furnish a lifeline for the fort's existence. To refresh your memory, the Pioneer, this very early effort for STOL aircraft, was remarkably successful. By modern standards it was underpowered, and these strips were only 200 yards. That is not an exaggeration. Approaches to some were extremely difficult. At the end of the runway there was often a very sharp wall of rock or trees, so that you went in one way and you came out the opposite way. A skilled pilot could get the Pioneer down to

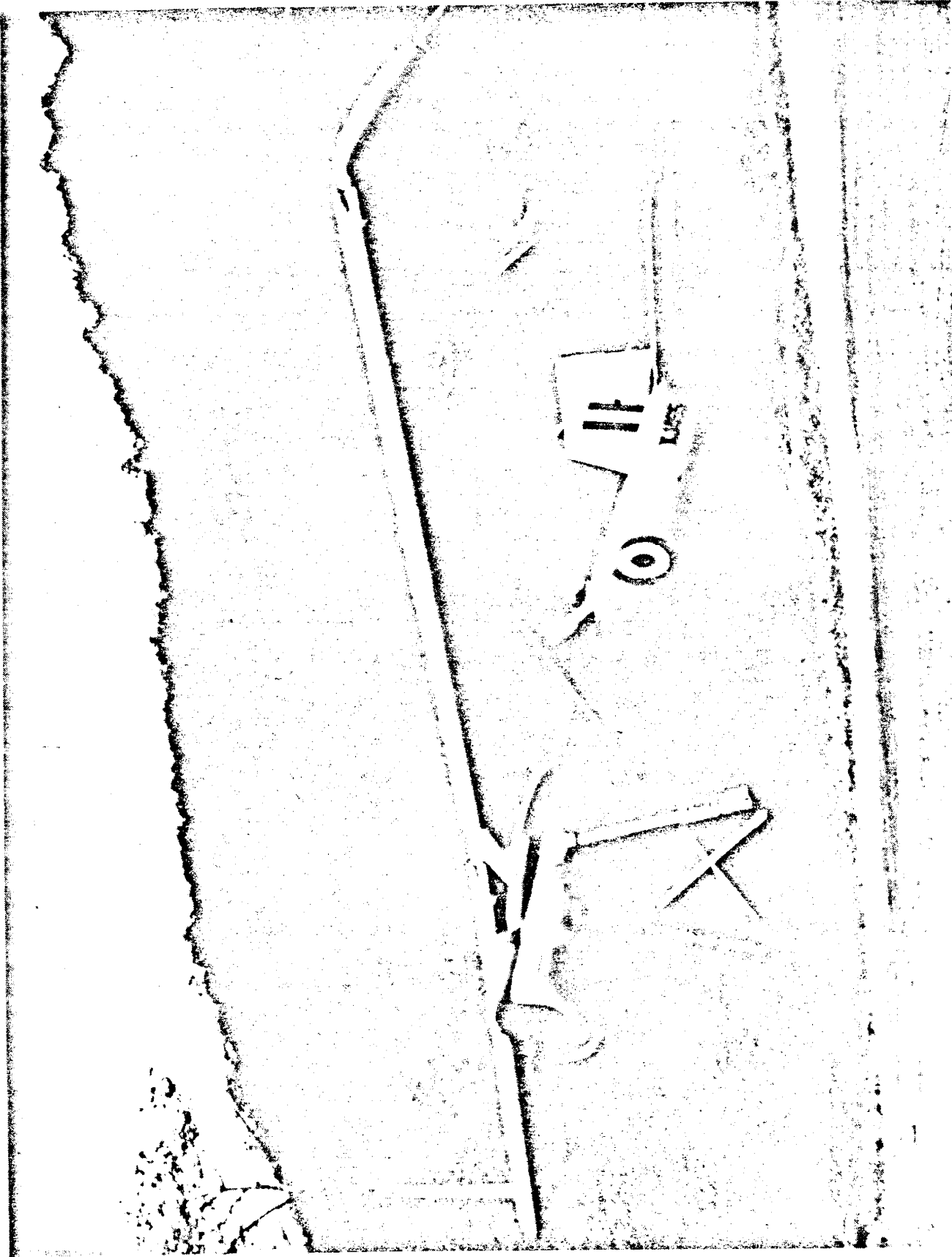


Fig. 7 — RAF Squadron 267 Pioneer, used for supplying jungle forts

25 knots, and stop it within 200 yards. One could carry, with the pilot, four people or, speaking from memory, six or eight hundred pounds of freight. They were used quite extensively for changing the Malayan Police garrisons in the forts. The policeman in charge might be an Englishman, often an Australian, later a Malayan or Chinese.

GENERAL MAC CLOSKEY: What language did they speak?

COMMODORE WARCUP: You know what the English are like; if you can't speak English, you have had it.

COLONEL CLUTTERBUCK: Sometimes English was the only common language between men who spoke different dialects.

COLONEL SUTCLIFFE: All British officers were required to speak Malay, an easy language to learn.

SQUADRON LEADER PRATT: We went out to check on radio service-ability. It seemed rather clear and we thought they were speaking "Gurkha." We found out that they had been speaking English.

MR. PETERSON: Is there any comparison between this Pioneer airplane and the helicopter for the same job?

COMMODORE WARCUP: This question is often asked. I regard it an unhappy one because they are two different types of airplanes doing two entirely different jobs. You can make the helicopter do what the Pioneer did; you cannot make the Pioneer do what the helicopter did.

I don't know what the arguments have been on this side of the water, but on our side there have been statements that the helicopters are expensive. Well, they are I suppose, but they enable you to do things that otherwise you cannot do. In military language this is a powerful argument.

Current American or British thinking on future transport aircraft, as I understand it, is STOL with built-in ability to develop to VTOL. Even when you have that you can't match the helicopter operations that were carried out in Malaya. The ground chaps would spend all their time knocking trees down. I don't see how there can be any argument about the special advantages of the helicopter.

MR. SMITH: How did you go about constructing and maintaining the 200-yard strips?

COMMODORE WARCUP: They were literally in the deep jungle, and baby bulldozers had to be dropped in pieces. I wouldn't have thought the strips caused much trouble in maintenance, but they got washed away occasionally.

MR. SMITH: How long would it take to build them?

COLONEL SUTCLIFFE: The first two took about six weeks each, in inaccessible jungle--that's why we built them. It was an awful lot of clearing.

MR. PETERSON: How many Pioneers did you use?

COMMODORE WARCUP: We had one flight of eight. You would normally expect to keep four or six on the line.

MR. PETERSON: Did you keep these at one central base?

COMMODORE WARCUP: All the transports in my time were at Kuala Lumpur. As you probably gathered already there was some argument about this. You see, K. L. is in the middle of the operational area. I am sure this was the right place.

MR. PETERSON: I was wondering if you sent the Pioneers out to a forward strip and operated for a few weeks there.

COMMODORE WARCUP: No, the main supply base where the food was, where Police headquarters were, where reinforcements, replacements came from, was also Kuala Lumpur. There were other landing strips around besides at the jungle forts.

COLONEL SUTCLIFFE: Army Austers should be mentioned in this talk of Army airplanes and Air Force airplanes. Then, all aircraft were directly under the control of the Air Force. It has now changed slightly, and there is a separate Army Air Corps. This was a fairly low level war, so at a brigade level you could expect to see an Army flight of eight or nine Army Auster aircraft. They would cover an area, let us say, the size of the State of Pahang. There would be various light aircraft strips around it.

The flight would be located permanently in that brigade area under control of the local brigade commander. The main job, depending really on the area and its problems, was visual reconnaissance of an area maybe 150 miles across and 60 miles wide. The pilots would get to know every river, every little feature on the ground, and on a

flight would see the slightest change in a clearing or area of cultivation.

Every time a pilot returned from a reconnaissance flight he would make notes of what he saw on the master map in the flight office. Over the course of weeks we would get a fairly good picture for the local commander and his staff; that was the first job. Next, that flight would help patrols in the jungle. Patrols find it pretty hard to navigate in the jungle. Maps are not always good. Light aircraft pilots could direct a patrol onto an area they wanted to reach. First, the pilot would give them an exact position and a compass bearing. Another of his roles was to give them small supply drops.

Some areas were pretty dangerous for travel, the hilly parts of the country. There was a constant demand for communications and liaison sorties. Pioneer aircraft could take four people at a time, Police, civil administrators or Army people, often just to give them a feel of the territory they were going to operate in. Leaflet dropping went on all the time. Although the number of targets marked for bombing missions was fairly large, not too many were successful.

But even flying at 80 knots, it is extraordinarily hard to pick up anything through the more or less complete canopy of the jungle. It would just be luck that a pilot happened to see a CT camp through the dense jungle.

The pilot was told never to go back for a second look because the circling would warn the CTs.

To sum up, our tasks were visual reconnaissance, general support to patrols, communications sorties, leaflet droppings, and target marking.

Offensive Operations

COMMODORE WARCUP: Now, offensive support. I think all of us will agree that for offensive air operations to be successful, certain conditions must be fulfilled. To my mind, these are an identifiable target, its exact geographic location, and an attacking force capable of accurate navigation to the target and carrying a weapon suited to the target.

Malaya presented some considerable problems for offensive air support, which can by no means be considered, in itself, decisive. The intentions were to kill as many bandits as possible, to destroy their camps and equipment, and to disrupt their organization.

At the beginning of the Emergency, the mapping of Malaya was most unsatisfactory. This, combined with the extreme difficulty of locating targets under a jungle canopy, made bombing difficult. At the beginning, some enemy camps had 300 men, which made worthwhile targets, but, as we developed successful bombing techniques, so did the numbers of targets become less. The CTs became extremely sensitive to air attack. They adapted elaborate camouflage for their camps and dug slit trenches. As a matter of interest, during the ten-year emergency, we dropped 33,000 tons of bombs (Fig. 8).

Two bombing methods were used. The first, a form of target marking by Army reconnaissance planes with the bombers aiming at the target marker, was not frightfully accurate. Eventually a radar technique was developed that was extremely accurate and was independent of night and weather. With the radar technique, the aircraft would be directed to a point in space and the pilot told when to release his bombs, normally thousand-pounders. Sometimes we bombed merely to flush CTs out of an area that the Army or Police wanted; other times we scattered bombs around the place to keep the CTs awake and to make life generally difficult for them.

In some areas we were constrained from all bombing because the bomb splinters stuck in the trees and were liable to damage the local sawmills when the trees were cut. In all cases, Police agreement for bombing had to be obtained, so that friendly life and property could be safeguarded.

GROUP CAPTAIN SUTTON: Someone mentioned napalm. I think you said it wasn't used.

COMMODORE WARCUP: Napalm was not part of our normal armory. I have been assured that napalm was not effective in burning the jungle down.

SQUADRON LEADER HARTLEY: In 1951 the British conducted trials at Songsong Island Bombing Range, dropping all sorts of bombs into the

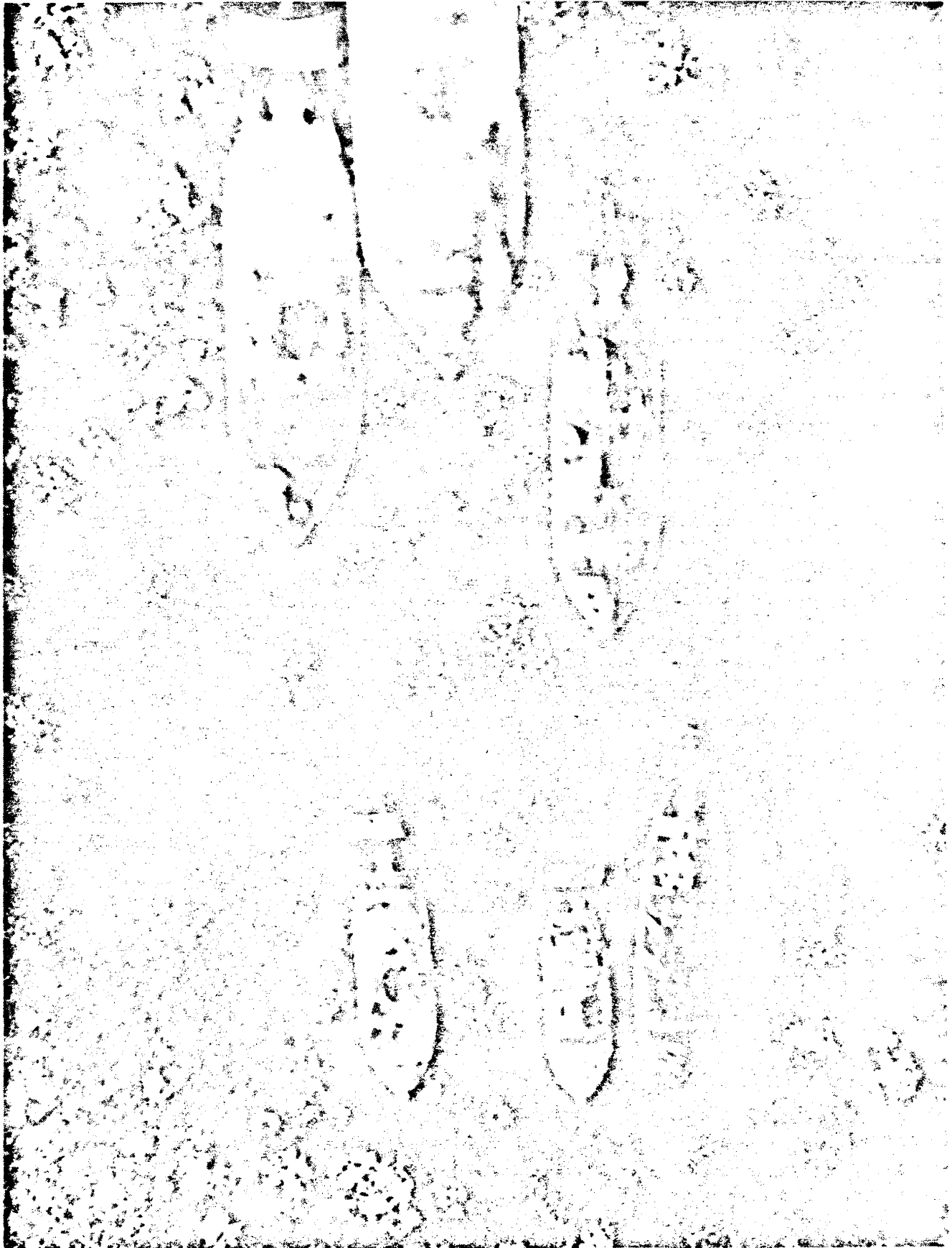


Fig.8 — RAAF Lincoln bomb drop as seen by
the aircraft's bomb aimer

jungle on the island. A team of specialists measured the area of damage, the density of the burst, and all the rest. They came up with some answers about the best types of bombs to use in heavy jungle. There would be a report of these trials floating around somewhere.

COMMODORE WARCUP: Ground-attack aircraft using rockets and cannons had definite limitations imposed by the same conditions that affected the bombing, but attacks were made on an opportunity basis, in an effort to harass the CTs and keep them on the run. But ground attacks were used to a decreasing extent as the Emergency developed.

COLONEL WOOTEN: The Planning and Control in getting offensive operations under way need explanation; I think they are crucial to timely response.

For example, what modus operandi did you have for coordinating your planning of the Lincoln missions with the civil plans and the ground plans? Somebody established a requirement for the strike in the first place. The target had been identified. There was a decision-maker somewhere along the line, and communications were involved.

COMMODORE WARCUP: Remember what I said about the over-all control. The top was the Director of Operations Committee, who handed down the general pattern on how particular operations would be run and, more important, on which operations would be given priority. The three military commanders sitting as members of the committee would therefore know the priorities. Below that you had the State Committees. If a particular state had been given priority for an operation, perhaps the ground forces would be reinforced and air support for that particular State would have priority. Farther down you have what are called District Committees. A district in Malaya was almost exactly like a county in the United States. The District Officer is sort of an alma mater, if you will, to the locals. He teaches them, looks after them, and helps them. The District Committee worked out the details of an operation. I know I am not answering your particular question about immediate support, but I cannot--you must get away from the idea of this being a sort of normal war, you see. The District Committee had the District Officer as head man, and it included also the local Army commander, the local Police officer, and any local representative thought fit to

be a member. So, you see, the actual military representation was a bit thin.

COLONEL WOOTEN: In a circumstance like this, might there be competing demands for air when you have decentralized requirements?

COMMODORE WARCUP: There never was any great difficulty about this when I was there. Some of the chaps can speak about the earlier days. A request for support would come from one of these committees direct to the JOC. As the AOC owned the JOC and was a member of the Director of Operations Committee, obviously there couldn't be any clash in the over-all priorities. It was the JOC that said, "All right, this is the priority for a given moment in this area. We will do this tomorrow and we will do something else the next day." I would say it worked jolly well. There was constant Army and Air Force representation there. The JOC was very small. It didn't occupy the size of this room, for example, and I would say it was very efficient. I don't know whether the Army would agree with that.

COLONEL SUTCLIFFE: It wasn't necessarily the committee who initiated the command. It depended on how the operation originated, whether from a light aircraft pilot flying visual reconnaissance and suddenly spotting something, or from a platoon strength patrol. Whichever way, it would end up often as not with the Army putting in a bid through this Air Support Signal Unit (ASSU) net. Instead of having one net from the Army in the field to the JOC, and another one at the airfield, it was all a small family affair, everything one net, one channel of communications. So if a demand came from the Somerset Light Infantry through the ASSU net, the airfield would know at the same time as the JOC knew. All the JOC had to do was give the okay and get the Police clearance. Meanwhile the chaps on the airfield were briefing their strike.

COLONEL WOOTEN: Was there no control exercised through the committee hierarchy? In other words, didn't the district have to go to the next echelon, the state, or to the national echelon?

MAJOR WOODHOUSE: They had to actually go to the committee. I was the military member of the District Committee. I would channel my requests through my battalion commander sitting on the State Committee.

In our point of view it wasn't from committee to committee but military channels.

COLONEL SUTCLIFFE: The committee could give clearance because the Police knew what was going on; there was a Special Branch man on the committee.

COLONEL WOOTEN: Was there no requirement of a hierarchy of evaluation?

MAJOR WOODHOUSE: There wasn't even a committee meeting. It would merely be the military and the policemen saying, "Okay."

COLONEL MC BRIDE: What were, in your opinions, the main difficulties in getting a quick reaction? The organization which you had has been explained as operating through the JOC, back down to the units deployed, and from what you said, you had difficulties. Was there something wrong with the JOC type system? Would it have been better to have, as you said, aircraft deployed at forward strips?

COLONEL SUTCLIFFE: It would have been fine if the aircraft were capable of being decentralized down to that lower level. The Air Force always thinks big, you see. All levels have to think big because this is the sort of role they play. Bandit wars and guerrilla wars operate at a low level, battalion and company level. These two command levels actually fight it out. The war is directed at higher levels, but day-to-day control goes way down to the low levels. Nobody can delay. How long is this laid-on strike going to take? A GLO (ground liaison officer) happens to be on the ground, and he says, "I can contact Kuala Lumpur. We can get a strike in two or three hours." The soldier objects. "I want to get it off right away."

Maybe a patrol made a contact with a camp. One choice they have is to stop and set up their radio to call their base: "We want a strike." Then get the details. The local policeman can probably give clearance fairly quickly, but still the whole machinery has got to be set up. The other choice, if the man on the ground can do it, is to attack at once. He will worry that by the time air arrives the bandits will have discovered he is there. I know quite a number of Japanese strips were rebuilt or improved by the British. Had they had aircraft to operate off those, the battalion commander could have

called for support, and he would have.

In Malaya, you could fly those planes from only two fields, one right at the top and one at the bottom. If you had some sort of aircraft that could fly off grass strips, you could use any one of the smaller strips.

COMMODORE GARRISSON: The important thing is you want quick support.

COLONEL SUTCLIFFE: You want to have one that can identify targets. You cannot fly sophisticated type aircraft. Maybe you can develop some efficient system in time. That would be fine. But how can you have a sophisticated airplane that can operate off grass strips? The things aren't compatible.

COLONEL CLUTTERBUCK: Could I differ a little on one concept? I believe the importance of quick response can be exaggerated. I don't believe that sort of operation was usually encountered. Every successful bombing operation I know of, including the one in which fourteen were killed was the result of a carefully planned, delicate operation involving an agent. That takes time and pinpoint accuracy. An agent has always been in on it; it has been an Intelligence type operation.

COMMODORE GARRISSON: This is getting out of my sphere, I must say. But we must keep in mind the type of operation the troops on the ground are fighting. You have got ten men wandering through the area, hacking their way through the jungle, not necessarily following any set pattern or path. You have small isolated groups. You haven't any sort of mass front. The Communists are doing the same thing. If they are at all aggressive, they are little tiny pockets. Most of this rapid response air power is for a patrol of ten men attacking another patrol of ten men, at most a company versus a company dispersed in the jungle.

MAJOR WOODHOUSE: If a party of security forces bump into a party of CTs, the CTs run. The problem is to provide the air chaps with target information for an accurate strike. If we find a camp and have to stay back and wait for an air strike, the bandits will get away.

COMMODORE GARRISSON: There are few occasions that I can see in which you require a large rapid air strike, unless it is on a

preplanned basis.

COLONEL CLUTTERBUCK: In which case it is better not to hurry but to get real accuracy.

COMMODORE WARCUP: I think there is a slight danger here in the concept of this war. For heaven's sake don't think of it as nice tidy pockets of men fighting in nice tidy places. Several ground operations, separately named, were continuously going on all over Malaya. The Air Force had to support those operations according to priorities given by the Director of Operations Committee.

COLONEL WOOTEN: Perhaps I am posing an unrealistic situation here, but I am imagining a situation in which the insurgents are quite active and have brought a considerable amount of military pressure to bear on various places, and there is some sort of a requirement to respond. If so, how would your decision-making apparatus work to get the airplanes to the proper places under the priorities that seem realistic in the light of available intelligence?

COMMODORE WARCUP: I don't think you want to worry about this conflict. To my knowledge there almost never was one. Perhaps it sounds strange to say, but there certainly wasn't.

COLONEL SUTCLIFFE: During my last six months, the demand for an air strike was the odd occasion. The daily demand was for supply drops, casualty evacuation, helicopter lift, and aircraft communications sorties. Maybe once a week there was a bid for an air strike. Occasionally, there were pre-planned air strikes of some sort. But I never remember in six months having two strikes in the same day, never mind at the same time.

COLONEL WOOTEN: I don't want to be excessively hypothetical about this, but I am trying to relate experience to current and future problems. It is not restricted to air strikes but is apropos to helicopter support, air evacuation, a variety of military operations. I was wondering how your system articulated to get this intelligence up to the decision-making level? In Malaya, as you suggest, maybe it wasn't a real problem because there wasn't enough action at the time you were there to create a problem. Was there ever a time when this was an important problem?

COLONEL SUTCLIFFE: If a particular operation, some big operation, was going on, it would be marked up on a separate board in the operations room. Two demands at the same time for air support just never happened when I was there.

COMMODORE WARCUP: I would like you to picture an operations map of Malaya containing several circles marking an operation. Remember the AOC was a member of the Director of Operations Committee and, as such, well aware of the general strategy to be followed. He would instruct the JOC. I don't want to flag this too much, but it simply wasn't any problem. If an operation had priority, the helicopters would go there, but that wouldn't stop the operation of helicopters somewhere else. It was not a problem despite the fact we were so thin.

COLONEL WOOTEN: Was this equally true back in 1950 and 1951?

COMMODORE WARCUP: I can't answer specifically. There were bound to have been clashes. But the AOC had the power to say, "No, this chap can't have it." He might ring up the General and say, "I'm sorry, we can't support this particular operation. I am afraid it will have to go by the board."

COLONEL WOOTEN: Was there a requirement to reassess the information at various echelons in the military command network? If so, was this not a time-consuming operation?

COLONEL SUTCLIFFE: It had to be cleared by the Police. There was no strike unless it was cleared by the Police. This was always a delay, even in direct support.

MAJOR WOODHOUSE: In addition to Police clearance, there was Special Branch approval. I have often told my local Special Branch man I had a good tip, I must go in. He'd object, "No, I am cooking it. It has to wait." A platoon may pick up a CT patrol but not be allowed to attack because something bigger was being developed, hence the Police clearance for double safety; civilians and property one count, pending operations the other.

COLONEL CLUTTERBUCK: If you kill a few civilians from the villages or the aborigine tribes, particularly if they are children, you do more harm than all the good you may do by killing a few CTs. You have made those people, villagers or tribe, enemies for good. Quick

air strikes, also indiscriminate bombing, became very unpopular toward the end. We were against them. I would say the techniques developed by the end would have been highly applicable earlier. I don't think it was the requirement that changed. In fact, they would have been more effective against the bigger gangs than the small ones. Thirty killed by these strikes in 1956 probably would have meant hundreds with the same techniques in 1951.

COLONEL SUTCLIFFE: I absolutely agree with you. The pattern of war changes. By the time it was possible to organize these good strikes, so many other things had happened that I think future operations might begin exactly the same as they did. In the early stages you don't have contacts or information channels set up. You are fighting a sort of an indiscriminate, uncontrolled war in which you must take some action. Later, 1954 or 1955, everything was organized. Really the pattern of war was totally different when I left in 1954 than it had been when I arrived in 1951. In 1951 you couldn't drive down a road without fear of being ambushed; you couldn't get any information, because information channels were not set up. By 1954 you could drive almost anywhere in the country.

SQUADRON LEADER HARTLEY: You couldn't get information in 1951 because we were losing. A lot of people were sitting on the fence and wouldn't talk. The local Chinese weren't willing to give information for fear of getting their throats cut. By 1955 and 1956, we were winning; putting far more strain on the CTs. The population was coming around our side and we got more information.

MAJOR WOODHOUSE: I wouldn't like you to go away with the impression that this Police clearance, which appears to be a restriction, held us back in any way. It was given instantly or it wasn't. In the majority of the cases that I can recall we were given clearance at once. The Police would go out of their way to stop people from going into target areas. I don't think it was really a restriction. If you came upon a first class target you couldn't bomb, you would use ground troops from the nearest helicopter pad, or parachute in, as did troops of the Special Air Service Regiment. I would say the latter is probably better from the point of speed. In other words, if the Royal Air Force can't do it, the British Army will.

COLONEL WOOTEN: That is not the note that we should end on.

SQUADRON LEADER HARTLEY: One thing I would like to stress, speaking from a normal operating air crew level, was the attention paid to private property. When we arrived in Malaya, we were told--mind you, it never ever happened, but we were told--if we hit rubber, we would be court martialled. Rubber was reputedly worth something like £10 a tree. This was a civilian action, of course. Every bomb aimer, rightly or wrongly, was afraid of hitting rubber or hitting anything that was civilian. I never knew anyone to be court martialled for it, though some of the boys did hit rubber, but you immediately incurred the wrath of the Station Commander unless it was a briefed target. I know of one raid that was aborted because there appeared to be a house in the target area. It turned out it was abandoned but the raid was aborted rather than attack when they might hit civilian property.

We were always briefed that we could not bomb anything other than a briefed target, irrespective of circumstances, because any other area had not been cleared with the Police. This was brought out in one case where we were eyewitnesses of an ambush. We were strafing an area about 3000 yards away when we saw a food convoy ambushed on the road. We did nothing about it except fly over at low level because it was not a briefed target, and, because, while there were a lot of people lying down on the road, we did not know whether some of our own troops had entered the adjoining jungle to attack the CTs.

It might be easy to say on hindsight that we could have strafed that area, but a squadron crew has a lot of second lieutenants or first lieutenants who are not willing to accept the risk where you need police authority to attack any target from the air. The army were better off in this respect. As they went along the road, they made contact with the Police posts, got to know the policemen, which of course we did not.

COMMODORE GARRISSON: In Bomber Operations, command procedures at the squadron end were no different from any normal Air Force operational command. The squadron received its orders from the base. You

were not concerned about the process it had gone through. You got your orders in the normal way and your squadron always had an Army Liaison Officer. As already described, before the squadron commander allowed his aircraft to take off, he had to have local Police confirmation that the area was clear to bomb. This may sound odd. Certain areas were continuously open for bombing without clearance, but for a new target, you had to confer. This used to upset the Army considerably. They would call for a strike, and the strike could not go out because there was no guarantee that the area was free.

The heavy bomber used in Malaya, it was a heavy in those days, was the Lincoln, an aircraft approaching the load and range capacity of the B-29. Our normal bomb load was about 14,000 pounds, generally 1000-lb, general purpose bombs. The Lincoln had a gratifying range, carried a crew of seven to nine, and was equipped with turrets that carried .50 caliber ammunition and one upper turret for 20 mm. Sortie averaged about three hours. Crews were prepared to work, and did so at any time of day or night. We had no trouble with standby crews.

The general type of attack was on a fixed target where six to eight aircraft unloaded all their bombs in formation from about 6000 feet. Following the bombing, on 70 or 80 per cent of the occasions, if terrain and weather permitted, would be a strafing run. The aircraft would get in line astern, circling the area, smothering the jungle with small arms fire until they ran out of ammunition. Often a simultaneous leaflet drop would be laid on. As the Lincolns flew away, they would throw out the leaflets.

Major problems came down to two: accuracy of navigation and accuracy of information. As Commodore Warcup pointed out, maps were not accurate when this operation started; there were no detailed target folders, or the type of ground information required for accurate attacks. The first requirement was either an accurate map or accurate aerial reconnaissance. Practically all the target maps that we used in Malaya--and by "target map" I mean simply the piece of paper we drew our plot on--were aerial photographs. We needed continuous aerial photography on the areas in which we were going to operate. Frequently, your target map would be a photograph and the briefing would designate your

target as "100 yards to the left or west of that very light-colored tree."

The Lincolns were equipped with radar, which made it easy to locate rivers, hills, towns, railway lines, and roads--if there were any such landmarks that could be picked up within the general area of the target. The target, however, may have just been a treetop. Bombing was done on a timed run, a given distance and direction from some fixed point that could be clearly identified.

There were various means of finding the target. In lieu of a fixed point on the ground that you could pick up visually or by radar, a searchlight put up by the troops or a radio beacon carried by them would suffice; any way to get a pinpoint some distance back from the target. Given that, you could bomb extremely accurately. If not, well, that type of attack was not attempted.

Various techniques were tried, none completely satisfactory, except aircraft radar or two good human eyeballs. Ground troops had to carry all the other equipment, and attacks had to be pre-planned well ahead. Light observation aircraft pinpointed targets by dropping a flare or a smoke bomb. We also used balloons put up out of the jungle by the ground forces.

Attack success could not be measured solely by casualties inflicted. To give you an idea of the effort involved: between 1950-58 this squadron, normally eight aircraft on the line, dropped 17,500 short tons of bombs and was credited with 16 bandits killed. This is not selling airpower. The most difficult thing in the world was to convince the crews that they were getting results. The morale problem is very important in air operations of this nature.

The great morale-producing effect following the attack was that the military had attacked a large group of bandits. Our objective in the early days was to destroy camps and gardens, if we could. This was frequently done. As the campaign developed and the bandits got on the move, the object of bombing operations was to keep an area clear, to keep the CTs moving, or to force them out into the arms of the Army, that was waiting for them. Once the squadron realized that they were not out to kill bandits, they were ready to cooperate with

the Army and help clear areas and keep the CTs on the move.

Apart from navigation and target location, I think the greatest problem was weather. With an aircraft like the Lincoln, you could stay airborne over an area for many hours waiting for suitable bombing weather. This achieved almost the same result as bombing. As soon as the bandits heard the aircraft overhead, they cleared out anyway. I would like to emphasize the trouble caused by the early morning ground fog or thin film of stratus sitting over the ground. There were very few mornings when this condition did not obliterate your target, particularly for low level work or strafing. You could bomb through it in the heavy formation attack.

The other weather phenomenon was cumulus build-up, usually quite local. The whole of Malaya was seldom covered with this stuff, but of course it would be sitting over your target. Beginning at about 1100 hours, cumulus build-up would constantly increase, developing up to 30,000 or 40,000 feet, really boiling stuff. You could move freely around the country and around the storms. This is the Air Commodore's point: an attack having been ordered, you disregarded the weather; left it to the judgment of the aircraft captain. He would probably wait around the target area for a while, if his time schedule permitted, then attack or come home.

Operations were conducted 24 hours a day as required. According to captured CTs, the type of attack they feared most was strafing by 20 mm cannon.

Now, a final point, our air crews were sent on so-called "leave" for periods up to 10 days to join an Army patrol in the jungle. We found that some air crews enjoyed it. Most were terrified of this sort of thing, but it was very good all around. Crews came back from these ground tours in the jungle with a much better understanding of the problem. That helped cooperation a lot. When this plan was introduced, everybody laughed at it, but it paid dividends. According to the records, ground patrols with two or three crewmen in a 10-man patrol bagged almost as many bandits as the aircraft did. During my tenure up there, the squadron was credited with six killed on the ground by patrols. We killed only 16 from the air.

COMMODORE WARCUP: Hartley, would you like to say something about your problems as a navigator?

SQUADRON LEADER HARTLEY: In 1951, the CTs were definitely on the offensive. At that stage we were losing the war, I would say, suffering more Army casualties than we were getting CTs. But the chief tactic in 1951 was a timed bombing run. The target might be a Communist camp deep in the jungle, with no identifiable point whatsoever anywhere near it. It had merely been located on an Army survey, inch-to-the-mile map as accurately as possible by some captured or surrendered Communist. That would be one type of target.

The second target type was an area we would try to soften up after the CTs had attacked, for example, a village or a Police post. We would bomb the area to try to cut off their escape routes and to stop them from setting ambushes. We would be given an area in the jungle normally about 2000 by 1000 yards. Remember, progress on foot in the jungle is not very fast, so one or two hours after an attack on a village you could describe an arc and be confident the CTs were somewhere inside it. You had only to pick the direction. When the ground forces reached that area, they could pass through comparatively rapidly, on the assumption that CTs wouldn't set up an ambush while being bombed from the air. This gave the ground forces some chance to catch the Communists. Aircraft were always bombed up, crews always available. A strike could get off on fairly short notice.

Consequently, you would have an area like this (Fig. 9) marked on your Army survey map. You tried to pick an area within 5000 or 6000 yards of some accurately mapped point, such as a bend in a river, a crossroads, even corners of rubber plantations because these were usually accurately surveyed. You would run in, with aircraft in formation spaced out. We always used two IPs (identification points); that was your bombing track. You had to come out on track, on heading, because, if you cross that point on track but off heading, you are not going to fly along the correct track. The second IP was to get us lined up. You might be off heading at the first, then you had to do a series of S turns to finish upon the track, on heading.

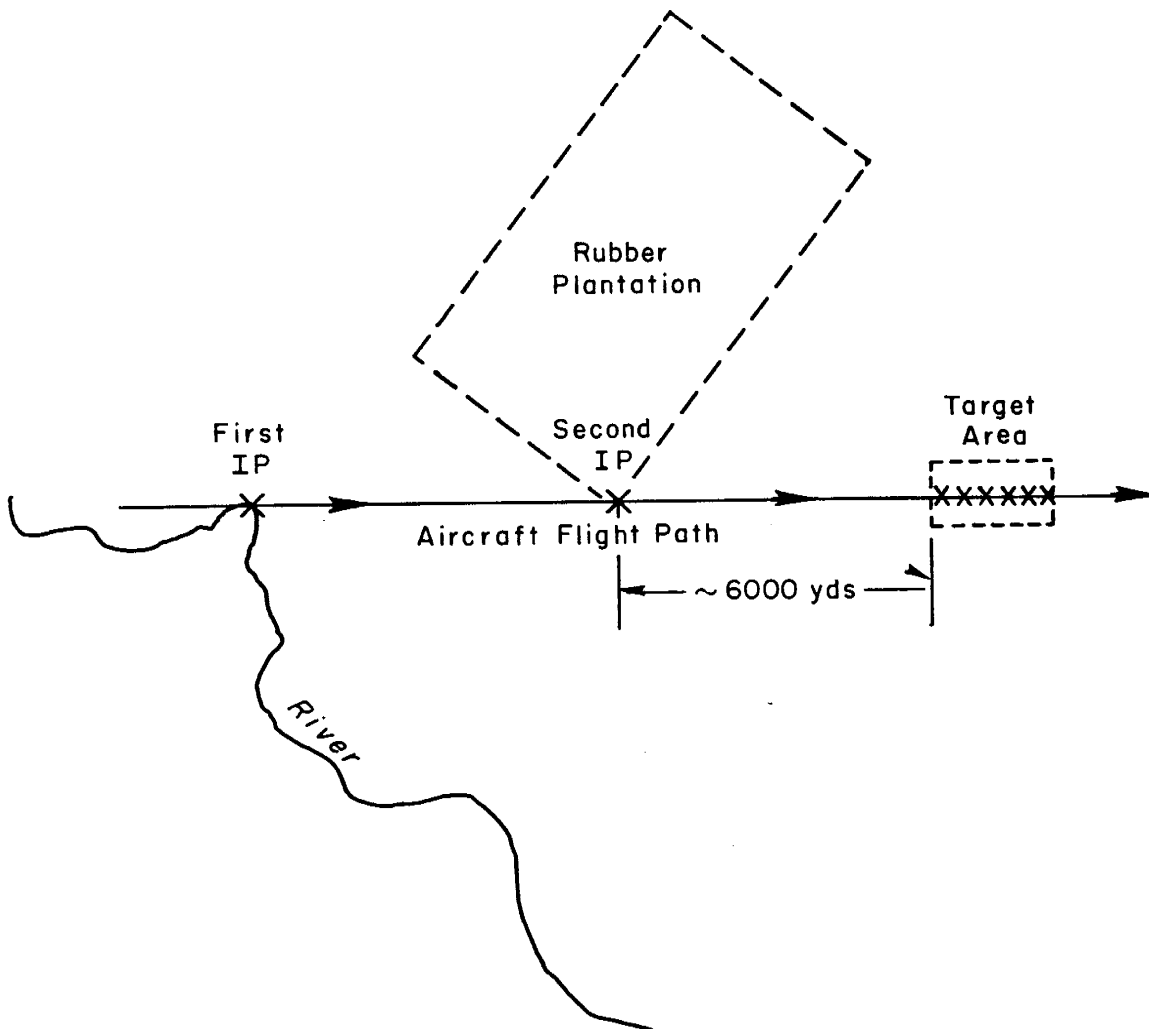


Fig. 9 — Lincoln timed bombing run using two IPs

All bomb aimers were equipped with folders that listed air speed versus altitude. Underneath those headings of air speed and altitude was the forward throw of the bomb, in yards. We measured the distance to the first bomb impact point and deducted the forward throw for the particular type of bomb, thus obtaining the release point. Then we worked out the time to get there, counted off the seconds, and dropped our bombs.

For night bombing the Army very conveniently set up a brace of searchlights pointing vertically in these two positions for us. We would run in over those searchlights. Our bombsight was the British Mark 14, identical to your T 1-A. Everything was done with that bombsight, always visually.

We have run as much as 20,000 yards from known points, though we tried to keep them down to about 6000. We have photographed runs that could be correlated with say, a patch of rubber that could be accurately measured. It required very precise flying. The beauty of this type of run, of course, was the fact you could drop blind. So long as the IPs were clear, you could have the biggest cumulus cloud ever over the target and still drop. You had a fair choice of directions for coming in so you could often dodge the cumulus clouds.

The Army was not too keen on the searchlight technique. There they were, with a couple of great, blazing lights. If a couple of Communists stumbled on them, the troops manning the searchlights would be all lit up for the Communists hidden in the dark. Today this technique would be greatly simplified with the use of Doppler, and would be the easiest thing in the world to do. With Doppler you get a track fed in. Instead of a compass all you would need would be a track meter, and a ground speed meter fed by the Doppler set up in front of the pilot. He could fly a bomb run himself.

Commodore Warcup mentioned that helicopters sprayed the jungle clearings. We used to bomb them, as well. Any jungle clearing that showed the slightest sign of cultivation would be bombed. Target marking was occasionally done with smoke bombs by what we called "Mosquito" aircraft, equivalent to Piper Cubs. I believe they tried

radar runs on Rebecca, similar to the American SCR-729, but I do not know how they worked out.

COMMODORE GARRISSON: I did some. They were most unreliable; the equipment on the ground might not work.

SQUADRON LEADER HARTLEY: We did quite a bit of flare-dropping for two reasons: One, to keep the Communists awake, keep them moving, keep them upset; and, second, to allow Gurkhas to extricate themselves from untenable positions at night. Sometimes the Gurkhas got themselves caught by CTs and wanted to get out of it, and moving in the jungle at night is not very easy. We have sat there for hours dropping flares to light the area for the Gurkhas to execute what they called a "planned withdrawal."

Talking about the weather, most navigation was done by map reading. As for strafing, it is very difficult in the jungle. I acted as fire control for our crew. I had to control the Lincoln gunners while doing wide orbits, and one piece of jungle looks much like another. When your stick of bombs goes down, first you have smoke there. That dissipates after the first couple of strafing runs. You cannot see your bomb bursts immediately from low or even high level after the smoke has disappeared. The explosion on the ground might take a few leaves off the trees but there is very little to show (from above) for your actual bombing.

The only way that we could strafe was by contour reading on the target. When your bombs went off you slipped straight down to low level, noting the contours of the target area if you could, or selecting them from your Army survey map. A rise of 100 feet in the ground or a dip, anything like that, shows up when you are strafing from, say, treetop height. These contours were the only way you could locate your target. Otherwise, you were likely to spray a thousand or more yards outside your target, where Army could have been. It became very difficult.

After a month or so, areas that had been bombed showed up as dead spaces in the jungle. I have known bomb aimers in Malaya who got so they could actually map-read on old bomb bursts. "We dropped a stick over there. I remember that place three months ago." You can

physically map on bomb bursts after the trees die, but immediately after your burst, there is very little to show for a 1000-lb-er in 200-foot trees.

COLONEL WOOTEN: Did you communicate with the ground?

SQUADRON LEADER HARTLEY: We could not communicate with the Army under normal circumstances. We could communicate with our own base, and then there would be a long chain of communications, trying to contact Army--except if it was pre-planned, then you could communicate.

COMMODORE GARRISSON: You would have a link. We had this Army controller, and one aircraft in the formation would talk with the ground.

SQUADRON LEADER HARTLEY: On occasions we had an Army officer who went under the nickname of Rover, who could control an operation, but about 70 per cent of the time you had no Army controller with VHF on the ground. In the case of the ambush we saw, we had no way of communicating with the armored car or the troops on the ground except to go back through our own Marconi key (CW) set.

GENERAL VOLCKMANN: Did you ever use Army light aircraft with VHF to form communication links?

SQUADRON LEADER HARTLEY: Not to form a communications link, while I was there. We used Army light aircraft to communicate with us when they marked with smoke, but in 104 strikes we used smoke laid by an Army light aircraft twice. Over 90 of the strikes were blind runs of the kind I described. This was 1951, of course.

COLONEL WOOTEN: We are talking about a continuum of operations which changed over a period of time. Remarks appropriate to one phase may not apply to another. I am interested in operations during the early phase, involving considerable numbers of CTs, in which the air played some role; particularly the mechanisms of control and how you communicated. For example, the point was made that the airplane did not communicate with troops on the ground.

SQUADRON LEADER TWIGG: I think I might answer that. I was there at the end of 1949 and throughout 1950. I was in a Tempest 2 Squadron, a piston-engine, single-seat fighter. I think the big problem in those days was reaction time. We were tasked over quite a distance from a

forward headquarters. We always maintained quite a good readiness. We reckoned we could get aircraft into the air within about 30 minutes of being given a strike. This included briefing time, which was most important. We always had an Army contact whom we could talk to on radio within striking distance of the target. There were some good contacts, especially up north; quite an amount of activity there in those days. By the time a strike request filtered through the network to the squadron and the aircraft reached the target area to talk to Rover, the target had normally melted away.

We had to follow last information, as known by the soldier on the ground, to try to do what damage we possibly could. We eventually got to look upon our role in this type of operation as not actually destroying CTs but trying to effect some contact for the soldier on the ground. We carried out a stopping, a harassing type of attack along a likely line of CT escape. The key was reaction time. The word just didn't get down to us fast enough to do any damage.

COLONEL SUTCLIFFE: As a Rover, my set was mounted in a little truck or armored car. I could only get so far towards an operation even if I were in the area where the operation was conducted. By the time information reached me it was too late. All I could do was to give a clearance to bomb, except when I had been sent out specifically for a bombing operation.

SQUADRON LEADER HARTLEY: I think, in 1951, we dealt with one of the Rovers, an Army officer with a microphone, on a maximum of 20 per cent of the strikes.

SQUADRON LEADER TWIGG: This was dying out by '51. We did it practically every time in the early days.

COLONEL WOOTEN: Was there something wrong that you can see in hindsight?

SQUADRON LEADER TWIGG: Communications was the big problem, mechanical problems with the wireless sets.

Reconnaissance

COMMODORE WARCUP: Another important aspect of the Emergency was air reconnaissance. As already pointed out, our operations were

severely handicapped by bad maps at the beginning. This deficiency was rectified in the long term by total aerial photographic survey of all Malaya, but even when that was done, we kept on taking photographs of areas of special interest. Aerial photographs were vital to the planning and success of many ground force operations.

I think photographic reconnaissance in this type of operation is fairly standard stuff. I was talking to an Army friend of mine just before I came here. He said the photographs' details were so good you could give detailed instructions to ground forces. For instance the local commander could say, "I want a couple of men there by that tree or in that culvert."

Detailed visual reconnaissance was also necessary. This was a job for Army pilots in their Austers. Each pilot was given an area that he literally had to get to know like the back of his hand. It was his task to spot any change in the scenery, any new clearings in the jungle, signs of movement, signs of habitation, and so on.

~~Psychological Warfare~~

Psychological Warfare

COMMODORE WARCUP: Now, something about psychological warfare. Its aim in Malaya was to destroy Communist morale, to induce the terrorist to surrender, and, in surrendering, to spread disaffection amongst his fellows. Two air methods were used. The first was distribution of leaflets from the supply-dropping aircraft. Literally millions and millions of them were dropped at the behest of psychological warfare experts. Aircraft crews had their own views as to what the CTs did with these leaflets, but there was little doubt that they had value in the war.

The psychological warfare expert was a member of the Director of Operations Committee. The Air Force--I cannot stress this too strongly-- were merely the agents. This was a political instrument, really. What the leaflets said varied enormously, depending on the psychological objective at the time. It might be explaining new surrender terms, or perhaps something more specific, but it went on all the time.

The second, perhaps more effective method of psychological warfare was the use of voice aircraft, modified Dakotas with loudspeakers installed, which were flown as slowly as possible at about 1000 to 2000 feet. Since some of these CTs were illiterate, this method had obvious advantages. Both general and specific messages were broadcast, always over a specific area. This was particularly important when a surrendered CT could be induced to record a message to his erstwhile comrades that he was alive and well. That provided an effective answer to Communist propaganda that anybody who surrendered would be tortured and killed.

Positive proof of voice broadcasts' effectiveness lies in the large number of surrenders. We all know that the effectiveness of psychological warfare varies directly with one's own fortunes in the course of the war. In Malaya, effectiveness increased enormously towards the end when CT morale sank very low. Psychology seems to be a very strong weapon in Communist hands and I think that we should always be prepared to carry this weapon into the enemy's camp.

GENERAL IANSDALE: I would like details on the tactics of your psychological operations from the air. Did you repeat a message? How did you pinpoint a target for the propaganda? Was everything taped?

COMMODORE WARCUP: It was all taped. The Dakota had three large loudspeakers hanging underneath. Inside was special machinery to broadcast from a tape. Operations could be divided into two types: one a general information sort of broadcast; the other a specific broadcast to a band or even to one man.

SQUADRON LEADER FOOKES: There was one more. Sometimes when CTs were in a general area, you had a tape with just noise, squeals and bangs. The aircraft flew up and down at night to keep them awake. This was back in 1950-51.

COLONEL SUTCLIFFE: There was quite a little night bombing with psychological impact. There would be, maybe one aircraft coming over each half hour, perhaps for as long as a week. This certainly had a deterring effect, although in the long term, primarily a psychological effect on morale.

SQUADRON LEADER FOOKES: A point on psychological warfare that hasn't been mentioned before; quite often on a supply drop we would be diverted a few miles to drop some rifle or machine gun simulators, delightful little things, just a string of .30 caliber or .303 rifle cartridges with some means of exploding them. They usually had a delay of five to eight hours. You just throw them indiscriminately into the jungle. Some time during the night they started going off. Some of them sounded like machine guns; others would be single shots. This was just to keep the terrorists awake. I believe it would still be a good idea. They were blanks, just a long string like a machine gun belt with a delay and some method of firing them in rapid succession or sporadically.

COMMODORE WARCUP: I am interested. They weren't used while I was there, but were used during the last war on some parachute operations. When dummy parachutes were put down in an area, they could drop these things to simulate fire to confuse the enemy.

COMMENTS ON VALUE OF AIR ACTION

COMMODORE WARCUP: I have been asked to try to summarize a sort of air picture. I think we must begin by again stressing that this is a peculiar type of war in that whatever military forces are used, be they Police, Army or Air Force, they are doing it at the direction of the civil government for civil means.

If you let the military--I always use the word "military" in its broadest sense--if you let the military run riot, so to speak, you will probably do more harm than good by getting the local populace against you, and so increasing their unwillingness to give you information, which is vital to your success. We also must bear in mind that in this particular operation the terrorists were at the beginning, and even at the end, attacking our weaknesses in groups all over Malaya and melting away after attack. This surely is a fundamental axiom of guerrilla warfare. If they make themselves into conventional soldiers, obviously they will be defeated. This characteristic of guerrilla warfare presents you, at best, with fleeting targets.

Let us try to talk about each bit of air support. At the beginning of the campaign we were limited in the effect of our action, first by bad maps. The air found it difficult to get to an actual spot. The ground forces sometimes were not exactly sure where they were. At the beginning the CTs tended to be in biggish gangs, to have biggish camps and, remember, they weren't always in the jungle. They were sometimes very close to villages. At one stage there was a gang recuperating quite happily in the middle of Kuala Lumpur, so there is nothing quite clear-cut about this.

We ought to have put more effort on intelligence; in getting our maps right, trying to get better information. If we had had that, and better bombing methods; if, for example, we had the radar bombing device, which was not developed fully until the middle fifties, then offensive air action might have been more successful. I don't think you could be more positive than that. Certainly some of the bigger camps could have been obliterated.

But it would be no good banging away with bombs, rockets, or 20-mm cannons unless you knew exactly what you were doing, unless you were sure of hitting the right target, not destroying life and property that otherwise might be on your side. I think that is all I wish to say about offensive support.

As for transport support, supply-dropping was a well-known technique in the Second World War, used in all of the theaters. Malaya provided certain particular problems in that the jungle, the hilly country, the weather, made air dropping a hazardous task. A lot of good chaps are dead from trying to do it. However, without air transport the ground forces would have been severely restricted. For example, after seven days or less, these chaps would have had to come out. Yet some of the patrols in the deep jungle stayed there for weeks, not days, in extremely difficult and arduous conditions.

As far as helicopter operations are concerned, in 1948 the helicopter was still a comparatively new toy. It was underpowered; its load capacity was low. It was difficult to maintain, and difficult to operate any distance away from its main base. Nevertheless, I believe the record shows that helicopters gave the ground forces

considerable mobility they would not otherwise have had. They gave the ground commander some flexibility in planning and opportunities for surprising, perhaps encircling CTs--if information was available as to their whereabouts.

Helicopters certainly gave the ground forces an enormous morale boost in that they knew that if something happened to them, but didn't kill them, they would be in a hospital within 24 hours. In those days this was comparatively new. Helicopter operations in this sort of climate are not easy. No matter how much power is put into a modern helicopter, as always with airplanes, more and more is expected of it, which could mean that at altitude and in a hot climate you will still be operating on the edge of the aircraft's limits.

Nevertheless, I think that the lesson speaks for a medium-size helicopter, perhaps one that can carry up to 20 people, is handy, and can go into a comparatively small clearing. Otherwise, the ground forces would have to spend too much effort in making big clearings. The helicopter must have a good serviceability rate and be able to operate away from its main servicing base for days at a time.

I can't vouch for these figures, but it has been estimated that without the very small force of helicopters we had in Malaya, four times as many ground forces would have been required. Even if that is only an intelligent guess, it is the sort of figure we ought to bear in mind.

The STOL aircraft, in their turn, allowed the over-all command to do operations in the jungle, to control the aborigines comparatively cheaply. This particular airplane had only a 500-horsepower motor; it was cheap to run, cheap to maintain. A few of them were able to keep eleven jungle forts supplied and going.

As far as the psychological operations are concerned, clearly they must be done in this type of warfare. The Communists will always use them and I am sure that we must. Perhaps this is something we are not very good about, part of our democratic makeup, but I believe it is a vital weapon in our hands. Its effectiveness will depend on the over-all military situation. I think this is always true, in counter-insurgency operations or in general war.

I don't think psychological warfare in this sort of campaign is a military problem. The sort of things to be said to the terrorists have to be said by the local government. Remember that psychological warfare is directed not only at the terrorists themselves, but also to the general public. Of the two methods used, dropping leaflets and using voice aircraft, it is generally accepted that talking to terrorists was better, and was done a lot. Timing is important so that you don't miss an opportunity to talk to a particular man. For this reason, there was always a psychological warfare expert on duty 24 hours a day every day. Thus, if an opportunity arose, a tape could be made and the aircraft got off the ground quickly and directed to that particular area..

Voice aircraft had two main tasks: first, a general psychological task of describing a situation, telling of new surrender terms, or this sort of thing; second, a particular psychological operation directed at one man or a group of men.

Now, reconnaissance. That is as important in this type of war as in any other. Probably the most important thing that air can do to improve the Intelligence picture is reconnaissance. I am not terribly strong on Intelligence, but I would like to stress that you should imagine various Intelligence strings stretched out and all coming to a fountainhead directly under the Director of Operations. I believe it is vital that the Director of Operations be able to see the whole picture.

The military are the servants to the civil government. If government doesn't get their aim right, then we can't win. The ground forces, I believe, would again be the main killing instrument even if something happened tomorrow with the air in support of them. Probably support is not quite the right word. I put it this way: without the air, the ground couldn't do the job as efficiently as they otherwise would. I cannot stress too strongly that there were no real clashes of any importance between the ground and the air in Malaya. This was one of the most heartening things about the situation out there. Forget all the squabbles of Whitehall. They simply didn't exist in Malaya. I would like to stress again that the mechanism of

control, the Director of Operations, AOC, JOC, worked well. We didn't evolve the JOC, as far as I can remember, immediately.

Obviously, I have tended to talk about our successes rather than our failures. I don't want to give the impression that in 1948 we had absolutely everything ticketyboo. This would be simple nonsense. We had to learn as we went along. One of the major evolutions was this JOC, which, as a control mechanism, worked well by and large. If I were told tomorrow to go to Borneo to control operations out there, one of the first things I would do would be to set up a JOC. I couldn't think of a better form of control. It marries up the ground and the air at one place. The JOC has to issue only very simple operational orders.

Another thing I haven't mentioned, in this sort of thing with helicopters doing a troop lift, a flight lieutenant might be told to take four or five helicopters to point A and pick up, say, 100 men and fly them to point B. That would be all that he would be told. When the flight lieutenant got there he would have to meet the ground commander and work out how he was going to do it, from his knowledge of the landing zones, tell him how many men he could carry, and so on.

This placed a tremendous responsibility on the flight lieutenant. If I might say so, it was a responsibility quite unusual in days of inflationary command systems. I think it was very beneficial. In fact, when the chap got to the area he might have found that the situation had changed a little bit, and after he had talked with the flight commander he would have to change his plans. This would never be queried by the JOC or me.

COMMODORE GARRISSON: To sum up offensive bomber operations, the great lesson is the terrific effort required for no apparent results. You cannot evaluate it properly with a normal debit and credit ledger. If you merely add up estimated damage or number of people killed, you think your operations are not worthwhile. Look at the figures, nearly 18,000 tons of bombs for 16 people killed and probably 20 or 30 camps destroyed.

Yet offensive air operations could guarantee to clear an area and, if necessary, keep it clear. This role of air power, I feel, is an

excellent example of Army-Air Force cooperation. The Air Force contribution is not spectacular; air is definitely a supporting arm of the Army. As an airman I would say: We have no independent role in these operations. We must work closely in conjunction with the Army and the civilian authorities. The types of attacks we carry out are those required by the forces on the ground.

COLONEL SUTCLIFFE: At the cost of getting some angry looks from No. 1 Squadron RAAF, with whom I worked very closely in the 1951-1952 period, all this business of bombing map squares wants to be looked at to some extent with hindsight. The feeling as the war went on was that this wasn't achieving too much.

I do not want to step on toes, because it did raise a lot of enthusiasm among the civil population and the Police, who were working on a shoestring. The information setup wasn't working and there wasn't much information to go on. In time, the conditions changed completely. The whole control of the Air Force shifted in Malaya from a forward air squadron sitting on an air strip. When they formed the JOC, in 1953, they had much more control. The commander of the Malayan Air Force moved up from Changlun, where he hadn't too much control, and took charge. With the JOC set up, the pattern changed quite a lot from this business of bombing map squares. I think the analysis was that although it had some effect in demoralizing the bandits, it wasn't killing them; it really wasn't helping the ground troops too much.

Let's take a specific operation. Your squadron bombed outside Raub in 1952. This operation was against several different squares to cut off or try to surround this town where there had been a raid on some Police stations at night outside of Raub. The CTs killed a lot of people in night operations and then moved out the next day clear to the jungle. It was very hard to find them.

Follow-up was more often delayed than helped by having this bombing laid on. Perhaps there was a weather delay of maybe two or three hours of daylight, and the terrorists' tracks could be lost and never found again. People said afterwards--only bomb where we know there is a good target we can find either through information coming back in the morning, contacts with ground troops, or the Army light aircraft, which

occasionally got fairly good spotting. I think it's fair to say that the best hits on camps were by aircraft doing the target marking. The actual map square bombing operation wasn't regarded by the Army as achieving too much. Having said that, I don't know whether anybody else would agree with me.

COMMODORE GARRISSON: We wouldn't argue against you on this particular operation. It is just a question of the purpose of the bombing. At that time the theory was to keep them on the move.

MAJOR WOODHOUSE: Quite often it stopped our follow-up. As the Colonel said, we might have to wait four or five valuable hours for an air strike, whereas infantrymen might have caught the terrorists before they vanished.

COMMODORE WARCUP: I was told that they had a cover of aircraft that could be used for a strike. I don't think anyone is under the impression from what is being said today that this offensive air support is the answer to everything. It has definite limitations in this sort of campaign in this particular area. One thing, which was the result of bad maps, should be mentioned. This was that an Army patrol in the jungle might discover signs of encampment, and--I am not trying to be funny--with the bad maps, the chaps on the ground may not know where they were within a few hundred yards. If this error were transmitted back as an air target, obviously you got a cumulative error.

GENERAL VOLCKMANN: Has there been any analysis made, looking back, on just how many legitimate air strike targets there actually were in Malaya?

COMMODORE WARCUP: It would depend upon what you mean by legitimate.

COMMODORE GARRISSON: There were a variety of targets, of course, and the effectiveness of the strikes depended on the way the war was going. Some targets became more important than they might have appeared to be. There were quite a number of terrorists camps in the early days, and one air objective was to break these camps up. If the ground forces found an abandoned camp, there was little sense in destroying it. However, if it was known that the terrorists were in the habit of returning there, it became a worthwhile target.

It is very difficult to judge a worthwhile target. For example, if you knew that a terrorist leader was going to be in a jungle clearing, it was worth putting every available airplane down there. You wouldn't do it by assessing the importance of targets but because of its indirect affect on the campaign. Am I partly answering your question?

GENERAL VOLCKMANN: Oh, yes. It is a very difficult problem; I had wondered if any effort had been made in that direction.

COMMODORE WARCUP: I don't think any effort was made to analyze it from a scientific point of view.

GENERAL VOLCKMANN: Of course, being on the receiving end of these air strikes in the Philippines, I can't remember ever suffering one casualty in three years from an air strike.

COMMODORE WARCUP: I was looking at some typical operational reports issued by the JOC. They would be very simple targets: such and such a place, four huts or something like that. The report would be that the target was bombed, struck by rockets or attacked by cannon. Beyond that, there was generally no way of knowing whether it had been successful or not.

GENERAL VOLCKMANN: As a matter of fact, the air strikes put on us helped us more than they did the Japanese. They brought more people to our side because they killed the civilians.

COMMODORE WARCUP: There you are. I don't think that can be said too often in this type of war.

COLONEL CLUTTERBUCK: I think it is true to say that the tendency to use offensive air support decreased as the Emergency went on. I have an operations report here which shows that there was less than a quarter the offensive air support, in terms of bombs dropped or rockets fired, in 1956 than in 1951. On the other hand, there was a tremendous increase in supply dropping, a fourfold increase in passenger carrying and a tremendous increase in psychological warfare.

But I think the offensive air support side became much more effective as pinpoint techniques improved. Even with the very much reduced effort, the actual casualties from offensive air support increased. During my time, 1956-58, I think about thirty were killed

by pinpoint bombings. Where there was an accurate fix, and the aircraft guided on to it, the casualties amongst the guerrillas in the camp were 14 of 16 in one operation and 8 of 12 in another. It was highly effective where you could get a pinpoint target and fix it accurately.

IV. HINDSIGHT ON AIR OPERATIONS

COMMODORE WARCUP: In summarizing, I have been asked to use hindsight and indicate what sort of improvements I would have liked. I must confess that I found this extremely difficult.

Let me begin with control. Having politico-military control vested in one man was first class. I doubt whether it can be improved upon. The JOC was small, efficient, quick in operation, and enabled the AOC to use what, in any event, were very small resources in a most efficient manner. I have noted intelligence as the key to successful operations. Here we made the mistake of not giving this top priority from the very start. It is no use for soldiers to rush about with rifles unless they know what they are rushing at. Intelligence as the first priority, I believe, is lesson number one.

In mountainous jungly country the ground forces must have mobility. I suggest to you this can come only from air support. Without air mobility, the campaign would have been much more expensive than it was, and might still be going on today. Mobility was attained by air supply, helicopters, and STOL aircraft. Our helicopters were very small and really rather ancient, but, in any event, I do not think I would ask for anything bigger than an S-58. Otherwise the requirements for jungle clearings would become far too exacting.

GENERAL MAC CLOSKEY: What types of airplanes would you prefer if you had to do it over again?

COMMODORE GARRISSON: Something like a Lincoln for that type of work, and I think for ordinary offensive strikes we would still probably prefer piston engines.

GROUP CAPTAIN SUTTON: Could I disagree with Commodore Garrison? I think the F4C (McDonnell F-110) would do a good job in a problem like this. It has a good load of bombs and good navigational facilities.

COLONEL SUTCLIFFE: You can't fly low. How are you going to identify targets? Lincolns depended on some form of navigational aids. You are bringing them down to a close support strike sort of thing. But how do you do it with a jet?

GROUP CAPTAIN SUTTON: When the Squadron Leader was briefing on the board this morning, I shut my eyes and I could visualize an F4C doing that.

COMMODORE GARRISSON: There are two factors here. Anyone with personal experience has personal preferences. I don't think there is any final answer. When we introduced F-86 squadrons into Malaya, a big factor was that pilots could only fly one sortie per day because of heat fatigue and stress to the aircraft, whereas with the other type of aircraft they could fly two and even three sorties. The important thing is the aircraft could only fly one sortie a day because of the effect of the humid conditions on the highly developed electronics. The more elaborate your aircraft gets, the more serviceability problems you have.

GROUP CAPTAIN SUTTON: By and large we went into the offensive operations with only fairly modern types of airplanes. Nobody specially produced the Tempests and this sort of aircraft for that type of job. You start a campaign like this with whatever existing types are available. If the operation goes on for twelve years you may want to hang on to what you have or to develop something with embellishments. There is no specialized offensive airplane for this type of operation if you are doing it on a shoestring.

COLONEL SUTCLIFFE: Could I ask an airman a straight question? Do you think you can support this sort of operation better with the type of airplanes that are in service today or the types that were available fifteen years ago?

SQUADRON LEADER HARTLEY: I would say, for example, that the Lincoln is definitely superior to the Canberra in these types of operations. One, it has double the bomb load; two, it flies slower. The Canberra is very poor in visibility, the Lincoln good. With a Canberra, with any jet, as soon as you place them down to a low level, you have endurance problems. The Lincoln can stand weather better than the Canberra. Remember the engines of the Canberra are not buried way back in the fuselage. Your swirl vanes--that is a small propellor blade right in front which guides the air into the engine--have to be at certain angles, depending on the engine, to direct the

air flow. We have had them badly beaten in Malaya. At low level you are not going to run into hail. However, if you are doing the standard practice of flying out at high altitude and descending to low altitude at target, your transit will be at altitudes where hail and turbulence would be encountered in thunderstorms, and you get this beating around which No. 2 Squadron RAAF had. Also, the pistons are cheaper airplanes.

SQUADRON LEADER FOOKES: I think you might add that maintenance problems are much less. In flying any fast aircraft at low altitude in the Malayan area you are going to get metal fatigue.

SQUADRON LEADER HARTLEY: Malaya is hot and extremely turbulent. If you haven't got heat turbulence, you have weather turbulence. This beats a crew. The Lincoln doing a hundred and sixty knots is not as bad as a Canberra doing 250. That can limit the number of sorties. Your speed is too high for good map reading; actually you can't map-read. Your visibility is extremely limited. You cannot strafe. In our day, strafing was considered important. Twenty-mm cannon shells split through the jungle.

COMMODORE GARRISSON: One other point, you would have more abortive sorties with the jet because if you got there and the weather conditions upset you, you could not wait in the target area but would have to come back. The question sometimes comes down to two eyeballs and personal knowledge of the area. Even with the old Lincolns' electronic equipment, the radar, there were times when it was no use going up because of the humidity.

MR. PETERSON: Can you tell how the F-86 Sabre was used and how effective it was?

COMMODORE GARRISSON: The Sabres were up from Australia, and formed part of the strategic reserve for the Far East. But they did move up there during the Emergency and were used for four or five months in actual operations in the northern part of Malaya.

COLONEL SUTCLIFFE: I wonder what Squadron Leader Twigg would say if his Tempests of the early days were replaced by Sabres?

SQUADRON LEADER TWIGG: We were very satisfied with our Tempests. They had their shortcomings even then, but it was getting down to what we thought was nearly the ideal type of aircraft for the role. They

were old though, and spares became a problem. The Tempest was a low-wing, single-seat, end-of-World-War-II fighter with a single radial engine. It carried a good weight of rocket projectiles, and a good weight of 20-mm cannon ammunition. It had a good loiter capability and was a low-level, reasonably stable platform, comfortable from the pilot's point of view. One of its major shortcomings, I think, was that it carried only one man. That type of operation, I think, demands someone to hold hands with. Certainly we would have been much happier had we had someone alongside us to tell us where to go. The man on his own was a little bit hard-pressed, with all the tasks needed to ensure successful strikes. I think the same would hold good in that part of the world even today.

COLONEL SUTCLIFFE: If one knows that making airplanes to do bigger and faster jobs is taking the aircraft away from a role one knows will exist around the world, then why is it wrong to think in terms of designing aircraft for such a role?

COMMODORE WARCUP: I think this is asking an almost impossible question. The Services, being what they are, make equipment to fight various types of war, not one war. None of us, not even Americans, can afford specialized aircraft for each type of conflict. I think you will have to fight the war with the equipment you have for other types of war.

COLONEL SUTCLIFFE: But if you admit that this type of war is one of today's major problems, can you ignore it and say we mustn't design an airplane for this?

COMMODORE WARCUP: No. But I think you must adapt.

COLONEL SUTCLIFFE: But you reach the stage where you cannot adapt backwards enough; where the type of airplane doesn't fill the bill.

COMMODORE WARCUP: Whether you could use a supersonic fighter for these strikes, I am really not in a position to say. It doesn't have to be flown supersonically. The trouble is range, I suppose, endurance.

COMMODORE GARRISSON: If you are flying a high speed aircraft of any kind, the faster it goes the more difficult it is to attack a

pinpoint target in bad terrain--I am talking about fighter aircraft. The slower it goes, the better, assuming you haven't got ground fire--of course we didn't have any in Malaya. The F-86 Sabre wasn't really suitable in Malaya for the type of operation we are discussing.

COMMODORE WARCUP: If I can transfer for a moment to transport support, we used transports like DC-3s, capable of being handled in many turns and in small areas. I would have thought that the C-130, for example, would be too big for this type of work. We found that the Beverly, when it came out for trials, was not suitable because it couldn't get down into small valleys, do a drop, and come out by turning. The Beverly is a large 4-engined freighter, a box with a wing and four engines on it.

COLONEL SUTCLIFFE: There is an argument going right now in this country between the Army and the Air Force about aircraft for this role. I know the U.S. Army because that is where I live. I also know Air Force thinking and they are going back. The U.S. Marines are going back to old T-28s, AD-6. They say, "We must find an airplane to fill this bill and do this role." They are looking way back to see what they can dig out.

COMMODORE WARCUP: I think it is very interesting.

SQUADRON LEADER HARTLEY: They are thinking of the T-28 with the turbo prop--taking the old-fashioned airplane, trying to "up-engine" it so it can be used on the smaller strips.

COMMODORE WARCUP: This is the sort of argument that makes the average airman shudder.

Appendix

BIOGRAPHIC SKETCHES OF PRINCIPAL PARTICIPANTS NOT ON ACTIVE DUTY
WITH U.S. ARMED FORCES

Colonel Bernard L. Anderson, USAFR, was a staff officer of the Far East Air Force on Bataan prior to the war. Following surrender to the Japanese, Anderson escaped and began guerrilla operations, commanding the U.S.-Filipino guerrilla forces in Central and Southern Luzon from June 1942 until the liberation. He remained on duty in the Philippines until 1948, when he became an executive in a Philippine industry. Among the American and Philippine awards he holds are the Distinguished Service Cross, the Silver Star, and the Philippine Republic's Legion of Honor, degree of Commander.

Colonel R. L. Clutterbuck, O.B.E., Royal Engineers, served on the staff of the Director of Operations in Malaya as General Staff Officer, Grade 1, Plans, beginning in 1956. He had had previous experience in guerrilla conflict while serving in Palestine prior to the end of the British Mandate there. He was graduated from the Royal Military Academy at Woolwich in 1937, and fought in the North African and Italian campaigns of World War II.

Squadron Leader A. J. Fookes, RAAF, served with No. 38 Transport Squadron during the early years of the Malayan Emergency. He joined the RAAF in 1943, served with the Commonwealth Occupation Force in Japan, and was a member of a transport squadron during the Korean War. He is a graduate of the Royal Australian Air Force Staff College and has commanded various training units in the RAAF. He has been an Assistant Australian Air Attaché in Washington, and currently is an Exchange Instructor at the U.S. Air Force Academy.

Air Commodore A. D. J. Garrisson, O.B.E., RAAF, commanded the No. 1 Bomber Squadron, based at Tengah, near Singapore, during 1951-52. He began his military career in the artillery, transferring to the RAAF in 1937. He fought in both Europe and the Southwest Pacific during World War II and subsequently served on the staff of the Commonwealth Occupation Force in Japan. Following his Malayan tour,

he commanded the RAAF Base at Canberra, and held staff appointments at the Department of Air. He was until recently the Australian Air Attaché in Washington and now commands the RAAF bomber base at Amberley.

Squadron Leader J. C. Hartley, RAAF, served as a navigator in No. 1(B) Squadron in Malaya, beginning in 1951. He joined the RAAF in 1942 and served with the RAF Bomber Command (Lancasters) until taken prisoner in January 1945. He was graduated from the RAAF Staff College in 1954 and subsequently was Navigation Leader for No. 50 Squadron, RAF Bomber Command, and No. 82 (B) Wing RAAF, in Canberra aircraft. He is currently on the staff of the Australian Air Attaché in Washington.

Colonel Augusto L. Jurado, PAF, is a veteran of 15 years of combat on Luzon, beginning in December 1941 and extending through the anti-Huk campaign. He is a graduate of the Philippine Military Academy (1938), Flying School (1939), U.S. Air Command and Staff School (1952), and Strategic Intelligence Course (1957). He is a former Assistant Chief of Staff, J-3, Philippine Armed Forces, and is currently the Armed Services Attaché in Washington. Among his awards are the Distinguished Unit Badge with two Oak Leaf Clusters (United States) and the Presidential Citation Badge (Republic of the Philippines).

Major General Edward G. Lansdale,* USAF, served two tours of duty in the Philippines. In 1945-48 he was on duty at Headquarters, AFWESPAC, and from 1950 to 1953 he was with JUSMAG as adviser to Secretary of Defense Magsaysay. He is currently Assistant (Special Operations) to the United States Secretary of Defense.

Brigadier General Monro MacCloskey, USAF (Ret.), organized and commanded the first U.S. AAF Heavy Bomber Squadron (and later Group) to engage in night supply dropping operations behind enemy lines in Northern Italy, the Balkans, and Southern Europe from bases in North Africa and Italy. He has served as Chief of the Reserve and National Guard Division in Air Force Headquarters, and upon graduation

*General Lansdale, although on active duty, is included here because of his experience in counterinsurgency warfare in the Philippines.

from the National War College in 1948, was named Chief of the Air Intelligence Policy Division, USAF Headquarters. He was U.S. Air Attaché in Paris from 1949 to 1952, after which he was appointed Commander of the Air Resupply and Communications Service of the Military Air Transport Service. Prior to his retirement he commanded the 28th Air Division. Among decorations awarded to him by the United States, France, and Morocco are the Silver Star, the Distinguished Flying Cross, the Legion of Merit, the French Legion of Honor, Degrees of Commander and Officer, and Croix de Guerre with Gold Stars and with Palms.

Lieutenant Colonel M. W. Sutcliffe, British Army Air Corps, was a ground liaison officer in jungle operations in Malaya, 1952-53, his third campaign in guerrilla warfare. He was commissioned in the Royal Irish Fusiliers in 1942, fought in North Africa and Italy until June 1944. Then he was assigned to the Military Mission in Yugoslavia, and served with Tito's Partisans until the end of World War II. Following this, he served with British Mandate Forces in Palestine. He is currently assigned to the U.S. Army Aviation Center, Fort Rucker, Alabama.

Group Captain D. H. Sutton, RAF, was Air Plans 2 on the staff at Headquarters Far East Air Force during the later stages of the Malayan Campaign. His RAF service began in 1938 and includes several RAF schools, the RAF Flying College, the RAF Staff College, and the Royal Naval Staff College. He is currently on the staff of Headquarters USAF.

Lieutenant Colonel José M. Tinio, P.A., headed the Special Projects Division of the National Intelligence Coordinating Agency from its inception in 1949 and subsequently became Deputy Coordinator of the NICA. He is a graduate of the University of the Philippines, and began his military career with R.O.T.C. at the University. He escaped from the Bataan Death March and became the intelligence officer of the I Corps, President Quezon's Own Guerrillas. After the anti-Huk campaign, he served as Deputy Assistant Chief of Staff, G-2, Headquarters, Philippine Army. He has completed several intelligence

courses in the Philippines and the United States, and is currently serving with the Philippine Embassy in Washington. Among his decorations are the Purple Heart with Oak Leaf Cluster (United States), Anti-dissident Campaign Ribbon and Military Merit Medal (Philippines), and the Legion of Honor (Vietnam).

Squadron Leader A. Twigg, RAF, was a Flight Commander on No. 33 Fighter Squadron in Malaya during 1950 and 1951. Since then his duties have included tours with the Joint Helicopter Experimental Unit and, as Commanding Officer, with No. 225 Helicopter Squadron. He is presently serving on the RAF staff of the British Defence Staffs in Washington.

Colonel Napoleon D. Valeriano, P.A., commanded the 7th Battalion Combat Team in its very effective operations against the Huks, and subsequently became military assistant to President Magsaysay. He is a graduate of the Philippine Military Academy and the U.S. Cavalry School. He served with the guerrillas on Luzon during World War II. He has also been Commander of the Presidential Guards Battalion, Secretary to the Philippine National Security Council, National Security Coordinator for the Philippines, and Philippine Military Representative to the SEATO Secretariat. He is co-author of Counter-guerrilla Operations: Lessons from the Philippines.

Brigadier General Russell W. Volckmann, USA (Ret.), commanded the U.S. Armed Forces in the Philippines, North Luzon, from 1942 through the liberation in 1945. He is a West Point graduate, and was in command of the 11th Infantry (Philippine Army). He escaped from Bataan after the surrender and joined the guerrilla forces, rising to their command in North Luzon. After World War II he attended the Armed Forces Staff College and the National War College. After graduation he became Assistant Commander of the 82nd Airborne Division. He is the author of Field Manual 31-20, Combatting Guerrilla Forces, and Field Manual 31-21, Organization and Conduct of Guerrilla Forces, as well as the book, We Remained, which is his account of three years behind the enemy lines in the Philippines. He holds the Distinguished Service Cross.

Air Commodore P. E. Warcup, C.B.E., RAF, commanded the RAF at Kuala Lumpur, 1957-59. He is a graduate of the RAF College, Cranwell, the Joint Services Staff College, and the Imperial Defence College. He was an RAF test pilot at the outbreak of World War II, and was a prisoner of war in Germany from 1940 to 1945. He is currently the Assistant Commandant, RAF Staff College.

Major R. G. Woodhouse, Somerset & Cornwall Light Infantry, served for more than three years in the Malayan Emergency, commanding a company in the jungle and later serving on the staff at Headquarters, Far East Land Forces. He was commissioned in December 1945, and currently is an Exchange Instructor at the U.S. Army Infantry School, Fort Benning, Georgia.